Essays on the puerperal fever and other diseases peculiar to women : Selected from the writings of British authors previous to the close of the eighteenth century / Edited by Fleetwood Churchill.

Contributors

Churchill, Fleetwood, 1808-1878.
Sydenham Society.
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Publication/Creation

Philadelphia : Lea and Blanchard, 1850.

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ESSAYS

ON THE

PUERPERAL FEVER

AND

OTHER DISEASES PECULIAR TO WOMEN.

SELECTED FROM THE

WRITINGS OF BRITISH AUTHORS PREVIOUS TO THE CLOSE OF THE EIGHTEENTH CENTURY.

EDITED BY

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&c., &c., &c.



PHILADELPHIA:
LEA AND BLANCHARD.
1850.

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EDITOR'S PREFACE.

When the Council of the Sydenham Society did me the honour of appointing me to edit certain reprints of monographs on Diseases of Women, I certainly expected to be able to present the members of the Society with a greater variety of subjects.

On careful examination, I found a considerable number of interesting *cases* recorded; but extremely few *papers* of a sufficient length and importance to justify their republication. Until the latter half of the last century there was no book on Diseases of Women of any scientific pretension, and we cannot, therefore, wonder that monographs were scarce. Since that time the subject has obtained due attention, and now it is not behind any other department, in the importance attached to it, the value of the works illustrating it, and the scientific character of the practitioners pursuing it.

I have, however, found a few papers of great value, which I have selected, and to which I have appended notes, embodying whatever information has been laid before the profession since their authors' time.

The greater part of the volume is occupied by tracts on Puerperal Fever, which has a just claim on our attention, on account of its serious importance.

I have, as far as possible, selected those which give us the experience of the writer in some particular epidemic, and I have purposely included those whose descriptions and opinions differ, in order that the reader may have a prac-

tical illustration of the variation of the disease in different epidemics.

As was to be expected, in the midst of much that is extremely valuable, we find much that we now believe to be erroneous, both physiologically and pathologically, in the earlier writings. Whenever these errors have a practical bearing, I have felt it right to point them out in a note; but as a general rule this did not seem necessary, and I have rather avoided distracting the reader's attention by my comments.

Each successive treatise will be found to contain fewer of these hypothetical statements, and to be more strictly confined within the domain of experience.

I have thought it might be useful to prefix to these tracts a short historical sketch of the principal epidemics. I have collected, with some labour, all the information within my reach, and I trust that the summary will be found tolerably complete.

I should feel some apology necessary for my own share in this Volume, which has been prepared under the pressure of many engagements, were it not for the great intrinsic value that such a collection of original writings, by men of great experience, must ever possess.

137, Stephen's Green, Dublin;
Nov. 1, 1849.

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PART I.

PUERPERAL FEVER.

AN

HISTORICAL SKETCH

OF THE

EPIDEMICS OF PUERPERAL FEVER.

BY THE EDITOR.

There are few diseases so fraught with associations of distress as Puerperal Fever when it prevails epidemically. The course of a favourable convalescence after parturition suddenly interrupted, and without any appreciable cause, exchanged for symptoms which excite the utmost alarm in the physician: the anxiety and anguish of those so lately rejoicing, the blighting of the sweetest hopes in life, and finally the rupture of its dearest ties, and the melancholy desolation of a home but lately the abode of happiness.

This is but a slight sketch of the picture which presents itself to the mind when this fearful disease is mentioned—a picture whose gloom is heightened by the inutility of all precautions to guard against its attacks, and, in the majority of cases, the utter failure of all attempts to arrest its progress or to prevent its fatal termination.

Impelled by such feelings, the result of sad experience, I have resolved to present to the reader a selection of such works on the subject as, in my judgment, is best calculated to afford a complete view of the disease in itself, and especially of the aspect it presents when it occurs epidemically; and not only so, but by selecting descriptions of the epidemics of England, Ireland, and Scotland,—the general characters of the disease, and its particular modifications, will be illustrated by those who witnessed them.

I have thought that it might also be useful to prefix a short sketch of the principal epidemics of puerperal fever, with their peculiar characteristics as described by the authors who have written thereupon. I have no intention, however, of compiling a treatise upon puerperal fever, nor yet to enter very minutely into each epidemic; but simply to trace their succession, to indicate their leading peculiarities, and to draw some conclusions from the entire collection of facts.

That women in childbed are liable to attacks of a febrile disease, which often proves fatal, has been observed by the earliest writers, and attributed by them to various causes. Dr. Hulme has given a quotation from Hippocrates with a translation, which refers certainly to puerperal fever, and which both Hippocrates and Avicenna attribute to obstruction of the lochia. "Plater (1602) considers it to be an inflammation of the uterus; Sennert (1656) describes it very well, and recommends bleeding; he and Riverius (1674) believe it to arise from suppression of the lochia; Sylvius (1674) from a deficiency of the lochia. Willis (1682) observes that the fevers of lying-in women are attended with much more danger than those which happen in common, and that they differ very materially, both from a simple and putrid synochus. The antecedent causes of these fevers he supposes, with Sennertus and Riverius, to be a depraved disposition of the blood from the long suppression of the menstrual flux during pregnancy, or from some evil affection of the uterus after childbirth."[1]

Similar allusions to the disease are to be found in the earlier writers of these countries and on the Continent.

Thomas Raynald, in his translation of Eucharius Rhodion,[2] says, "It is also to be understood that many times after the deliverance, happeneth to women either the fever or ague, or inflammation of the body; either trembling in the belly or else commotion; or setting out of order of the mother or matrix."

In the "Childbearer's Cabinet" (1653) we have directions how to "help the wringing and pressings of the belly in childbed women by outward and inward means, and by drinks." Then, by degrees, each author gives a more definite shape to his account of the disease, and sounder directions for its treatment, most regarding the disease as inflammation of the womb, the result of supposed lochia. I may refer the reader who is anxious to investigate the subject, to the works of Strother (1718), Cooper (1725), Sydenham (1726), Boerhaave (1737), Hoffman (1734), Mauriceau, Peu, &c., &c. Dr. Hulme states that Strother, in his "Critikon Febrium," is the first writer he has met with who gives it the name of puerperal fever.

These details will be sufficient to show that the older authorities were acquainted with the disease in question, that in their practice they met with puerperal fever sporadically, as we do; but we have no evidence of their having witnessed an epidemic, or that they were acquainted with the occasional extensive prevalence and alarming mortality of the disease. The only allusion which may be thus interpreted (so far as my researches extend), is by M. Peu, who states that in 1664 "a prodigious number" of women died in the Hôtel-Dieu of Paris after their confinement. They were attacked with hemorrhage, and after death, the bodies being examined, were found "full of abscesses." It was attributed to impure air from a ward

[1] Hulme on Puerperal Fever, p. 88, et seq.

[2] Birth of Mankind, p. 120.

filled with wounded, which was situated underneath the lying-in ward.[1]

The first undoubted epidemic of puerperal fever on record, I believe, is that which prevailed in Paris during the winter of 1746. It was extremely fatal, attacking the poor, and proving much more fatal to those in hospital than to those who were delivered at their own houses. Of twenty women confined in February of that year in the Hôtel-Dieu, scarcely one recovered; they died between the fifth and the seventeenth day after their confinement.[2] M. Malouin has given the following account of the symptoms and progress of this epidemic:—"The disease usually commenced with a diarrhœa; the uterus became dry, hard, and painful; it was swollen, and the lochia had not their ordinary course; then the woman experienced pain in the bowels, particularly in the situation of the broad ligaments; the abdomen was tense; and to all these symptoms were sometimes joined pain of the head, and sometimes cough. On the third or fourth day after delivery, the mammæ became flaccid. On opening the bodies, curdled milk was found on the surface of the intestines, a milky serous fluid in the hypogastrium; a similar fluid was found in the thorax of certain women, and when the lungs were divided, they discharged a milky or putrid lymph. The stomach, the intestines, and the uterus, when carefully examined, appeared to have been inflamed. According to the report of the physicians, there escaped clots on opening the vessels of this organ."[3]

Jussieu has also described this epidemic of 1746; inflammation of the stomach, intestines, and uterus, was observed, with suppuration of the ovaries.

In 1750, an epidemic of puerperal fever again appeared at Lyons and at Paris. In the latter city, according to Poteau, it was characterized by severe abdominal pain and tumefaction of the hypogastrium. On examination, the uterus was found enlarged, its internal membrane soft and black, and its parietes of a livid red colour and gangrenous.

I do not know whether the disease was epidemic in France before the establishment of lying-in hospitals, or of lying-in wards in the hospitals; the first example we have seen was in the lying-in ward of the Hôtel-Dieu; and in Britain, the first recorded was about eleven years after the institution of lying-in hospitals in England, viz., in 1760. From the 12th of June to the latter end of December of that year, twenty-four women died of puerperal fever in the British Lying-in Hospital.[4]

Nor was the next year less fatal to lying-in women, for Mr. White states: "A gentleman, whose veracity I can depend on, informs me that he attended a small private lying-in hospital in London, in the

[1] Pratique des Accouch., p. 268. [2] Mém. de l'Acad. des Sciences, 1746.
[3] Lee's Researches, &c., on some of the most Important Diseases of Women, p. 6.
[4] Leake on the Diseases of Women, vol. ii., p. 243.

latter end of May, June, and the beginning of July, 1761, during which time the puerperal fever was very fatal there; that, to the best of his recollection, they lost about twenty patients in the month of June; that during this month he himself delivered six women in a short time, in the hospital of natural births, and they all died; he was so shocked with the loss, that he desired the gentleman who had the charge of the hospital to deliver some of those who should next be in labour, which he did, but they met with no better fate."[1]

A few years later the epidemic made its appearance in Dublin. "Puerperal fever," says Dr. Joseph Clarke, "first visited the Lying-in Hospital of Dublin in the year 1767, about ten years after it was first open for the reception of patients. From the 1st of December till the end of May, of 360 women delivered, sixteen died.

"Seven years afterwards this fever reappeared. Of 280 women delivered during the months of March, April, and May, in the year 1774, thirteen died.

"From the year 1774 till the year 1787, this fever was unknown as an epidemic in Dublin. From the 17th of March in this year till the 17th of April, 128 women were delivered in the hospital; eleven of whom were seized with symptoms of puerperal fever, and seven died.

"In November, 1788, the same fever appeared for the fourth time, since the institution of the hospital. During this and the two succeeding months, 365 women were delivered, seventeen were attacked by the fever, and fourteen died."[2]

The disease, Dr. Clarke adds, corresponded with the epidemic described by Dr. Hulme; but it is unnecessary for me to enter upon details, as I have reprinted this essay, valuable not less on account of the high character of its author than for the information it contains. We must now return back a few years.

In the Westminster Hospital, between November, 1769, and May, 1770 ("being the epidemic season"), out of sixty-three delivered, nineteen had childbed fever, and fourteen died. From the 15th of May, 1770, to September, 1772, 305 were delivered, and only two died.[3] Dr. Leake also shows, from the Bills of Mortality, that the epidemic must have prevailed beyond the hospital, for from December 12, 1769, to December 11, 1770, 270 women died in childbed, whereas only 185 died the preceding, and 172 the following year.[4]

In the British Lying-in Hospital, during the same year, 890 were delivered, and thirty-five died; and in a third hospital, 282 women were delivered in 1771, and ten died.

In 1768 Dr. Denman, in 1772 Dr. Hulme, Dr. Butter (of Derby) in 1775, and Dr. Kirkland in 1784, published the results of their

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[1] White on the Management of Pregnant and Lying-in Women, p. 165.
[2] Med. Commentaries, vol. xv., p. 305; 1790.
[3] Leake on the Diseases of Women, vol. ii., p. 242.
[4] Ibid., Introduction, p. 30.

experience of these epidemics with the mode of treatment, without, however, giving numerical details.

These essays I have selected for republication, together with those of Dr. Leake (1772) and Mr. White.

Dr. W. Hunter was in the habit of informing his pupils that, of 32 patients attacked by the disease in two months, only one recovered; that, treat them in what manner you please, at least three out of four will die. "Upon examining the bodies, the uterus, the viscera, and many other parts of the abdomen are found to be inflamed. There is a quantity of purulent matter in the cavity of the abdomen, and the intestines are all glued together. We tried various methods (bleeding, refrigerants, stimulants, mithridate), but everything failed."[1]

In the year 1770, a puerperal epidemic, which Storck regarded as inflammatory, appeared in the Hospital of Saint Mark, Vienna, and it prevailed in the same city for the succeeding two years very fatally. There was considerable swelling of the abdomen and pain in the hypogastrium, and on post-mortem inspection the intestines were found covered by false membrane, and several viscera, amongst which was the womb, bore marks of inflammation and gangrene.[2]

In the year 1773, puerperal fever appeared in the lying-in ward of the Royal Infirmary of Edinburgh, and has been thus described by Professor Young: "It began about the end of February, when almost every woman, as soon as she was delivered, or, perhaps, twenty-four hours afterwards, was seized with it; and all of them died, although every method was used to cure the disorder. The disease did not exist in the town."[3]

From the year 1750 I have met with no mention of the epidemic in France until the years 1774–5, when it prevailed extensively in Paris, and has been described by M. Tenon. "This terrible disease," he observes, "has shown itself at different epochs, and its returns have been more frequent than ever; it re-appeared every winter from 1774; it commenced usually about the middle of November, and continued till the end of January. It is met also at the other seasons of the year, even during spring, for it has come to prevail more and more and to be, as it were, naturalized. Those who were attacked in the years 1774 and 1775 died between the fourth and seventh days after delivery, and seven out of every twelve women who were delivered were seized with the disease. Two distinct forms of it were successively observed: one, a simple form, which was cured by ipecacuanha; the other, a complicated form, for which there was no remedy; so that there perished, in 1816, one of every

[1] Gooch on the more Important Diseases of Women, p. 9.
[2] Lee's Lectures on Midwifery, p. 498.
[3] Dr. Jos. Clarke, Med Comment., vol. xv., p. 304; White on the Management of Pregnant and Lying-in Women, p. 405.

seven of those who were attacked with puerperal fever, and death took place from the sixth to the eighth day after delivery, and often much earlier.

"The first symptoms manifest themselves twenty-four, thirty-six, or forty-eight hours after delivery, and sometimes, but rarely, in the space of twelve hours. The symptoms of the simple puerperal fever are developed in the following order: rigour, slight pain in the region of the kidneys, intestinal colic, which in two hours affects the whole hypogastrium, and gradually becomes more acute. Pulse concentrated, fever moderate, lochia not suppressed, mammæ flaccid, tongue dry in the middle, covered with a yellow mucus on the edges; hiccup and vomiting of green-coloured matter. There was sometimes combined with these constant and characteristic symptoms of the disease which occurred in the years 1774 and 1775, a diarrhœa of a bilious glairy matter, a considerable swelling of the hypogastrium, thirst, and remarkable retention of urine.

"In the complicated puerperal fever, the pyrexia is more intense, with exacerbations; the tongue is black and dry, the belly is tense, distended, and tympanitic, and slightly painful. In some women, the lochia have been either wholly suppressed, or only diminished, others have experienced attacks of *ophthalmia;* in some the respiration was difficult; in general, the blood showed the buffy coat.

"On opening the abdomen, the stomach, the intestines, particularly the small intestines, were inflamed, adhering to one another, distended with air and a yellow fluid matter. The uterus was contracted to its ordinary dimensions, and was seldom inflamed. I had occasion to dissect two: in one, the uterus contained a coagulum of blood; an infiltration of a milky appearance, or whey-like fluid, existed in certain women in the cellular membrane surrounding the kidneys. Sometimes, also, a thick, white, cheesy matter was met with. When the lungs were gorged with blood, or inflamed, or emphysematous, an effusion of serum was found in each side of the chest. We did not observe the hemorrhages which occurred in the epidemic of 1664, and the uterus was not found dry, hard, and tumefied, as in that of 1746. In the epidemic of 1774, the lochia flowed, but they did not flow in 1746."[1]

This valuable description blends together more than one epidemic; but, as the disease is stated to have presented the same character, I have thought it better to quote it in this place.

Dr. Gordon mentions that puerperal fever prevailed in Aberdeen in the years 1760–61.[2]

In the year 1782, the Royal Medical Society of Paris made a report to the French government on M. Doulcet's method of treatment,

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[1] Mémoires sur les Hôpitaux de Paris, p. 243, 1816; from Lee's Researches, &c., p. 6.

[2] On Puerperal Fever, p. 5.

from which we learn that puerperal fever had continued more frequent than ever since 1774, and that nearly all the patients died. It commenced about three days after delivery, was attended with pain and distension of the abdomen, and a small quick contracted pulse: the milk was suppressed. After two days the pain diminished or disappeared, and a cold clammy sweat came on, with a weak tremulous pulse and delirium, and death on the third or fourth day. The abdomen contained two or three pints of fluid like unclarified whey, with flakes like curd over the intestines. M. Doulcet's remedy was an emetic of ipecacuanha, followed by a gentle purgative, and was said to be very successful.[1]

From the year 1765 to the year 1775, puerperal fever appears to have prevailed in Derbyshire and the adjacent counties, and a description of it was published by Dr. Butter in 1775, but it differs widely from the severe form of the disease already noticed, resembling more that form described by Richter. The chief symptoms were sleeplessness, depression, quick pulse, one or two exacerbations of fever in the day, and disorder of the alimentary canal. Dr. Butter objects to bleeding, and states, that ten grains of rhubarb, and ten of aromatic confection, given every day until the stools became natural, never failed to cure the disease.

In Osiander's Journal,[2] we find an account, by Dr. Jäger, of a very fatal epidemic which prevailed in the Vienna Lying-in Hospital in 1785. The local lesions were peritonitis, hysteritis, and gangrene of the inner surface of the womb.

In 1787, puerperal fever was very prevalent and fatal in London, of which Dr. John Clarke has given an account, and which I have here republished. It began on the second or third day after delivery, and terminated, in some cases, in thirty-six hours, but generally in a week. The patient complained of pain and tenderness of the abdomen, the pulse was rapid, and as the disease advanced, it became weak, the milk was suppressed and the abdomen swollen. More than two-thirds of those attacked by the disease died, and on dissection, evidences of inflammation were abundant.

Dr. Gordon has described an epidemic which made its appearance at Aberdeen, in December, 1789, and prevailed among lying-in women until the month of March, 1792, when it finally ceased. This epidemic seemed, in every respect, to answer the description of the puerperal or childbed fever on which many authors have written, particularly Drs. Hulme, Denman, and Leake. "In my practice of seventy-seven women who were attacked with the puerperal fever, twenty-eight died, so that very near two-thirds of my patients recovered." Dr. Gordon recommended prompt and large bleedings, irrespective of the state of the pulse. He remarks, "The disease seized such women only as were visited or delivered by a practi-

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[1] Gooch on the more Important Diseases of Women, p. 16.
[2] Neue Denkwürdigkeiten für die Heilkunde, &c., vol., i., p. 2.

tioner, or taken care of by a nurse, who had previously attended patients afflicted with the disease." This valuable essay will be found among those reprinted in this volume.

Dr. Gooch has furnished us with the experience of Dr. Lowder, who practised in London about this time. He says, "Dr. Lowder, who about thirty years ago lectured on midwifery at the medical schools of Guy's and St. Thomas's Hospitals, and who was esteemed by the best judges of those times as an excellent practical physician, gave the following account of the disease:—That the pathognomonic symptoms were, pain of the abdomen, pain of the head and face; that it terminated fatally in a space of time between forty-eight hours and one week; that the appearances on dissection were redness of the peritoneum, adhesion of the intestines, effusion of serum, mingled with pus and lymph. He thought that the inflammation was erysipelatous, and the fever typhoid. When the inflammatory symptoms were distinct, he permitted a few ounces of blood to be drawn, but if the symptoms were typhoid, bleeding was positively injurious—he mentioned it as the assertion of many medical men, that all the patients who were bled died. When the fever was typhoid he recommended bark, and mentioned two cases, apparently hopeless, which recovered by taking daily a gallon of the decoction."[1]

Mr. Hey mentions that an epidemic of puerperal fever commenced at Barnsley, in Yorkshire, in 1808, and at Leeds in November, 1809, continuing in the latter town until Christmas, 1812. It was coincident with an epidemic of erysipelas. In two cases the patient was attacked before delivery, but in general it commenced about forty-eight hours afterwards, with a rigor, followed by heat, sweating, pain in the abdomen, headache, a rapid but weak pulse, and absence or suppression of the milk. The lochia were sometimes unaltered, sometimes suppressed or diminished, and occasionally reappearing. There was vomiting; the bowels, easily moved at first, afterwards became constipated, which was succeeded by diarrhœa towards the end. The uterus was swollen and tender. "When the termination was unfavourable, it was sometimes delayed to eight or ten days, and in one case, till six weeks after the attack, by the use of remedies which alleviated the symptoms and checked the disorder, though they proved insufficient for its cure. When the disease was not properly treated, or was beyond the reach of art, it generally proved fatal in two or three days, sometimes in twenty-four hours, and once in less than eighteen from the attack."[2]

Between December, 1809, and June, 1810, of fourteen patients, eleven died and three recovered: this was before Mr. Hey adopted Dr. Gordon's plan of large bleeding at the beginning; afterwards, out of seventeen he lost only three. No post-mortem examinations

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[1] On the more Important Diseases of Women, p. 11.
[2] On Puerperal Fever, 1815, p. 34.

appear to have been made, but Mr. Hey has no doubt of the uterus being primarily affected.

Dr. Collins states that puerperal fever was epidemic in the Lying-in Hospital in Dublin in the years 1803 and 1810–13–18–19–20–23–26–28–29.[1]

Of the epidemic of 1810, Dr. Douglass has given a sketch; he says: "In the winter of 1810–11, at which time I was the resident assistant, puerperal fever again visited the hospital in a malignant form. And although there did not perish, during the height of the epidemic, so many as twelve patients, yet throughout the remainder of the year 1811, there were a greater number of isolated cases of fever than I considered the average of hospital disease. During 1812, likewise, although no longer officially connected with it, I had reason to know that the hospital continued rather sickly; and in the winter of 1812–13 the fever again assumed the truly epidemical character, and prevailed to an unprecedented extent. I had not an opportunity of witnessing the epidemic there in the winter of 1819–20, but I believe it exceeded in duration and fatality any that ever occurred within the British dominions."[2]

Dr. Douglass describes three varieties of puerperal fever: 1st, the synochal; 2d, the gastro-bilious; and 3d, the epidemic or contagious puerperal fever. He has drawn a marked distinction between ordinary and epidemic puerperal, and as it will illustrate a point hereafter, I shall extract it. "That form of the disease, which I arrange under the third head, is the really contagious or epidemical puerperal fever, and, although agreeing with the others in the great leading symptoms, inflammation, pain, tumefaction, and tension of the abdomen, yet differing from them in many material characters. The sensorium here is seldom in any degree disturbed; whereas, in the others it is so frequently, and even sometimes is excited to a high delirium. The pulse here is usually from the moment of attack soft, weak, and yielding, and in quickness often exceeds 160; whereas, in the first species it is full, bounding, and incompressible; and in the second, small, hard, and concentrated, and in both moderately quick. The eye, instead of being suffused with a reddish or yellow tint, as in the others, is here generally pellucid, with dilated pupil. The countenance, instead of being flushed, as in the others, is here pale and shrunk, with an indescribable expression of anxiety; an expression altogether so peculiar, that the disease could, on many occasions, be pronounced or inferred from the countenance alone. The surface of the body, instead of being, as in the others, dry, and of a high pyrexial heat, is here usually soft and clammy, and of heat not above the natural temperature, and not only is the skin cool with clammy exudation, but the muscles, to the impression of the finger, feel soft and flaccid, as if deprived of their *vis incita*

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[1] Practical Midwifery, p. 382.
[2] Dublin Hospital Reports, vol. iii., p. 142.

by the influence of the contagion. Indeed there is such prostration of strength and depression of vital principle from the very onset of the attack, that I must suppose the contagion to act upon the human frame, probably through the medium of the nervous system,"[1] &c., &c.

Dr. Douglass further states that "the contagious puerperal fever of Dublin is, I venture to pronounce, neither more nor less than a malignant fever of a typhoid type, accompanied with an erysipelatous inflammation of the peritoneal covering of the stomach, intestines, and other abdominal viscera."[2]

Mr. Dun has described an epidemic, which he states to have prevailed at Holloway, near London, in the year 1812. He met with six fatal cases in private practice, and has given the details of four of them. Two were attacked within forty-eight hours after delivery, and two on the fourth day. Two died on the third day after the attack, and one on the sixth. One of his patients recovered. The symptoms were rigors, pain in the abdomen, vomiting, quick pulse, suppression of lochia, low delirium, &c. On making a post-mortem examination in three cases, there were found evident traces of peritonitis, with distended gall-bladder.[3]

An epidemic prevailed in the counties of Durham and Northumberland during the year 1813, and subsequently. We have a detailed account of it from the able pen of the late Dr. Armstrong. It closely resembled the Aberdeen and Leeds epidemic, and presented two forms: "one accompanied with the symptoms of simple peritonitis; the other, marked by a less evidently declared inflammation of the abdomen, was connected with a more overpowering and oppressive fever." He states that he was "credibly informed that every patient perished who was not bled at the beginning." Others, however, were more successful, for he states that from the 1st of January to the 1st of October, 1813, forty-three cases occurred to five practitioners in Sunderland, of which only five died.[4]

In all the fatal cases witnessed by Dr. Armstrong, "the most unquestionable proofs of abdominal inflammation existed." The treatment he recommends is "copious bleeding, immediately succeeded by copious purging at the outset."

Dr. Campbell mentions that puerperal fever visited the Edinburgh Lying-in Hospital a second time in 1814–15, "and of nine who were taken ill only one recovered. . . . The disease prevailed throughout the city epidemically at the same time, but from all the accounts I can collect, it showed itself earlier among patients in the city than among those in the Lying-in Hospital."[5]

I shall next adduce the experience of Dr. Gooch, which he has so happily given in his admirable work.[6] He was appointed Physician

[1] Dublin Hospital Reports, vol. iii., pp. 154, 159.
[2] Ibid.
[3] Edinburgh Medical and Surgical Journal, vol. xii., p. 36.
[4] Facts and Observations relative to the Fever commonly called Puerperal, p. 93.
[5] Campbell, on Epidemic Puerperal Fever, p. 16.
[6] On the more Important Diseases of Women, p. 40.

to the Westminster Lying-in Hospital in 1812, and had abundant opportunities of investigating the characters of several epidemics. He states that "the cases which were so numerous in these unhealthy seasons had the common symptoms and course of puerperal fever. They began a few days after delivery; the leading symptoms were diffused pain and tenderness, with some swelling of the abdomen, a quick pulse, which was generally at first full and vibrating. Sometimes it was small, but still it was hard and incompressible; the skin was hot, though not so hot as in other fevers; the tongue was white and moist, the milk was suppressed. As the disease advanced the belly became less painful but more swelled, and the breathing short; towards the end the pulse was very frequent and tremulous, and the skin covered with a clammy sweat; even in this state the tongue continued moist, and the mind clear, and death took place generally about the fifth day.

"On opening the abdomen, which was often as large as before delivery, the intestines were found distended with air, the peritoneum was red in various parts, its surface was covered with a coat of lymph, the intestines adhered to one another, and the omentum to the intestines; coagulable lymph was deposited on various surfaces, especially in the depressions between the convolutions of the bowels and on the omentum, on both of which parts it often lay in large masses; the cavity of the peritoneum contained several pints of a turbid fluid, apparently serum mixed with lymph. In the uterus, the morbid appearances were generally confined to its peritoneal covering, which was coated with lymph, on removing which the membrane itself was found unnaturally red; but in some places the disease had penetrated deeper into the uterus, the substance of which was sometimes infiltrated with pus, and sometimes contained small abscesses about the size of a nut; the inner surface of the uterus, especially at the fundus, often appeared black and ragged as if gangrenous. The enlargement of the abdomen depended entirely on air in the intestines; when there was no air there was no enlargement, even though the peritoneum contained several pints of fluid.

"The disease generally began very suddenly. After being quite well, feeling no sense of illness, or at least making no complaint, the patient was seized at once with chilliness or shivering and pain in the belly, and the pulse rose to 120 or 130, but sometimes the attack was more gradual.

"I soon found that I had to deal with a very fatal disease. When I saw the patients after it had been going on two or three days, or even longer (for it was no unusual circumstance among the *out*-patients), I seldom or never saved them; the sunk countenance, the small weak pulse of 140 or 160, the tympanitic belly, the short breathing, and sometimes the clammy sweat, all indicated a fatal disease, past the reach of depletion, even if it had ever been fit for it; and cordials appeared to promise the only chance of recovery, but they were seldom or never successful; wine mixed with gruel or eggs for

diet, and diffusible stimulants for medicines, were almost signals of a fatal termination. I was soon satisfied that the disease was incurable in this stage.

"Thus, the conclusion to which I came was, that the puerperal fever which prevailed on several occasions between 1812 and 1820, was a fever attended by acute inflammation of the peritoneum, that the inflammatory stage was often very short, soon terminating in great and irremediable effusion into the peritoneum, that the disease was curable only in the inflammatory stage, by active bleeding and purging, and that although it was impossible to draw the line and say where the inflammatory stage terminated in that of effusion, because it differed in length in different cases, yet that it was often incredibly short, and that the treatment had not a fair chance of success unless begun during the early hours of the disease. Thus, my experience agreed in all the principal points with that which had been so forcibly stated to the public by Dr. Armstrong and Mr. Hey."[1]

Dr. Gooch mentions, also, that puerperal fever was very prevalent in London and its neighbourhood in the winter of 1824, and again in 1827–28; but these latter epidemics do not seem to have been severe, as the majority were cured by linseed-meal poultices and ipecacuanha.

Dr. Gooch quotes Dr. Farre, who states "that at the east end of London, not far from the river, this disease proved still more fatal during the month of March, 1825. One surgeon informed the editor that he had lost seven, another four; in all of which the disease was treated at the instant of its formation by active bloodletting. A physician-accoucheur, who attended in consultation many of these cases, stated to him that out of thirteen cases, eleven died; that all which had been bled died; and that the only two which recovered had not been bled, having been treated by turpentine."

In 1828–29, between September 11th and February 20th, sixty-two patients were admitted into the Westminster Lying-in Hospital; twenty-eight had puerperal fever, of whom seven died, or one in four.

Mr. Moore, in his work, states that in the years 1819–20, of 4,924 women delivered at the Maternité in Paris, 1,177 were attacked by puerperal fever, of whom about one-half died.[2]

Through the kindness of Dr. Labatt, I am enabled to lay before the reader the particulars of a fearful epidemic which prevailed in the Dublin Lying-in Hospital in the years 1819–20. This Report has never before been published, and the high professional character and eminent position of its author render it very interesting. I may mention that Dr. Labatt's mastership extended from the latter part of 1814 to the latter end of 1821, and that this Report was made to the Board of Governors of the Hospital, dated February 4, 1820. "I regret," he says, "to have the unpleasant task of laying before

[1] On the more Important Diseases of Women, pp. 62, 74, 86, 87, 89.
[2] On Puerperal Fever, p. 10.

the Board, the account of an epidemic fever which prevailed in this hospital during the latter part of last and beginning of the present year. Before I enter into particulars, it may not be amiss to give a general abstract for the last five years.

"During the years 1815–16–17 the hospital was healthy; of nearly 10,000 women admitted, sixty-six died, or one in 151. The year 1818 was not so favourable: of 3,549 admitted, fifty-six died, or one in sixty-two. This excess of mortality, however, arose from patients coming in ill of typhus fever (which was that year so prevalent through the city), many of whom sunk immediately after delivery. Early in the last year (1819) the puerperal fever made its appearance, but was confined to a few wards, and by a thorough whitewashing and cleansing it was arrested in its progress, and the hospital restored to its former healthy state.

"The epidemic, which is the immediate object of this statement, commenced in a most insidious way, so as to excite but little alarm. During the months of June, July, and August last, we continued healthy, and without a single case of fever. On the 8th of September, however, two women were attacked, and on the following day, one; on the 20th, one; the 28th, one; and on the 4th of October, one: all in different wards.

"No new case occurring for several days after this last attack, I was in hopes that I should be relieved from all anxiety; but on the 15th of October I was much alarmed on finding seven women complaining, and from this time until the beginning of December, there was scarce a day that two or more were not attacked.

"Early in December, with the concurrence of several medical governors, I sent notices of the unhealthy state of the hospital through the city, in order to prevent those from coming in who could provide themselves with accommodation at home, to whom, at the same time, I offered our gratuitous attendance at their residences. This had the effect of lessening our numbers; but many wretched creatures still continued to present themselves for admission at our gates, saying that they would rather run the risk of fever in the hospital, where they would have food and attendance, than remain at home destitute of both.

"*From the* 1*st of Sept. to the* 31*st of Dec., of* 1,010 *admitted,* 129 *took the fever, and sixty-one died.*

"I shall briefly mention the means that were used to arrest the progress of the fever.

"On first observing the complaint to affect a few patients through the wards, I had hopes that a timely separation of the healthy from the sick, strict attention to cleanliness and ventilation, with a frequent change of bed and bedding, would avert the danger which threatened the hospital; but I was disappointed. Nor did a thorough scouring, fumigation, and white-washing, lessen our sick list; the entire hospital was therefore submitted to the painter and whitewasher. All possible source of infection was removed; any furni-

ture or utensils that could be supposed to retain it were changed; nurses and servants were directed to be particularly attentive to cleanliness in their persons, and patients when admitted were washed when necessary, their clothes scoured, and, in some instances, destroyed. Due attention has been paid to the ventilation of the hospital, some improvements carried into effect, fumigation with chlorine gas, and washing with a solution of chloride of lime, were actively pursued, and the greatest care has been taken to preserve the air of the wards of a proper temperature. I am sorry, however, to report to the Board that the experience of the last month affords melancholy proof of the insufficiency of our best-devised preventive system.

"On the 1st January 1820, a woman was taken ill in No. 13, a ward that had previously undergone a complete purification. On the 2d, two women were attacked in Nos. 11 and 12; on the 4th, four in No. 10; and during the remainder of the month, the fever ran through the hospital, although all the wards had the same advantages as No. 13. *From the* 1*st to the* 31*st of January, of* 171 *patients admitted, sixty-three were attacked, and twenty-five died.*

"A ward that had no patients in it for several months, and had in the mean time been kept very clean and well-aired, received five patients: of these, three took the fever and two died. Some were seized with fever very soon after coming in, and I lately saw one who had the disease fully formed on admission. These circumstances would appear to show that the infection does not solely originate in the hospital, and the opinion is sanctioned by many reports which have reached me, of the existence of the complaint among the lower orders through the city, some of whom I or my assistants have been called on to attend.

"Inquiries having been made respecting the administration of *turpentine*, which has been so much extolled in the cure of puerperal fever, I think it may be satisfactory to state that I have given that remedy an extensive trial, and the result is a conviction on my mind, and on that of all those professional men who have witnessed its effects, that it is not to be relied on. We saw no woman recover whose case was treated with it alone."

I may add from the same source, that from the date of this letter (Feb. 4, 1820) to March 20, of 258 women delivered, forty-one were attacked, and sixteen died.

From the sad experience of this epidemic, Dr. Labatt informs me that he was satisfied that the contagion of typhus fever was capable of giving rise to puerperal fever; that puerperal fever was communicable from one patient to another, and also that it could be carried from the sick by an attendant to women in childbed, who were previously free from disease.

An epidemic of puerperal fever occurred in Vienna in the year 1819, commencing about July 26, and lasting till the end of August. During the months of July and August, 418 women were delivered in the General Hospital, and forty-three died of puerperal fever.

The patients were attacked on the first, second, or third day after delivery; symptoms of inflammation of the peritoneum and uterus were always present; the lochia disappeared immediately, or in a few hours, and the breasts were flaccid. Professor Baer is said to have detected, on examination with the finger, marks of gangrenous disorganization of the cervix uteri. One patient died in six hours after she was attacked, others in twelve or twenty-four hours.

"The patients in the last stage presented all the symptoms of effusion into the thorax and abdomen, extreme debility of the powers of life, and gradual dissolution.

"The very rapid putrefaction of the body after death, the dissolved state of the blood, the strikingly soft and tender state of the whole bowels, the heart, lungs, liver, spleen, kidneys, and particularly of the uterus, indicated a colliquative putrescent condition of the whole system, induced by the disease."

Dr. Biermayer examined the bodies of fifty-six women after death, and the following is his account of the state of the womb: "The uterus, in all cases little contracted, was more or less red externally, even in those where delivery had taken place long before, and the abdomen was not otherwise in an unhealthy condition. The substance or body of the uterus was always flabby, tender, easily broken down by the finger; in two cases, full of small holes or cavities filled with stinking blood. In two cases the uterus, on account of the tenderness of its substance, had burst during delivery at the neck; in the one case, the rupture was four inches in length, and in the other, one inch and a half.

"The cavity of the uterus was found filled with fetid air several times, and particularly in the syphilitic women. Its internal surface appeared generally covered with offensive concretions, ichor, or mucus, only seldom with offensive viscid blood. Beneath this it was always red, discoloured, often as if slightly eroded or ulcerated; the internal membrane often eroded and destroyed. Thus, in a woman, æt. 18, who had been delivered three weeks, in whom the abdomen was not distended, nor contained fluid, and there was nothing diseased in the abdominal cavity, except the liver and spleen being flabby and tender, the uterus was entirely ulcerated on its internal surface, like the internal surface of one of the large intestines when covered with ulcerations. She died on the twenty-ninth day. On the fundus of the uterus there generally remained particles of the placenta and membrana decidua in the form of putrid shreds. The colour of the cervix uteri was constantly darker than the rest, and especially at the mouth of the womb, which was likewise much dilated, and often as if destroyed with loss of substance, often cracked as if rent. The vagina was generally preternaturally red."[1]

Dr. Campbell has described the epidemic which prevailed in Edinburgh in 1821–22.[2] "It was in the latter end of March (1821),

[1] Edinburgh Medical and Surgical Journal, vol. xxii., p. 85.
[2] On Puerperal Fever, p. 17.

when the weather was extremely changeable, accompanied with sudden variations of temperature, that the first case occurred in my practice. From this period until the early part of Sept. 1822, when the last cases occurred, we delivered 789 patients, of whom seventy-nine were affected with the epidemic in various degrees of violence, and twenty-two died. During the dry warm months, the disease subsided considerably; and from the 16th of July to the 14th of October, 1821, we had only six cases. At this time the epidemic was not so fatal, for although two of the six fell victims to it, one of them was past recovery when we were first sent for. After the last of those dates, the cold rainy weather set in, and with it the disease returned. It was now more frequent and fatal than formerly; for in less than two months we had no fewer than twenty-six cases, of which number eight died. In the warm months of 1822, similar to what happened in the former year, the disease became less frequent, and assumed a milder character, and of all the cases which occurred from the latter end of April until the early part of September, none proved fatal. During the above period, the puerperal fever was very fatal at Stirling, and other country towns; in Glasgow particularly it committed great ravages." Dr. Campbell states, that it prevailed also in the Lying-in Hospital of Edinburgh, in every part of the city, and among all ranks.

Puerperal fever was epidemic in Birmingham in 1826–29–30–33–34–35 and 36. Mr. Ingleby states, that the first outbreak was the most severe. "In the town infirmary, a number of deaths, sixteen or eighteen, occurred in succession; indeed, according to the recollection of two medical friends attached to the institution, not a single instance of recovery took place." "The *post-mortem* appearances were by no means uniform in the different cases. In some there was considerable effusion of serum, with flocculi floating in it, and increased vascularity of the peritoneum; whilst in others, and in one in particular, the morbid appearances were remarkably slight. The internal surface of the uterus was covered with a dark-coloured, greenish pulpy substance."[1]

In 1829, softening of the uterus and serous effusion were the principal morbid lesions.

In 1833, the severe cases amounted to about twenty-six, of which eighteen terminated unfavourably; seven occurred in the practice of one individual, and five of them died.

In 1833–4–5–6, Dr. Ingleby mentions that erysipelas prevailed extensively in the hospitals and in the town, and that the concurrent diseases did not admit of the usual active treatment.

Dr. Collins, in his valuable work,[2] observes, "In the year preceding my appointment as master, which took place November, 1826, puerperal fever prevailed in the hospital to an alarming extent. In

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[1] Edinburgh Medical and Surgical Journal, vol. xlix., p. 416.
[2] A Practical Treatise on Midwifery, p. 382.

the succeeding year, 1827, the mortality from this disease was slight. Typhus fever was, during these periods, very prevalent in Dublin, many cases of which appeared in hospital. In 1828, the attack of puerperal fever was much more severe, proving fatal to twenty-one women. It continued to increase in violence considerably in the months of January, February, and the early part of March, 1829, after which it disappeared, and for the four remaining years of my mastership we did not lose a single patient from this disease.

"This fever makes its attack, for the most part, on the first, second, or third day after delivery; sometimes before, immediately after, or in a few hours; at other times not till the seventh or eighth day. Of eighty-eight cases that occurred during my residence, one had the disease well marked before delivery, one was attacked in six hours, one in nine, one in ten, three in twelve, one in thirteen, one in fifteen, two in seventeen, one in eighteen, one in twenty, one in twenty-one, and two in thirty hours from delivery: thirty-two were attacked on the first day, twenty-nine on the second, eight on the third, two on the fourth, and one on the eighth day.

"The disease seems to run its course with great rapidity in most instances. In fifty-six deaths in the hospital, it proved fatal at the following periods after the date of the seizure, viz., two in twenty-four hours, one in twenty-seven, one in thirty-six, nine on the second day, fifteen on the third, thirteen on the fourth, four on the fifth, five on the sixth, three on the seventh, two on the eighth, and one on the eleventh day. From this it will be seen that the second, third, and fourth days are the periods at which death takes place in most instances."

It does not appear that the length of labour has anything to do with predisposing to an attack, for "of eighty cases, seventy-one were delivered within twelve hours, and eighty within twenty-four hours."

Out of eighty-eight cases that occurred in the hospital, fifty-six died and thirty-two recovered. The pathological appearances discovered after death, in thirty-seven of the fifty-six, are thus summed up by Dr. Collins:—"The abdomen being ostensibly the seat of the disease, the morbid appearances were principally found here; however, in *seven* he observed fluid effused into the thoracic cavities, similar in appearance to that met with in the abdomen. Effusion of fluid, although differing in character and quantity, was invariably found to have taken place. In twelve it seemed to be serum of a straw colour; in eighteen it was sero-purulent, something of the consistence of thick cream; and in seven it appeared bloody serum, with quite a glutinous feel when rubbed between the finger and thumb. All the cases but one, in which this latter description of fluid was found, occurred in January and February, 1829, and rapidly proved fatal. In these there was no lymph formed; whereas in the other varieties it was usually found deposited in large quantities, particularly in the vicinity of the uterus, but often over the

entire surface of the intestines and abdominal serous membrane. In some, when the effused fluid was scanty, the intestines were completely glued together by lymph. In almost every body examined, the peritoneum exhibited great increase of vascularity, nor could we discover, in any instance, that the inflammation seemed to penetrate deeper than this membrane. The uterus, in the great majority, was quite natural in appearance; in some it was soft and flabby; and in a few, unhealthy matter was found in its sinuses. The ovaries, in numerous instances, had suffered much in structure from the effects of inflammation, being generally much enlarged, and so softened, in most, as to be broken in pieces by the least pressure."[1]

In his valuable work "On the more Important Diseases of Women," Dr. Lee states, "From the 1st of January, 1827, to the 1st of October, 1832, 172 cases of well-marked puerperal fever came under my immediate observation in private practice, and in the British Lying-in Hospital, and other public hospitals in the western districts of London. . . . . Of fifty-six cases which proved fatal, the bodies of forty-five were examined, and in all were found some morbid changes, decidedly the effect of inflammation, either in the peritoneal coat of the uterus or uterine appendages, in the muscular tissue, in the veins, or in the absorbents of the uterus—accounting, in a most satisfactory manner, for the constitutional disturbance observed during life. The peritoneum and uterine appendages were found inflamed in thirty-two cases; in twenty-four there was uterine phlebitis; in ten there was inflammation and softening of the muscular tissue of the uterus; and in four, the absorbents were filled with pus."[2]

Dr. Robert Fergusson has afforded us the result of his experience in another great institution, the General Lying-in Hospital, during the same period of time, and for some years longer. In the twelve years from March, 1827, to April, 1838, 205 cases of puerperal fever occurred, of which 68 died. "Puerperal fever," he states, "was epidemic in the years 1828–9, 1835–6–8; in the other years it was only sporadic. The greatest mortality was in the years 1835 and 1838, in the last of which twenty in twenty-six died. The malady commenced in January, in which month Dr. Rigby saved only one out of nine. The hospital was closed for a month, and opened again in March, when he succeeded in rescuing only two in eight. Thinking that another mode of treatment might be more successful, I determined to bleed largely, and to salivate. This plan was fairly tried, under the constant attendance of Dr. Cape, and with my supervision; but three only in nine lived. Seeing that no treatment was of avail, the hospital was closed from May till November. I may add, that the present year, 1838, has exercised an exceedingly fatal influence in every species of fever, all of which were of the low or typhoid type."[3]

A very severe epidemic prevailed in Paris, in the practice of M.

[1] Practical Treatise, p. 397.
[2] Page 3. [3] Essays on the more Important Diseases of Women, p. 277, Appendix.

Desormeaux, in the year 1829, and which has been carefully described by M. Tonnellé.[1] He does not mention the numbers affected, but he has traced the morbid lesions with great care, and in no fewer than 222 cases. The following is a condensed summary of his statements:—

In 193 there were traces of peritonitis; in twenty-nine, or about one-eighth, there were none.

In 197, or about nine-tenths, he found morbid lesions in the uterus, e. g., simple inflammation of the uterus and appendages—inflammation of the uterine veins and lymphatics—and softening and putrescence of the uterine parietes.

In sixty-two cases the ovaries were inflamed.

In ninety cases there was inflammation of the veins; in forty, of the lymphatics alone.

In forty-nine cases the uterus was softened, superficially in twenty-nine, deeply in twenty.

In twenty-nine cases there were the usual evidences of pleurisy; in six others, an effusion of blood, and in eight, of serum into the pleural cavities.

In twenty-seven cases the lungs were affected, viz., in ten there was pneumonia; in eight, abscess; in four, tubercles; in three, gangrene; in two, apoplexy.

There were purulent deposits in the muscles in fourteen cases; in the joints in ten; and in the cellular tissue of the pelvis in six cases.

Abscess of the liver existed in three cases, and of the pancreas in two cases.

M. Tonnellé divides puerperal fever into three varieties: the inflammatory, the typhoid, which was by far the most frequent, and the anomalous or ataxic. "The more active remedies were general bloodletting, leeches, ipecacuanha, and mercurial salivation; the subsidiary remedies were chiefly the warm bath and hip-bath, laxatives, clysters, cinchona, cataplasms, and emollient lotions of the uterus. A tabular view of the success attending the employment of the more active remedies, is given at the end of the chapter on the treatment; and from this table it appears, that of 165 comprehended by it, no fewer than 56 died, or fully one-third."[2]

A continuation of the history of this epidemic has been furnished by M. Duplay,[3] for the months of January, February, and March, 1830, during which time 750 were delivered in hospital, and 146, or one-fifth, attacked by puerperal fever. M. Duplay made forty autopsies, and his account so completely coincides with the previous one of M. Tonnellé, that I need not enter into details.[4]

Mr. Ceely, of Aylesbury, has described an epidemic which occur-

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[1] Archives Gén. de Méd., for March, April, May, and June, 1830.
[2] Edinburgh Medical and Surgical Journal, vol. xxxiv., p. 345.
[3] Journ. Hebdom. de Méd., May, 1830.
[4] Edinburgh Medical and Surgical Journal, vol. xxxiv., p. 328.

red in that city and its neighbourhood in the year 1831, during the prevalence of erysipelas which exhibited a mild, a phlegmonoid, and a typhoid form, and the puerperal seems to have assumed analogous characteristics. It set in generally on the second or third day after delivery; but in some instances it appeared about the time of delivery. Mr. Ceely had no opportunity of making a post-mortem examination in the acute cases; but in two of a typhoid character the uterus was swollen, its substance healthy, its peritoneal surface inflamed, and its mucous surface covered with dark grumous fluid. The fallopian tubes exhibited the same morbid characters, and the peritoneum covering the large intestines was inflamed.[1]

A report of the secondary Midwifery Institution at Vienna, by Dr. Bartsch, was published in the Lancet,[2] in which it is stated, that of 2,218 women delivered at that institution between October 15th, 1833, and December 31st, 1834, 175 had puerperal fever, of whom 109 died. In this Report, puerperal fever is distinguished from peritonitis and metritis.

"The cases of puerperal fever occurred seldom under the form of puerperal peritonitis, but generally as inflammation of the uterine veins, giving rise to the production of pus in these vessels, and the general symptoms accompanying its absorption."

My friend, Dr. Evory Kennedy, informs me that puerperal fever made great havoc in the hospital during his mastership, from 1834 to 1840 inclusive, although he has not as yet published any report. He authorizes me, however, to assume that the mortality of each year, which exceeded the ordinary proportion, was owing to puerperal fever: and from the annual sheet published by the hospital, I find the proportionate mortality in 156,100 women, to be one in eighty-four. During Dr. Kennedy's mastership it was as follows: In 1834, one in fifty-nine; in 1835, one in fifty-five; in 1836, one in fifty; in 1837, one in seventy-six; in 1838, one in forty-seven; in 1839, one in seventy-eight; and in 1840, one in fifty-eight.

In Dr. Beatty's Second Report of the Lying-in Hospital, South Cumberland street, Dublin, from July, 1835, to August, 1837, he says: "The hospital was visited by this terrible malady twice during the period embraced by the present Report. Both attacks took place in the month of January, and at each time erysipelas was raging as an epidemic in the surgical hospitals, and diseases of a typhoid type were very prevalent in the city."[3] Dr. Beatty lost eight patients out of thirteen.

Perhaps I may be allowed to mention, as a curious exemption from this disease, that during the whole time the Western Lying-in Hospital in this city has been open for the poor, we have never had puerperal fever prevailing there. A single case of uterine inflammation has occurred occasionally, though rarely, but it has never been followed by a second soon after. I do not pretend to account

[1] Lancet, March 7, 1835.
[2] April 16, 1836.
[3] Dublin Journal, vol. xii., p. 297.

for this; I am far from supposing that the credit is due to better management.

M. Voillemier has described an epidemic which occurred in Paris in 1838.[1] He met with two forms, the inflammatory and typhoid. The former commenced with rigors, pain in the hypogastrium or iliac fossa, generally limited to one spot. The pulse rose to 130, skin hot, sweating, face flushed, eyes lustrous, frontal headache, hurried breathing, &c. This form of disease generally yielded to antiphlogistic treatment, though it occasionally terminated fatally.

The typhoid form began by a long and severe rigor, often a few hours after delivery; pain very intense over the whole abdomen, which rapidly became swollen; pulse feeble, compressible, undulatory, often 150; respiration hurried, anxiety extreme, severe frontal headache, countenance sunk, pale, and covered with clammy sweat; constant vomiting of green matters, and purging; stools fetid. The patients rapidly sank at the end of a few days, or even hours. There was no regularity in either lochia or milk.

In twenty-two out of twenty-four cases, purulent matter was found in the sub-peritoneal cellular tissue, and in the pelvis: in two, purulent inflammation of the lymphatics; in three, uterine phlebitis, but the substance of the uterus free from disease. The peritoneum was frequently injected with effusion of serous fluid or lymph; in three, there were abscesses in the arm or leg; in one, pus in the elbow and wrist-joints; and in six, purulent matter in the pleuræ.[2]

In a very few cases, M. Voillemier thought he could trace the origin of the disease to contagion.

Epidemics of puerperal fever occurred at Rennes in 1842 and 1844, and have been described by M. Botrel.[3] The lymphatics were principally implicated, the veins being unaffected. The disease sometimes terminated in forty hours; but generally not before the fifth day. The mortality in the first epidemic was twenty out of twenty-four, and in the second twenty out of twenty-two. There were purulent deposits in the lungs.

The disease also appeared in the Westminster Lying-in Hospital in the year 1842, an account of which has been given by Mr. Boddy.[4]

Puerperal fever made its appearance in the hospital at Rouen in 1843. From the 21st of September to the 8th of January, 1844, eighty-three women were delivered, and twenty-one suffered from the disease. From the 8th of July to the 9th of August, 1845, of twenty-six women delivered, nine had puerperal fever. From the 19th of March to the 21st of April, 1846, thirty-six women were delivered, and twelve had puerperal fever. Dr. Leudet tried the

[1] Journ. des Connois. Méd. Chir., Dec. 1839, Jan. 1840.
[2] Edinburgh Medical and Surgical Journal, vol. liv., p. 513.
[3] Archiv. Gén., June, 1845; Ranking's Abstract, vol. ii., p. 293.
[4] Obstetric Record, 1848, No. 19.

effects of quinine as a prophylactic, and speaks favourably; but the results appear to have been too negative to be of any use.[1]

Dr. M'Clintock has given an account of an epidemic which prevailed in the Rotunda Lying-in Hospital in 1845. The hospital was closed almost immediately; but during the few days it lasted, of ourteen attacked, ten died.[2] I shall quote Dr. M'Clintock's enumeration of the peculiarities of this outbreak. "1. The very sudden and unexpected manner in which the epidemic appeared, without any of those precursory warnings which have usually preceded its invasion. 2. The remarkable circumstance, that of the fourteen children of the women attacked, five died: one of rapid trismus, one of erysipelas, and three of convulsions. 3. That out of the ten fatal cases, nine were examined *post-mortem*, which examination revealed the most extensive morbid appearances, quite adequate to account for death. 4. During the same period that puerperal fever was in our wards, erysipelas was very prevalent in some of the surgical hospitals throughout the city. 5. It is worthy of remark what a small detraction of blood was sufficient to bring on syncope in this epidemic. Nearly every case was bled as soon as the system had rallied from the rigor; but only one woman (who recovered) bore the loss of so much as fifteen ounces, whilst from six to eight ounces was about the average."

In the year 1845, puerperal fever prevailed in several of the Paris hospitals. MM. Bidault and Arnould state that the lochia and milk were in all cases diminished or suspended. Death usually occurred before the fifth or six day, with the symptoms of low typhus. The uterus was flaccid; its muscular tissue and veins unaffected; but the lymphatics of the uterus, and, in some cases, of the appendages, were filled with pus. At the Hôtel-Dieu peritonitis occurred. At St. Louis the peritoneum was unaltered. The blood was dark and semi-coagulated, as in low typhus fever. In the obstetric ward of the Hôtel-Dieu annexe, of sixty-seven women delivered, one in five died.[3]

In the same year an epidemic occurred in the Maternité at Gratz, and has been described by Dr. Schoeller.[4] Serous or puriform fluid was found in the peritoneum; the uterus was softened, the veins filled with pus, the lining membrane covered with a semi-fluid putrid exhalation. The blood was very fluid, and exhaled a peculiar odour, like that of the bat; in other respects it resembled that fluid in persons poisoned by prussic acid.

I have now laid before the reader an account of all the epidemics of puerperal fever I have been able to make out. I have no doubt that the list is still imperfect; but so far, it is more complete than any with which I am acquainted, and in order to render it more intelligible, I shall throw it into a tabular form.

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[1] Thèses de Paris; British and American Medical Journal, March, 1849, p. 312.
[2] Dublin Journal, vol. xxvii., p. 212.
[3] Gazette Méd., Aug., 1845; Ranking's Abstract, vol. ii., p. 292.
[4] Med. Jahrbucher und KK. Oesterreiches Staats, Oct., 1845; Ranking's Abstract, vol. iv., p. 314.

Year.	Locality.	Local Disease.
1664	Paris	Uterine phlebitis.
1746	Paris	Peritonitis, hysteritis.
1750	Paris, Lyons	Peritonitis, hysteritis, uterine phlebitis.
1760	London, Aberdeen	Peritonitis, inflammation of omentum.
1761	London, Aberdeen	Peritonitis, inflammation of omentum.
1765	Derbyshire.	
1767	Dublin	Peritonitis.
1769	London.	
1770	London, Vienna	Peritonitis.
1771	London.	
1773	Edinburgh.	
1774	Paris, Dublin	Peritonitis.
1775	Paris, London, Derbyshire	Peritonitis.
1780	Paris	Peritonitis.
1781	Paris	Peritonitis.
1782	Paris	Peritonitis, hysteritis.
1783	London	Peritonitis.
1785	Vienna	Peritonitis, hysteritis, gangrene.
1786	Paris.	
1787	London, Dublin	Peritonitis, hysteritis.
1788	London, Dublin	Peritonitis, hysteritis.
1789	Aberdeen	Peritonitis.
1790	Aberdeen	Peritonitis.
1791	Aberdeen	Peritonitis.
1792	Aberdeen	Peritonitis.
1795	Vienna	Peritonitis, uterine phlebitis.
1803	Dublin	Peritonitis.
1808	Barnsley	Peritonitis.
1809	Leeds	Peritonitis.
1810	Leeds, Dublin	Peritonitis.
1811	Heidelberg.	
1812	Leeds, London	Peritonitis.
1813	Dublin, Sunderland, Holloway	Peritonitis.
1814	Edinburgh, London.	
1815	Edinburgh.	
1816	Paris	Peritonitis, hysteritis, uterine phlebitis.
1817	Pennsylvania, U. S.	Peritonitis.
1818	Pennsylvania, Dublin	Peritonitis.
1819	Dublin, Vienna, Paris, Glasgow, Stirling	Peritonitis.
1820	Dublin, London, Paris, Glasgow, Stirling	Peritonitis.
1821	Edinburgh, Glasgow, Stirling.	
1822	Edinburgh, Glasgow, Stirling.	
1823	Dublin	Peritonitis.
1824	London	Peritonitis.
1825	London	Peritonitis.
1826	Dublin, Birmingham	Peritonitis.
1827	London	Peritonitis, hysteritis,
1828	London, Dublin	Uterine phlebitis.
1829	London, Dublin, Paris, Birmingham	Peritonitis, hysteritis, uterine phlebitis.
1830	Paris, Birmingham.	
1831	Aylesbury	Peritonitis.
1833	Vienna, Pennsylvania, Birmingham	Uterine phlebitis.
1834	Vienna, Birmingham	Uterine phlebitis.
1835	London, Birmingham	
1836	London, Dublin, Birmingham	Peritonitis.
1837	Dublin.	
1838	Paris, London.	
1842	Rennes, London.	
1843	Rouen.	
1844	Rouen, Rennes.	
1845	Rouen, Paris, Gratz.	
1846	Rouen.	

Having finished this historical summary, I might now conclude, as it is far from my purpose to write a treatise upon puerperal fever; but there are one or two observations I should wish to make, rather as suggestions to induce my readers to follow up the subject, than as absolute inferences. The disease in question is so important, and we are so ignorant of many essential points concerning it, that any amount of labour may be well and profitably bestowed upon it.

1. I would remark, then, in the first place, that there appears some special connection between the epidemics of puerperal fever and lying-in hospitals. I do not mean exactly to assert that these epidemics always originate with and are kept up by the hospitals; but I refer to the fact that we have no record of any epidemic independent of them in early times. The first in France, England, and Ireland, occurred in the Hôtel-Dieu of the former, and the lying-in hospitals of the latter countries; and although our earlier writers allude to inflammation of the womb, &c., occurring in childbed, they make no mention of its prevailing extensively, or as an epidemic.[1]

No doubt, it has since then been observed in private practice in London, Edinburgh, Sunderland, Leeds, &c., &c., but its extent in these cases is, after all, comparatively limited, except in very sickly times, and it is often confined chiefly to the practice of a few individuals. In Dublin, the higher ranks have been singularly free from attacks of the disease. Dr. Joseph Clarke, whose valuable account of puerperal fever as it appeared in the hospital is here reprinted, practised for forty-four years in this city, during which time he attended 3,847 cases of midwifery, and yet in that number he met only three cases of acute peritonitis, and three others whose disease appears doubtful, but which might possibly have been uterine phlebitis.[2] And this singular fact, which is to me inexplicable, is confirmed by the experience of Drs. Collins, Johnson, and others, as they have assured me.

2. Perhaps the most universal fact connected with puerperal fever is the presence of local disease. In almost all cases of the epidemic, where an opportunity of ascertaining has been allowed, local lesions of some kind or other have been found, and even when this opportunity was denied, but little doubt existed in the mind of the practitioner that such existed. It seems very probable that, in many cases where the local disease seemed but slight, there would *now* be found very serious and important morbid changes; for we know that a patient may die of inflammation of the uterine veins or lymphatics, with very obscure symptoms, and without either enlargement or very obvious tenderness of the uterus, and that these

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[1] See Copland's Dictionary, Part III., p. 503.

[2] Life, Writings, and Practice of the late Dr. Jos. Clarke, by Dr. Collins, p. 42.

morbid lesions may be overlooked, if the examination be hasty and superficial.

It is only fair to state that Dr. Copland, in an excellent article on Puerperal Fever, differs from this view. He states that his experience has "convinced him that a most rapidly fatal and most malignant form of puerperal fever is occasionally developed in lying-in hospitals, which is certainly not characterized by uterine phlebitis, nor by purulent collections in the uterus or its appendages, nor even in some cases by peritonitis, the chief lesions often being merely a remarkable alteration of the blood, general lacerability of the tissues or loss of their vital cohesion soon after death, with a dirty, muddy, offensive, and sometimes a scanty, effusion into the serous cavities." He adds, however, that such cases are rare.

The local affections in puerperal fever embrace all the results of inflammation, and involve all the tissues of the organs of gestation, either separately or together. Perhaps the most frequent is peritonitis, originating, very probably, in the outer covering of the uterus, but spreading to the entire serous cavity. We find, also, inflammation of the muscular tissue of the uterus, with its consequences, abscess, softening, and gangrene; inflammation of the lining membrane, softening, and gangrene; inflammation of the veins and lymphatics, with the secondary affections thence arising, inflammation and purulent deposits in different organs, muscles, and joints; and inflammation of the ovaries, with its results.

I repeat my conviction that there are few if any cases of puerperal fever without local disease of the organs employed in parturition or the neighbouring tissues; but are we, therefore, justified in asserting that puerperal fever is simply a local affection? Are we to agree with Dr. Lee, that his "observations are therefore subversive of the general opinion now prevalent, that there is a specific, essential, or idiopathic fever, which attacks puerperal women, and which may arise independently of any local affection in the uterine organs, and even prove fatal without any change in the organization of their different textures. As the constitutional symptoms thus appear to derive their origin from a local cause, it would certainly be more philosophical, and more consistent with the principles of nosological arrangement, to banish entirely from medical nomenclature the terms puerperal or childbed fever, and to substitute that of uterine inflammation, or inflammation of the uterus and its appendages, in puerperal women."[2]

I have latterly seen reason to doubt the truth of the view I formerly took,[3] which was in accordance with that of Dr. Lee, and though I would wish to express myself cautiously and guardedly, I must honestly avow, that whilst I fully admit the existence of local disease, I do think that epidemic puerperal fever is something more

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[1] Dictionary of Practical Medicine, Part XIII, p. 500.
[2] Researches, p. 3. [3] Diseases of Pregnancy and Childbed, p. 283.

than that, although I may not be able to define exactly what it is.

We should be justified in this supposition I think on several grounds. First, the very remarkable variety of opinions as to its nature would go far to prove that it cannot be the simple local disease Dr. Lee believes. For example, by some it is regarded as inflammation of the uterus; by others, inflammation of the omentum and intestines; by a third party, as peritonitis; by a fourth, as erysipelatous inflammation; by a fifth and sixth, as a fever *sui generis*, or with biliary disorder; by a seventh, as a disease of a putrid character, &c. &c. Such different views are hardly reconcileable with the notion of a simple local inflammation.

Then again, look at the prevailing characters of different epidemics, and see how varied they are; in one, the lochia are suppressed; in another they are profuse; in a third, unaltered; diarrhœa is common in one epidemic, constipation in another; typhoid symptoms in one, ordinary fever in another.

And as to the remedies, we find even a greater diversity: one very high authority recommends saline purgatives; another loses all his patients until he bleeds largely at the commencement; another loses those who are so bled. Calomel is the universal remedy in one epidemic, opium in another.

Lastly, let any one compare a case of simple inflammation of the womb or peritoneum, in childbed, with a case of epidemic puerperal fever, their symptoms, course, and the effect of remedies, and I do not think that a doubt will remain upon his mind that, although the latter is a local disease, it is not exclusively so.

But then comes the question, what more is it than a local disease? We may call it puerperal fever *plus* the local disease, but this answer is neither very precise nor very positive; and before I attempt to give any further answer, there are one or two additional remarks to be made.

3. What is the peculiar effect of uterine phlebitis? Mr. John Hunter thought that phlebitis destroyed life by the extension of inflammation to the heart. Dr. Arnott's researches disproved this, and showed, with subsequent investigations, that it was probably owing to an alteration in the quality of the blood. M. Bouillaud, in 1825, attributed the typhoid symptoms in phlebitis to the mixture of pus with the blood; and he adduces the experiments of Baglivi, Magendie, and Gaspard, as confirming his opinion, they having produced analogous results by the injection of putrid matter into the system. And we have the evidence of Dance, Tonnellé, Duplay, and others, showing that pus has been found in considerable quantities, in the uterine veins. The symptoms which Mr. Guthrie describes as characteristic of irritative phlebitis are very like those of puerperal fever.

4. Puerperal fever prevails most during the winter or spring

months, and in moist and cold weather, or with alternations of cold and warm moist weather. To this effect we have the testimony of Leake, Armstrong, Campbell, Hey, Clarke, &c., &c.

It may be of importance, therefore, to consider what epidemic diseases are concurrent at such seasons with puerperal fever. There are three which appear to be so especially: bowel complaints (or gastro-enteritis), typhus fever, and erysipelas. The evidence in support of this statement is so abundant, that to adduce it would be to quote almost every writer upon the subject, and in the preceding sketch I have incidentally afforded quite sufficient proof. Nay, it would appear from the statements of Dr. Labatt and Dr. Collins, that typhus fever occurring in a patient in a lying-in ward, is capable of originating puerperal fever.

Now, I believe that there is little doubt at present that in fever the composition of the blood is changed,[1] and that in typhus fever the deterioration has reached its maximum.

From the concurrence of puerperal fever and erysipelas as an epidemic, it has been asserted by many, and with great probability, that they are essentially the same disease—certainly they prevail during the same atmospheric condition, exhibit often the same general symptoms, and Mr. Nunnelly asserts may reproduce each the other.[2]

Dr. Hutchinson and others have seen the two diseases in the the same patients; and I think there is evidence to show that the the infants of women attacked by puerperal fever are very liable to attacks of erysipelas or diffuse inflammation.

Now, one peculiarity of erysipelas, in which Mr. Nunnelly states it resembles puerperal fever, is the disposition to the formation of pus in various parts of the body, and he admits the probable consequent deterioration of the blood. "It is highly probable," he says, "if not certain, that there is some change produced in the state of the blood, which change may depend upon alterations we are unable at present to appreciate, but which it is likely occur in many tissues, and may thus affect the mass of blood more or less quickly, and to a greater or less extent, according to the influence they have upon, and the connection they have with, the blood in a state of health."[3]

As bearing upon the question, I shall quote from Dr. Ormerod the following remarks: "Besides the sudden increase, under such circumstances, of the number of patients suffering from fever, there is observed in all epidemics, from the plague of Athens downwards, a tendency of all diseases to assume, as far as may be, the epidemic type. Much, probably, of this is explicable on the supposition of the existence of some atmospheric condition affecting all who cannot resist it in the same way; but however this may be, as far as general impressions, in the absence of notes, will justify the assertion, simultaneous with the occurrence of severe cases of fever in the medical

[1] Ormerod on Continued Fever, p. 168.
[2] On Erysipelas, p. 81; Copland's Dictionary of Pract. Med., Part XIII., p. 508.
[3] Ibid., p 72.

wards, phlebitis and troublesome sores are more commonly met with in the surgical wards of this hospital, and erysipelas of the head and face in both."[1] Much additional evidence might be adduced, but this is probably sufficient.

5. So far, then, we find that the same seasons give rise to certain diseases (puerperal fever, continued and typhus fever, and erysipelas); that they prevail at the same time epidemically, and as an epidemic, take on the same type, and appear capable either of giving rise to the other or of co-existing. Now, perhaps (to use an arithmetical expression), if we could subtract the local peculiarities of puerperal fever from that which it has in common with the others, we should arrive at the object of our search. Can it be that some change in the composition of the blood is this element? It would appear that in phlebitis, fever, and erysipelas, the altered condition of the blood plays a most important part, and that to it may be owing what we call "typhoid symptoms." Unfortunately, we know but little of the state of the blood in puerperal fever. Most writers speak of it as resembling the blood in other acute inflammations, coagulating firmly with a thick buffy coat. Mr. Moore says: "The writer has seen a black precipitate in the blood of a person labouring under the adynamic form of the disease. Such a deposit is often found in typhus, and in the last stage of infectious erysipelas and phlebitis. Another similarity between the blood in this affection and other diseases of typhoid and malignant character, is the peculiarly offensive odour occasionally arising from it."[2] I have already quoted its condition, as mentioned by MM. Bidault and Arnould and by Dr. Schoeller. Dr. Scanzoni has recently maintained that special causes of puerperal fever originate in the altered condition of the blood.[3] Dr. Copland also speaks of a remarkable alteration of the blood, but without describing it. I should be very sorry to come to any hasty conclusion on so difficult a subject, but it appears possible at least that the general element which constitutes the difference between epidemic puerperal fever and simple inflammation of the uterus and peritoneum, may be some deterioration of the blood, depending either upon atmospheric malaria from without or absorption of some noxious matter within the body. Whether further researches may prove this to be true or not, I cannot but agree with Mr. Moore, that "in puerperal fever, as in typhus, cholera, and other epidemic and contagious diseases which seem properly to belong to the class neuroses, there is, besides that of inflammatory action, another element, unknown, but which has an essential influence upon the intercurrent phlegmasiæ arising in their course, and which may yield at one point only to appear at another."[4]

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[1] Clinical Observations on Continued Fevers, p. 27.
[2] On Puerperal Fever, p. 185.
[3] Ranking's Abstract, vol. vii., p. 335.
[4] On Puerperal Fever, p. 126.

6. A very important question, that of contagion, remains. The opinions of those most experienced in the disease vary very much. Drs. Hulme, Hey, Armstong, Dewees, and Campbell, in their works deny its contagiousness; Drs. Gordon, Prof. Young, Mr. Ceely, Drs. Ramsbotham, Rigby, Lee, and Copland, &c,, affirm it. Dr. Hamilton thinks it so contagious that it may be communicated by a third person; Dr. Copland thinks it decidedly contagious, and has accumulated a great amount of evidence.

As in all cases where a disease is epidemic, it is and must ever be a difficult thing to decide as to the contagiousness of puerperal fever; still I confess that the facts would lead one to the inference that, at least, it is communicable from a woman labouring under it to others in the same ward.

7. This leads to another consideration of great importance to practitioners of midwifery, viz., whether puerperal fever can be conveyed by a third party, in health, from a person labouring under it to another person in childbed. There are many facts which countenance this supposition undoubtedly. Dr. Gordon has traced a number of his cases to contagion (as he believes), carried from a woman labouring under the disease to another either pregnant or recently delivered.[1] Dr. Gooch mentions that several instances occurred of puerperal fever attacking the patients of one practitioner, while those of others were exempt. "One instance of this kind was very remarkable: a general practitioner in large midwifery practice lost so many patients from puerperal fever, that he determined to deliver no more for some time, but that his partner should attend in his place. This plan was pursued for one month, during which not a case of the disease occurred in their practice. The elder practitioner being then sufficiently recovered, returned to his practice, but the first patient he attended was attacked by the disease and died."[2] I rather think this proves too much; for if we conclude that the contagion was carried by this gentleman to his patients, we must also admit that the clothes or person may preserve the contagion for a month, and I scarcely think that this would be maintained.

In Sunderland, forty out of fifty-three cases occurred in the practice of one surgeon and his assistant. Mr. Roberton, of Manchester, states, that between the 3d of December, 1830, and 4th of January, 1831, a midwife attended thirty patients of a public charity, sixteen of whom had pueperal fever, and all died. Other midwives, of the same institution, attended 380 women during the same time, and none suffered from it. He also mentions the case of a practitioner who introduced the catheter for a poor woman in puerperal fever late one evening, and attended a lady in her confinement during the

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[1] On the Epidemic Puerperal Fever of Aberdeen, p. 63.
[2] On the more Important Diseases of Women, p. 75.

the same night, who was attacked with puerperal fever on the second day.[1]

Dr. Copland, with his usual industry, has adduced many additional facts in the practice of British and American accoucheurs. "Dr. Pierson, of Salem, U. S., admits this to have occurred to himself in several consecutive cases. Dr. Condie, although not previously a believer in the contagious nature of the malady, "has nevertheless become convinced by the facts that have fallen under his notice, that the puerperal fever now prevailing is capable of being conveyed by contagion." Of seven women delivered by Dr. Jackson, in rapid succession, all took the disease, and five died.[2] Other cases of the same kind occurred, and certainly carry great weight, but we must not forget that puerperal fever was epidemic at the time.

Dr. Peddie and Mr. Beecroft have published some very remarkable cases of a similar nature, which occurred in their own practice, and they conclude that the virus once generated may be communicated from one lying-in patient to another, either directly or through a third person.[3]

So far as the weight of opinion goes, it is in favour of contagion, among practitioners of the present day, but I think we are scarcely yet in a position to speak quite positively.

There is another class of cases on record which seem still more free from doubt. For example, Dr. Gooch states, that a "practitioner opened the body of a woman who had died of puerperal fever, and continued to wear the same clothes. A lady, whom he delivered a few days afterwards, was attacked with and died of the same disease; two more of his lying-in patients, in rapid succession, met with the same fate; struck by the thought that he might have carried the contagion in his clothes, he instantly changed them and met with no more cases of the kind."[4]

Dr. Campbell has published a letter to Dr. Lee[5] since his work on Puerperal Fever, in which he states some reasons for believing that a person having been engaged in dissecting puerperal patients may transport the disease to others. In October, 1821, I assisted at the dissection of a woman who died of the disease, after an abortion of the early months; the pelvic viscera, with the external coats were removed, and I carried them in my pocket to the class-room. The same evening, without changing my clothes, I attended the delivery of poor woman in the Canongate; she died. Next morning I went with the same clothes to assist some of my pupils who were engaged with a woman in Bridewell, whom I delivered with the forceps; she died; and of many others who were seized with the disease within a few weeks; three others shared the same fate in succession." "In June, 1823, I assisted some of my pupils at the dissection of an un-

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[1] Medical Gazette, No. 214, 1831.
[2] Dictionary of Practical Medicine, Part XIII., p. 506.
[3] Northern Journal of Medicine, Jan., 1846; Lancet, June 24, 1848.
[4] Op. cit., p. 4. [5] Medical Gazette, Dec., 1831.

married female, who died of the disease at Canon Mills, after delivery with the forceps. For want of accommodation I was unable to wash my hands with that care which I ought to have done; on arrival home, finding that two patients required assistance, I went to them without further ablution of my hands or changing my clothes, and both of them were seized with the disease and died."

"Post hoc" is not always "propter hoc," however, and we must not forget that puerperal fever was epidemic in Edinburgh in 1821–2.

Dr. Robert Lee and Mr. Roberton mention similar cases, and Dr. Copland quotes the evidence of Drs. Ramsbotham, Blundell, King, Mr. Davies, and Dr. Rigby, to the same effect; and to his work I must refer the reader for further details. Dr. Labatt and Dr. Collins are also of the same opinion.

The evidence and proofs thus adduced are of extreme importance, and I fear we must conclude, however reluctantly, in favour, not merely of the contagiousness of puerperal fever, but of the possibility of its contagion being carried by an intermediate party. This makes the practice of midwifery doubly distressing during the prevalence of an epidemic, and ought deeply to impress us with the necessity of the utmost care and caution.

I do not know that I can conclude these remarks better than by quoting one or two of Dr. Copland's suggestions as to the precautions to be observed: "A physician or surgeon engaged in obstetric practice, upon the occurrence of puerperal fever in any of his cases, should either explain the matter to her friends, and call in a physician not engaged in this practice, to whose care she ought to be committed; or he should relinquish the care of puerperal females during his attendance on cases of this fever, and even of erysipelas; or he should change all his clothes and carefully wash his hands, after seeing cases of either of these maladies, before proceeding to a puerperal female.

"An obstetric practitioner should not make an autopsy of a case of puerperal fever or of erysipelas, or of peritonitis or of diffusive inflammation of the cellular tissue, or of the disease occasioned by the necroscopic poison; nor even attend, dress, or visit any of such cases without immediately afterwards observing the precautions just stated, and allowing two or three days to elapse between such attendance and midwifery engagements or visits to puerperal females."[1]

[1] Dictionary of Practical Medicine, Part XIII., p. 510.

ESSAY

ON

THE PUERPERAL FEVER.

BY DR. DENMAN.[1]

THE frequency of the puerperal fever, and the great danger which attends it, render it an object deserving of the most serious consideration. The disease itself hath indeed been described by the most early writers, with accuracy sufficient to characterize it, but the methods proposed for the cure of it have been less satisfactory. Evident disadvantage hath arisen from its being described under such various appellations, and from their attributing it to such various causes. It has been represented by some writers as entirely owing its existence to the milk, or to a suppression of the lochia, while others have described it as the miliary fever. Some, again, have termed it an inflammation of the uterus, while others have confidently asserted that it was wholly confined to the bowels, and that the uterus was not concerned. With such different ideas of the causes and seat of the disease, we may conclude that the treatment must have been various, and often hurtful. Undoubtedly, there is great difficulty in forming a just opinion of a very complicated disease, but in proportion to the difficulty, our distinctions should be accurate, that we may be enabled to do good, or at least may avoid doing mischief.

There are some causes which predispose to this disease, and there are many which accidentally give rise to it. Independently of the changes occasioned in the constitution by particular modes of living, women, with a view to parturition, will not bear a comparison with other creatures. The erect position of the body, the different construction of the uterus and placenta, and the passions, though necessary and perfectly adapted to the rank in which Providence hath placed mankind, become permanent causes of much pain, and eventually produce great inconveniences and often danger. For these reasons, women are also subject to such a number of complaints in every period of pregnancy, from which all other creatures are exempt. Some of

[1] [An Essay on the Puerperal Fever. By Thomas Denman, M.D., Licentiate in Midwifery, of the College of Physicians, and Teacher of Midwifery in London. 1768.]

these complaints are dangerous in their own nature, and others indicate a disposition to diseases not formed in the constitution till after delivery. The inflammatory appearance constantly observed in the blood of pregnant women, may be also esteemed a mark of particular disposition to fever. Some habits are naturally liable to diseases of the bowels, proceeding from an excess in the quantity, or an exaltation of the quality of the bile. Such will derive a new and temporary cause of them from the disturbed secretion of the viscera, by the pressure of the enlarging uterus. Perhaps, likewise, from the sudden removal of this pressure, at the time of delivery, a greater proportion of fluids than circulate even in a natural state may rush upon the intestines, and from a very slight obstruction cause a local plethora. Imprudent management during the time of labour, particularly rough treatment of the os uteri, and a violent or hasty separation of the placenta, will often give rise to this disease. In short, every cause capable of occasioning a fever, under any circumstances, will at this time be followed by worse consequences, and any disturbance raised in the constitution will affect parts, already in a very irritable state, from the violence which they have so lately undergone.

But as this disease may be sometimes foreseen in the time of pregnancy, by an uncommon degree of fever and unusual uterine pains, and as the causes of it may be often removed or avoided, during the time of labour and after delivery, it may be expected that this part of our subject should be more minutely examined. It is not necessary that a woman should be confined to any particular regimen, if none but common consequences attend her pregnancy. General observation must convince us, that nature will either regularly accomplish her purpose, or that lesser inconveniences will be overcome without assistance. But when diseases arise, it may be proper to distinguish them, into those which precede, and those which follow quickening; for there is an essential difference between them. Those of the first months may be ascribed to the admission of a new stimulus into the habit; those of the latter may be attributed to the enlargement of the uterus. By abstinence from, or by the sparing use of animal food, by taking away small quantities of blood at proper intervals, by moderate exercise, and by procuring stools regularly, all the complaints in early pregnancy will be relieved. At all events, they commonly disappear at the time of quickening. But in the latter months, greater attention ought to be paid even to the same symptoms; for if a woman is not free from disease at the time of parturition, the process will be disturbed, or dangerous effects will appear afterwards. And though it is not possible to remove the cause of complaints which come on towards the end of gestation, the same treatment, with quiet, will often prevent bad consequences. Women are at that time persuaded by their friends to use more than ordinary exercise, even of the violent kinds. But the impropriety of it is proved both by reason and experience, as it can possibly

answer no other purpose than that of bringing on a premature labour.

It is natural for women, especially with their first children, to have slow and painful labours, which they will generally bear without danger. It is an inconvenience to which they are liable from their erect position. On this account, it was necessary that the pelvis should be smaller in proportion to the head of the fœtus, than in any other creature. The remedy provided for this inconvenience is, the incomplete ossification of the head of the human fœtus, a peculiarity not to be found in other animals. Hence, it is capable of admitting great alteration, both in shape and dimensions, by which it is accommodated to the form and size of the pelvis through which it must pass. Yet this advantage is often not to be obtained but by the force of long-continued pains. Instead, therefore, of hurrying and deranging the order of a labour by any means whatever, which is always improper and sometimes dangerous, under the false and ill-judged notion of freeing the woman from her misery, we should consider that the business is intended to proceed slowly, and should be left entirely to Nature without interruption. When there are deviations from the regular course of labours, the usefulness of midwifery, as well as the skill of the practitioner, will be shown in deciding which of these require the assistance of art, and in choosing the safest and best means of relieving them.

There is not throughout Nature an operation more wonderful than the act of parturition. There is no reason to be surprised at the bad consequences which sometimes follow an alteration so violent, though that violence be natural. Judging from speculative principles, they might be expected to occur more frequently; and though they are often occasioned by mismanagement, under the best circumstances and with the greatest caution they cannot always be avoided.

When a woman is delivered it seems necessary to make a moderate and uniform compression upon the abdomen, but binding it tight is certainly improper. In almost every respect, the regimen which has been enjoined to women in childbed, contributes to increase the disposition to inflammation which they have at this time. The necessity of such a regimen has been founded on the opinion, that they should be treated like persons emaciated or sunk with long illness, or worn out with fatigue. But we should certainly have greater success, as well as act with greater propriety, if we were to guard against the disposition to fever. However, from a general view of the recovery of women from the dangers of childbed, under widely different management, there seems to be no occasion for a very strict regimen; and no alteration should be made without paying particular attention to their former manner of living. The neglecting to procure stools soon after delivery may also occasion this disease; but in my own practice, I have seen more frequent instances of it from early sitting up after delivery than from all other accidental causes united. Perhaps women are not so often subject to this fever after

laborious births, because of the great care with which they are then managed; whereas, after easy ones they are more unguarded.

The time when puerperal fever comes on is uncertain. There are not wanting instances where it has been evidently formed before delivery, and at every intermediate time, till five or six weeks afterwards. But the most frequent time of its appearing is on the third or fourth day after the birth of the child, when the patient is seized with a shivering fit, from the violence and duration of which we may generally estimate the danger of the succeeding disease. Before the shivering fit, the patients have often complained of wandering pains in the abdomen, which very soon after become fixed in the hypogastric region, where a swelling, with exquisite tenderness, ensues. As the disease advances, the whole abdomen becomes affected and tumefied, sometimes nearly to its size before delivery, the woman herself being sensible of its progress. She also feels great pain in the back, hips, and groins, and sometimes in one or both legs, which swell, appear inflamed, and are exquisitely painful. She can scarcely lie in any other position than on her back, and the seat of the pain seems to be changed when she turns on either side. There is usually a vomiting of green or yellow bitter matter, or a nausea or loathing of the stomach, with a disagreeable taste in the mouth. An instantaneous change both in the quantity and appearance of the lochia generally takes place; and sometimes, but rarely, they are almost wholly suppressed. There is a sense of throbbing pain and uneasy heat throughout the parts concerned in parturition. The milk, if secreted, soon disappears or is diminished, and the taste of it is much altered. The urine is voided often with pain, and in small quantities, and is remarkably turbid. A tenesmus or frequent stools come on, as if all the parts contained in the pelvis were at once affected with the disease. The tongue becomes dry, sometimes remains moist, and is covered with a thick brown fur, but in some dangerous cases it has been very little changed. The patient is immediately seized with the strongest apprehension of her danger, and labours under vast anxiety, her countenance bearing indubitable marks of great suffering both in body and mind.

The progress of the disease is sometimes extremely rapid. Instances have occurred where women have died even within twenty-four hours of the first attack; and I have seen a few who never grew warm after the rigor. In some, death has followed quite unexpectedly, from the imperceptible but insidious progress of the disease. In other cases, the shivering fit is succeeded with less violent symptoms, but the tenderness and swelling of the abdomen, joined with a fever, are to be esteemed the pathognomonic signs of this disease. It is necessary to enumerate all the symptoms which have been commonly observed, though not in any individual patient, yet cases will occur in practice in which there will be great variation, depending upon the degree of the disease, the constitution of the patient, and the period after delivery when this fever makes its appearance.

The pulse has almost invariably an unusual quickness from the beginning. It has often that strength and vibration observed in disorders of the most inflammatory kind, and yet sometimes is exceedingly feeble. The latter is to be reckoned among the most dangerous signs, as it proves that there is a great degree of disease, and that the powers of nature are unable to struggle with it. There is, however, much variation in the subsequent stages, but there is scarce a worse omen, than a very weak and accelerated pulse, even though the other symptoms may seem to be abated.

The signs of inflammation continue for a few days till those of putridity appear. The teeth very soon collect a brown adhesive sordes; all kinds of food are nauseated, except such as are agreeable from their coldness or sharpness. A singultus attends, every return of which affects the abdomen. Petechiæ or vibices are often found in unwholesome situations, and in some constitutions of the air, at a very early period of the disorder, and there will frequently be miliary eruptions; but the latter seem rather the consequence of the method of treatment than of this disease, because they do not afford that relief which usually follows their appearance in true eruptive fevers.

The looseness, in some cases, takes place immediately upon the accession, in others, three or four days after, and in some, not till the last stage of the disease; but it seldom fails to attend, nor can it ever be removed without the greatest danger, as well as difficulty, before the disease is terminated. The stools often come away involuntary, being always preceded by an increase of pain, and the evacuation constantly gives a momentary relief. They are very fetid, of a green or dark brown colour, and working like yeast, and it is remarkable, that after the long continuance of the looseness, when the patient has taken little nourishment, large and hard lumps of excrement will be sometimes discharged, which one might suspect to have been lying in the bowels a long time before delivery.

There is a peculiarity in this fever which I believe has never yet been observed. It is an erysipelatous appearance, of a dusky red colour, on the knuckles, wrists, elbows, knees, or ankles, about the size of a shilling, and sometimes larger. This is always a mortal sign, and on the inspection of those who have died with this appearance upon them, the disease hath been found to have affected principally the uterus or its appendages.

When this fever commences soon after delivery, and continues its progress with violence for a few days, our hopes of a favourable event will often be vain; and the impending danger may usually be foretold by a return of the rigors. A looseness immediately upon the attack always lessens the disease, and sometimes proves critical, as does likewise a spontaneous vomiting. The profuse sweat which follows the shivering fit is often completely critical. In some there will be a translation of the disease to the extremities, where the part

affected will become inflamed, and a large abscess be formed. Fresh eruptions of the lochia are always a favourable sign. In the advanced state, those who have escaped seem to have owed their safety to a constitution happily strong enough to support the long continuance of the looseness, by which the morbid matter was gradually drained away. A subsiding of the belly after loose stools, with a moist skin, is a fortunate alteration for the patient, but the same circumstance without evacuations threatens the utmost danger.

The swelling and tenderness of the abdomen, joined with a fever, were mentioned as the pathognomonic symptoms of this disease. But as these parts are affected by the great distension of the abdomen during pregnancy, by after-pains, by flatulence and by spasms, we might be mistaken in giving the name of a disease which does not exist, to complaints of infinitely less consequence. On this principle we may account for the slight manner in which some have mentioned the puerperal fever, while others have recommended methods of treatment foreign to its nature, or inadequate to the cure of it. But with attention, this fever may be readily distinguished from all other diseases. After-pains bear the greatest resemblance to those pains of the abdomen which attend it; but the intervals of perfect freedom from pain, which are never observed in this fever, and the regularity with which in after-pains all other circumstances proceed, will be evident and sufficient distinctions.

About the time when this fever most frequently appears, a disturbance is raised in the constitution by the secretion of the milk. The consent between the uterus and breasts is of so intimate a nature, that it is scarcely possible for them to be affected separately, as the transition of the humours from one to the other abundantly demonstrates. But though this disease hath been often attributed to the milk, probably the supposition is groundless. If that secretion is allowed to pursue its natural course, all the inconveniences thence arising will be of little consequence. But those who are not able to give suck, and those for whom suckling is improper, are liable to various complaints from which nurses are free. In such cases I have found no method of so effectually providing against the ill consequences likely to ensue, as the procuring stools, when the first attempt is made to repel the milk. Should abscesses be formed in the breasts, they are always much lamented, but there is great reason to conclude that they prevent more grievous and dangerous complaints. At another period of life, when the seeds of cancerous diseases exist in the constitution, their fixing upon the uterus or breasts seems to be merely accidental.

A disease in which the dangerous symptoms come on with such rapidity, and in which the event is so often fatal, cannot fail to alarm every man solicitous for the welfare of his patients. And, surely, in circumstances so peculiarly distressing, humanity will urge us to exert our abilities with attention and tenderness.

We should, in the first place, endeavour to shorten the rigor by hot applications to the extremities, and by giving warm diluents, in small quantities, often repeated. The apparent necessity of removing the rigor, has induced some to give very warm and active cordials for this purpose. But as the hot fit which succeeds will in some measure depend upon the means used for this purpose, it does not seem proper to give spirituous liquors unless they are well diluted.

Bleeding has been advised in the beginning of all violent diseases, with the intention of alleviating their symptoms, or of rendering the operation of the medicines which were afterwards to be administered, more safe and effectual. For the cure of the fever now under consideration, some have placed their whole confidence in the early and free use of this remedy, while others have expressed unusual fears and apprehensions with respect to it. It is perhaps impossible to form a rule of practice so general as to preclude the necessity of leaving much to opinion; for the treatment of patients, differing in constitution, though labouring under the same disease, must vary, or the worst consequences will inevitably follow. I had, very early, my doubts regarding the propriety of bleeding in general in this disease, and I am still of opinion that it is not the most natural, safe, or effectual remedy in this case. I mean that spontaneous hemorrhages are seldom critical in this disease, that women in childbed bear bleeding worse than in other circumstances, and that we shall be very often disappointed in our expectations if we rely upon it. It is likewise worthy of observation, that those women who have lost much blood at the time of delivery are more liable to this disease than others, and that it is much more fatal to them. The consequences also of erring by the too free use of the lancet are commonly worse and more irremediable than those which arise from the opposite caution.[1]

[1] [Upon this point, however, Dr. Denman changed his opinion; for in the third edit., dated 1785, I find the following paragraphs substituted for the above:—"But I am now convinced by manifold experience that my reasoning was fallacious, and my fears groundless; and that what I had considered as proofs of the insufficiency or impropriety of bleeding, ought in reality to be attributed to the neglect of performing it in an effectual manner at the very beginning of the disease. In short, if the first stage be suffered to pass unheeded, the opportunity will be lost; and the physician afterwards called in, however great his talents may be, will too often have the mortification of being a spectator of mischief which he cannot then remedy, and of an event which he can only deplore.

"It is, in general, absolutely necessary to bleed freely in the beginning of the puerperal fever, and we may then avail ourselves of the advantage which this operation affords, with equal safety and propriety as in any other inflammatory disease under other circumstances. With respect to the quantity of blood drawn, we are to be guided by the constitution of the patient, and the violence of the symptoms. If benefit should be derived from the first operation, and the violence of the disease should require it, we shall be justified in repeating it at short intervals, not with a view of moderating or retarding the progress of the inflammation, but, if possible, of wholly suppressing it; for when the fever has remained for a very few days, the putrid symptoms advance very rapidly, and its continuance depends upon causes which cannot be removed by bleeding. When the attack is violent, and the constitution

In general, however, it will be found necessary to take away some blood in the beginning, and we must be guided as to the quantity by the strength of the patient and by the violence of the symptoms. If much benefit has been derived from the first operation, and the circumstances of the case should require it, we shall be justified in repeating it, but with circumspection; for we shall commonly find that subsequent bleedings are either useless or prejudicial, if the first has failed to give perceptible relief. It was also observed that this evacuation should take place in the beginning, because after the fever has continued a very few days, the putrid symptoms advance very rapidly, and the continuance of the fever depends upon causes which cannot possibly be removed by bleeding.

But though women who have had large uterine discharges at the time of delivery are particularly liable to this disease, and though it is seldom removed by spontaneous hemorrhages, yet these sometimes prove perfectly critical. The following very extraordinary case which was communicated to me by a gentlemen of distinguished abilities, who is in extensive practice in the country, is an instance of this kind:

"I was called in the middle of the night to go about ten miles to a woman whose placenta had been retained many hours after the birth of the child. The want of proper courage to withstand solicitation, and the distance from me, were my reasons for undertaking to separate it. The placenta adhered very strongly, but a separation was made very gently and without any considerable hemorrhage. On the third day, the patient was seized with a shivering and fever which continued all the night. From this she was relieved the next morning by so large a discharge of blood from the uterus, that I was sent for on that account. There was no swelling of the abdomen, but great tenderness, much pain in the head, constant thirst, a little delirium, and she had no stools. An increase of fever every evening, and the same profuse discharge every forenoon, continued for ten days. She took, occasionally, testaceous powders, with rhubarb, saline mixtures, tincture of roses, infusion of Peruvian bark, and some doses of opium. She at lengh recovered."

The hemorrhages seem in this case to have been absolutely critical, and my own practice hath supplied me with instances of a similar kind in different stages of the fever. Yet I had sufficient reason in all these cases to presume that the disease had not only originated in the uterus, but was confined there, without extending to any of the abdominal viscera.

When the attack is severe, a vomiting of bilious matter attends it; there are loose stools, and the disease in its commencement is not unlike a moderate degree of the cholera morbus. It has been an almost universal practice in other diseases to second these evi-

feeble, it may be more safe, and sometimes more expeditiously serviceable, to draw blood by scarification or cupping, or by the application of eight or ten leeches to that part of the abdomen which appears to be principally affected." (p. 20.)—Ed.]

dent intentions of Nature, at least not to retard them, but in this different measures have been pursued. It has been objected, that a woman lately delivered has suffered too much from the labour itself, to bear with safety a manner of proceeding found useful in other fevers with the same indications. It may also be conjectured that the vomiting and uneasiness of the stomach ought to be ascribed to uterine irritation, and that they are hysteric symptoms in the common acceptation of the term. But if we consider the appearance of the matter discharged, the great relief which the patient immediately receives from the evacuation, and the advantages which are found to result from it in the course of the disease, it would not be easy to fix upon circumstances which more strongly indicate the necessity of vomiting. And though it has been generally allowed that the vomiting of porraceous matter, when an hysteric symptom, does not require evacuations, as it is probable that the porraceous matter, in the case alleged, is the materia morbi which occasions the spasms, the discharge should not be stopped while it is preternatural.

But however defective this reasoning may be, experience will support me in asserting, that when such complaints of the stomach accompany the beginning of this disease, we shall lose an opportunity of doing much service if we omit to give a vomit.

Within these few years, a method of treating fevers in general, founded wholly on experience, has been established. Instead of supposing a fever to be an effort of Nature to assimilate or to reject from the constitution some offending matter, and, therefore, in one sense, a salutary process, which could not be interrupted or disturbed without disadvantage or danger; it has been the practice to endeavour to suppress it in the first instance, or in any of the subsequent stages, by evacuations. And if this method be instituted with prudence, paying no regard to critical days, which in this climate can seldom be observed, it will be recommended by superior success.

In the fever now under consideration, extreme caution, for reasons which were before assigned, has been judged necessary. Many years ago, after repeated disappointments in treating this disease in the usual way, I tried the following method, and very soon became sensible that it deserved the preference:

℞. Tartar. emetic., gr. ij;
Ocul. cancror., pp. ℈ij. Intimè misceantur.

Of a powder thus prepared I have given from two to six grains, repeating it as circumstances required.

If the first dose should produce no sensible operation, for on that only we ought to rely, an increased quantity must be given at the end of two hours, and we must proceed in that manner.

But if the first dose should bring on a vomiting, purging, or profuse sweat, we must wait for the effect of these operations before we repeat the powder. But if any alarming symptoms should then remain, we need not hesitate to give the same quantity as was first used, though this is seldom necessary, if the first dose has operated

properly. We are not to expect that a disease which exhibits such marks of danger should instantly cease; even if a great part of what caused it be removed.

We must likewise be careful not to rely so far upon an abatement of the symptoms, as wholly to desist from pursuing the method which produced the abatement. For no disease is more liable to returns, which are commonly with increased violence.

It must also be observed, that as the certainty of the cure depends upon a due repetition of the medicine, the method of giving it at stated hours, without regard to the effect, is not eligible.

If a sickness or loathing at the stomach attend it first, this medicine seldom fails to occasion vomiting, and the patient, with a countenance strongly expressive of the benefit she has received, will attest the propriety of our proceeding. And experience in general, so far from giving room to apprehend any bad consequences from vomiting, at a very early period after delivery, authorizes us to conclude that many desirable purposes, besides that of cleansing the stomach, are answered by it.

It scarce ever happens that this medicine fails to procure stools. These are always very fetid, and, as was before observed, in the loose ones, lumps of hardened fæces are intermixed. Their appearance should, in some measure, guide us with respect to the continuance of the evacuation, in proportion to which the abdomen subsides, and all other symptoms become favourable. The urine is voided soon after in larger quantities, a moisture of the skin or a profuse sweat succeeds, and the lochia, which were before brown, pale, and fetid, become fresh and increase. But we are to remember that a greater or less quantity of the lochia is never to be regarded as an original disease, independently of other appearances, because they vary in every constitution.

We must, at the same time, avail ourselves of every means by which the immediate ease of the sick may be procured. Emollient cysters, in cases attended with violent pain, are at all times proper and necessary. Fomentations, vapour-bathing, or the warm bath, may sometimes be used with advantage; but I think that a folded flannel well sprinkled with brandy is one of the best applications to the abdomen. Plentiful dilution being necessary, the patient should be well supplied with proper drinks, in small quantities often repeated. The most palatable, and generally the best, are chicken-water and beef-tea; or, if objections are made to these, barley-water, thin gruel, milk and water, whey, and tea of almost any kind, may be drank at pleasure.

In this manner I treated the wife of a soldier in the Guards, whom I attended, July 1, 1767, in a safe but tedious labour. She was of a very strong, masculine habit of body, and upwards of thirty years of age. About thirty-six hours after the birth of the child, she was seized with a violent shivering, followed with severe pains in the abdomen and loins, and within a few hours from the first

attack of the disorder, became nearly as big as she had been before delivery. On the 3d day of July, I gave her four grains of the antimonial powder before mentioned, and finding no sensible effect, I repeated it in the same quantity after two hours. She puked twice, and had seventeen stools, like yeast in appearance, within six hours after the repetition of the powder. When the operation of the medicine ceased, her abdomen had almost wholly subsided, and the tenderness and fever were much abated. As she was much fatigued, I gave her a cordial draught with a few drops of laudanum. She had some quiet sleep in the night, and sweated profusely. There did not appear a necessity of repeating the powder, and she recovered perfectly without taking any other medicine, except some saline draughts, and afterwards the decoction of the bark twice every day.

The event of this case, and of some others which occurred to me about the same time, was very flattering. I presumed that I had discovered a method of treating this dreadful disease, which would seldom fail to answer my expectations. But further experience hath convinced me that only very strong constitutions will bear, and that only violent degrees of the disease require it. I am, however, persuaded, that if under such circumstances we have the opportunity of putting this method in practice soon after the accession of the disease, we shall very often succeed with it. And it were above all things to be wished that physicians had the early care of the patient: for the dissections of those who have died, prove that terrible effects are produced by this disease, in various parts, with amazing celerity. In about forty women whom I have had an opportunity of inspecting, all or some of the following appearances have been observed. The uterus or its appendages were in a state of inflammation, and sometimes mortified. The os uteri, and that part of the uterus to which the placenta had adhered, had generally a morbid appearance. Small abscesses were formed in the substance of the uterus, or in the cellular membrane which connects it to the adjacent parts. The bladder was inflamed. The omentum was very thin, irregularly spread, and in a state of inflammation. The intestines were inflamed, chiefly in the peritoneal coat, and adhered in many places, and much inflated. Inflammatory exudation, and serum extravasated in the cavity of the abdomen, have been found in various quantities; but these were in a less degree when the patient had laboured under a long-continued purging. Large flakes of coagulable lymph were found in the cavity of the abdomen, which have been often mistaken for dissolved portions of omentum. It must indeed be acknowledged, that the information acquired in this search has not been equal to the care or to the assiduity with which it has been made. What we have been able to learn, chiefly proving that when the disease has continued for many days it must generally be beyond the reach of medicines; and that, if the patient should fortunately recover, her recovery will depend upon circumstances which the physician can with difficulty command.

In the less violent degrees of disease, and in the more delicate constitutions, it will not be necessary or safe to give such active medicines. In such cases, after bleeding, if thought advisable, and giving a dose of ipecacuanha wine, or washing the stomach with an infusion of chamomile flowers, or of green tea, more lenient medicines must be prescribed. But they must be such as will produce a certain and speedy effect; because if we do not procure stools, we can do very little service, and if these are neglected the disease will be making its insidious progress. An emollient clyster should be first administered to remove any hardened fæces from the lower part of the intestinal canal. We may then give the antimonial powder in small quantities, the saline draughts with rhubarb, or the following draught every third or fourth hour:

℞. Sal. rupellens,
Mann. opt., āā ʒij;
Aq. alexeter. sim., ℥ij;
Spir. lavend. c. gut., xx.

Or two ounces of purging salts may be dissolved in a pint of thin gruel, and one or two large spoonfuls may be given every hour till proper evacuations are obtained. After the operation we shall not only find it necessary to give opiates, but be sensible of great advantage from their use. And I have often found this simple method, namely, the procuring four or five stools every day, and giving an opiate every evening, produce the most happy effects. Nor do I ever hesitate to give an opiate at any period of this disease after evacuations, when the violence of the pain requires it. For though the pain may originally be a consequence of the disease, it becomes, after a certain time, a powerful cause of its continuance and increase.

But if it should happen that a spontaneous purging, or even involuntary stools, should attend the commencement of the disease, the same intention of cure is to be pursued. It has been the custom, in such cases, by powerful astringent and cordial medicines, to endeavour to suppress the purging as detrimental to the regular course of the uterine discharges, and in other respects. But it is fortunate for the patient that these attempts are commonly fruitless, for were they to succeed the event would generally be fatal. We are always to bear in mind, that whenever a purging comes on, it is to be esteemed an effort of Nature to carry off the cause of this disease, though sometimes an unavailing effort; and the establishment of this principle, the truth of which will be fully confirmed by observation, will lead us to avoid numberless errors in the treatment of this fever.

But it is not possible for me to express my opinion of this matter so clearly as by relating the history of the following case which was lately under my care:

The wife of an eminent tradesman was brought to bed of a living child, after a very tedious and difficult labour. She was of a very full habit, and this was her first child. About four hours after delivery she was seized with a purging, and the stools, which were

of a brown colour, and exceedingly offensive, soon afterwards came away involuntarily. I saw her early the following morning, November 22d. She had much pain in the abdomen, which was tumefied; her skin was hot, her pulse quick, and she was very thirsty. I drew off her urine with the catheter, applied a flannel well sprinkled with brandy to the lower part of the abdomen, and ordered the following draught:

℞ Mannæ opt.,
Sal. rupellens., āā ℥vj;
Aq. alexet. sim., ℥iiss M. F. haustus statim sumendus.

She had profuse evacuations by stool all day, and in the evening an opiate was directed. On the 23d I found that the purging continued as before, and there was very little alteration in the other symptoms. The purging draught was repeated in the morning, and the opiate at bed-time. On the 24th I was informed that she had got some refreshing sleep in the night. The pain in the bowels and feverish symptoms were somewhat abated, but the stools came away involuntarily, and were very fetid. The same purging draught was repeated, and in the evening she took the opiate. On the 25th the stools came away involuntarily, but were less frequent; the abdomen was soft, the tumefaction was subsided, and the tenderness almost gone; all the feverish symptoms were much abated. I omitted both the draughts. On the 27th the purging ceased, and she recovered perfectly without taking any more medicines. I was under the necessity of drawing off her urine twice every day till the eleventh after delivery. But it is not to a single case that I should have occasion to appeal in a matter of so much consequence; a long and extensive practice hath convinced me that the purging which attends this disease is not only salutary, but very often critical; nor would it be difficult for me to recollect numerous instances where fatal consequences have suddenly followed imprudent attempts to stop this discharge.

In the advanced stages of the disease it becomes mose complicated, and is infinitely more dangerous; and there is a necessity of being very circumspect even in our endeavours to give relief. Bleeding will very seldom be proper at this time, and if directed will generally hasten the fate of the patient; for we shall constantly find that the strength of the patient will be reduced by it in an infinitely greater degree than the disease will be abated; it must therefore be entirely omitted, or prescribed with the greatest caution. But if there be no looseness, and the stools have been procured sparingly, through the course of the disease, we must pursue the general method of cure, allowing for the reduced strength of the sick. Emollient or gently purgative clysters will now be proper, and laxative medicines of the kind before mentioned; remembering that opiates must afterwards be given to procure a respite.

In the last stage, when the stools are very frequent or involuntary, and all appearances forebode the utmost danger, our intention

must be to preserve the strength by moderating, and not suppressing, the discharge. Clysters of chicken-water, or of flour and water boiled to a proper consistence, and frequently repeated, then become a very important part of the cure, as they wash off the offending matter, which stimulates the bowels to frequent evacuations, and act as a fomentation. But if great care is not taken in the exhibition of them, the patient will suffer intolerable pain on account of the tenderness of the uterus, which I suppose is the part principally affected, or, at least, where the disease most commonly originates. The following draught has been given every six hours with advantage:

℞. Confect. damocrat, ℥ss;
Aq. cinnamom. sim., ℥iss;
Pulv. rad. ipecac., gr. ij. M.

Or philonium Londinense, or any other medicine of the cordial and sedative kind which is approved, may be given; though I have generally preferred either the crude opium or the simple tincture of it.

The white decoction, with a large proportion of gum Arabic, with the addition of brandy, or the common emulsion with spirit of nitre, make at this time a proper and agreeable drink. If the strength of the patient should sink, and great faintness come on, a necessary quantity of some cordial must be given in the interval between the draughts. I have often, also, at this time recommended camphor in different forms, but have generally been obliged to discontinue the use of it, because it was so disgusting to the palate, and so offensive to the stomach. On the whole, the food and medicines are to be made more or less astringent or cordial as the case may require, but we are to persist in the use of clysters.

Under the worst circumstances, we ought never to desist from using our endeavours to extricate the sick from the imminent danger they are in; for they will sometimes recover very unexpectedly. On such occasions I have been induced to try clysters of different kinds, anodyne, emollient and astringent, particularly strong decoctions of the Peruvian bark, but have not observed any extraordinary benefit to arise from them.

Nor has the use of the Peruvian bark, though given in different stages of this disease, answered the intention as a febrifuge. Yet in a few cases, where the intermissions of fever were clear, it has succeeded. As a supporter of the strength, it has, likewise, been found of less service that might have been expected, because of the disturbed state of the stomach and bowels, which it tends to increase. But instead of this medicine, I have often given the powder of columbo root, to the quantity of ten grains, every four hours, in a lightly aromatic draught, or a strong infusion of chamomile flowers and cloves; and sometimes the following mixture with advantage, especially when the hiccup has been troublesome:

℞. Spir. vitriol. dulc., ʒij;
Aq. alexeter. simp.,
Aq. m. pp. sim., ââ ℥iv;
Sacchar. pur. q. s. F. Mistura.
Cujus sumat ægra, cochlearia tria, secunda, vel tertia quaque hora.

When the pain which accompanies this disease is confined, and, as it were, concentrated to one part of the abdomen, scarifications or leeches applied to that part will sometimes do service. In the same situations, blistering plasters have been used with advantage. But when the disease is more diffused, they have been found less serviceable, though no bad consequences have ever been observed to follow their application.

I have seldom attempted to inject medicines of any kind into the vagina and uterus; though from a consideration of the state of these parts, and of the fetid humours discharged from them, it is reasonable to expect that emollient or gently detergent injections might be useful. However, if these are advised, there should be great caution both in the composing and administering them.

These are all the observations I have made on the puerperal fever in its simple state. When it is combined with a frenzy, a peripneumony, or any other disease of a dangerous kind, a different method of treatment may be necessary, according to the nature of the disease with which it it is combined. Our principal attention must then be directed to the more urgent disorder. But though I have not wanted opportunities of making observations on the puerperal fever thus circumstanced, the relation of them can at present be of little use; and they are likely to give less satisfaction, because my attempts have, on such occasions, been too often unsuccessful.

A TREATISE

ON

THE PUERPERAL FEVER.

BY DR. HULME.[1]

PREFACE.

THE Puerperal Fever is a disease peculiar to lying-in women. The term puerperal is derived from the Latin word *puerperus*, and, strictly speaking, signifies no more than childbed; but as this is the most dangerous of all childbed fevers, some writers, by way of eminence, have properly called it the *puerperal fever*, to distinguish it from the *milk fever*, or any other incident to women after delivery.

Notwithstanding this disease hath been common to lying-in women in all ages, and in all climates, and even been described in the works of the first writer on the art of healing,[2] yet being generally looked upon rather as a symptom or consequence of some other disease, than a disease itself, it hath been either entirely overlooked, or only superficially described by the the generality of medical writers, insomuch that we have scarcely had a determinate name by which to distinguish it. Most authors have termed it *an obstruction or suppression of the lochia;* others, *an inflammation of the uterus;* some have called it, *the lochial fever;* some, *after-pains;* and, in the northern parts of Great Britain, it is said to be named *the weed.* But I am clearly of opinion that the puerperal fever is as much an original or primary disease as the ague, quinsy, pleurisy, or any other complaint incident to the human body. Physicians have so greatly differed, likewise, concerning the nature, cause, and treatment of the puerperal fever, that it remaineth to the present time a subject of much dispute.

And what is of more fatal consequence than may at first be imagined, is the ignorance of people in general, and particularly of lying-in women and their attendants, respecting this disease, which causes them either to neglect it, or to mistake it for *after-pains*, or some *colic complaint;* and to this I ascribe, in some mea-

[1] [A Treatise on the Puerperal Fever, &c. By Nathaniel Hulme, M.D., Physician in Ordinary to the City of London Lying-in Hospital, &c., 1772.]

[2] Hippocrates.

sure, the great fatality attending it, as will be shown more fully hereafter. It is of consequence, therefore, to the community to be perfectly acquainted with the true nature and danger of this disorder, as it occasions the death of the greater part of those who perish in childbed!

Public hospitals, for reception of the sick and hurt, are the grand seminaries of practical knowledge in the art of medicine. The utility of these institutions is so apparent, that they are now universally received all over Europe. Great Britain, in particular, hath not been behindhand in promoting such humane designs. Buildings of this kind, or which incidentally promote the same end, are to be seen in almost every part of this great metropolis. Among the rest, the City of London Lying-in Hospital rises up a simple yet elegant monument of her beneficence.[1] There the industrious poor meet with a safe and tender asylum in the hour of distress. But the bountiful hand of charity doth not stop here; it is also stretched out to provide them every medical assistance, under the various disorders which succeed a state of pregnancy. With this view, the supporters of that benevolent undertaking have a physician to attend to all the diseases both of the women and children; and that his sole attention may be fixed to this one great point, the wisdom of that house directs that he shall be a person who hath no connection with the practice of midwifery, and be chosen under the name of physician in ordinary to that charity. The author of this treatise had that honour conferred upon him some time ago. This circumstance hath afforded him frequent opportunities of observing the rise and progress of the disorder now under consideration, and hath furnished him with many particulars in the following discourse:

In the description of the disease, he hath endeavoured to separate from it such symptoms of other distempers has have erroneously been ascribed to this, which precision is of the utmost consequence in the description of every complaint; lest one disease should be confounded with another, and the distinct knowledge of each be rendered dark and intricate. For example, in the scurvy, how many diseases, or symptoms of diseases, as I have remarked elsewhere,[2] have been attributed to that simple malady which do not belong to it? and how many volumes have been written to describe its effects and manner of treatment?

But the author's principal design in treating of the puerperal fever, hath been to search into and to discover its true origin and source, and to show the various changes which it makes upon the human body, that we may be led to a more uniform and certain method of cure. How far he hath succeeded in his attempts is humbly submitted to future experience, and to the judgment and candour of the discerning public.

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[1] This hospital is entirely supported by a voluntary annual subscription, whereby four or five hundred poor objects are admitted every year, and relieved with all necessaries during childbed.

[2] In Libello de Scorbuto, cap i.

CHAPTER I.

DESCRIPTION OF THE DISEASE.

Upon the first, second, or third day after delivery, but most commonly on the second, the patient complains of violent pain and soreness over the whole hypogastric region; that is, from the navel downwards. The tenderness is often so acute that the gentlest touch is almost insufferable. The belly feels commonly soft. Sometimes it will be greatly swelled; but, in general, at the beginning of the disease it is not much more tumefied than what may be expected so early after delivery. There is no inflammation or other discolouration to be seen on the abdominal skin.

Though the pain of the belly be general, yet it commonly affects some one part in particular more than another. Sometimes the chief seat of pain will be in both the iliac regions; sometimes in one more than the other. At one time the region of the os pubis, or groin, will be the chief seat; at another, a violent pain will fix across the pit of the stomach, and strike through the short ribs, on each side, down to the spine. The pains will often put on the appearance of labour-pains, and shoot from the loins and belly into the groin and thighs. They are then generally mistaken, by the patient and her attendants, for after-pains; and being neglected, the disease quickly gains strength, and proves, by this means, too often fatal. When the pain lodges about the pubes, or groin, it will sometimes affect the anus and neck of the bladder. But there is seldom any sense of heat or throbbing pain in the region of the vagina; and whenever this doth happen, it is probably owing to a different cause.

The pains of the abdomen are generally preceded by greater or less degrees of rigour, or convulsive shudderings, with sense of cold. Sometimes there is no rigour, or, at least, so slight as not to be attended to by the patient; and, indeed, the rigour, in general, is much less than what is observable in many other fevers. Nor is the violence of the subsequent disease to be judged of by the degree of the preceding rigour. For sometimes a slight, or no rigour at all, will be followed by a severe attack of the disease, and a great rigour by a slight attack. The wife of Roffe, for instance, began with a rigour which continued for an hour, and she recovered on the sixth day. The wife of Cope had no rigour, yet the disease proved mortal in a few days.

Though the first, second, or third day after delivery be the common and almost constant times of the first beginning of the malady, yet it is not without its variations; for sometimes it will come on from the very time of delivery, or even before, and be confounded with, or lost, as it were, in the labour-pains; or it may not appear

till after several days. But these are only to be considered as varieties; however, such varieties as are always to be remembered by the physician, that he may not at any time be off his guard.

The patient, from the beginning, generally complains of a pain in the head, which is confined chiefly to the forehead and parts about the eyebrows; this is frequently attended with a vertigo, or giddiness in the head, and want of rest.

There is much thirst. The tongue, on examination, commonly appears white, but seldom foul, and is soft and moist to the touch. A red line will sometimes run up the middle of it, and the whiteness remain on each side; in this case the red part is usually dry, and the white moist. Sometimes the tongue will continue white and moist till the approach of death; but, in general, before that period it becomes very dry and rough, and changes to a dark brown colour, often with a mixture of yellow.

A general anxiety, or dejection of mind, appears in the countenance, and the eyes participate of the same distress. The face is often flushed, and sometimes there is a deep red, or livid colour, fixed in the cheeks.

The skin is generally hot and dry; but sometimes so cool and temperate, that a person from thence could hardly know whether the patient labored under any disease or not. Sometimes intermediate sweats come on all over the body, and these usually relieve the patient; but they are more common when the disease begins to abate.

The pulse, in general, is quick and weak, though sometimes it will resist the finger pretty strongly. At the beginning of the disease it seldom beats less than a hundred strokes in the space of a minute; and from this number I have found it run on to one hundred and sixty. The intermediate pulsations were various. The most common number was 128; and the next general numbers were 112, 120, and 132. The different habits of body and circumstances of the disorder will easily account for the variations in the pulse. When the disease proves mortal, the pulse at last becomes so quick and weak as scarcely to be numbered.

A shortness in breathing, without any wheezing or noise in the breast, generally accompanies the distemper from the beginning. This commonly keeps pace with the degree of pain in the abdomen; for if the pain be very moderate, the shortness in breathing is also very slight, or perhaps not at all perceptible; but if acute, the breathing is accelerated in proportion, and the pain is increased at every inspiration. I should be glad, in this article, to express myself so as to be rightly understood. I call it a shortness of breathing rather than a difficulty, because a difficulty in breathing may be attended with a full inspiration, and a desire of taking in a large quantity of air; whereas the breathing I here mean to describe is quite the reverse; the inspirations are quick and small, with a fear and dread, as it were, of making a full inspiration, or, in other words, of

dilating the thorax. The reason of this, as I apprehend, is not, in general, owing to any complaint in the lungs or chest (except when the pains extend to the region of the stomach and ribs), but merely to the grand seat of the disorder being within the abdomen, and which, at every inspiration, is squeezed, as it were, between two presses, by the diaphragm from above and the abdominal muscles from below. I almost shudder with horror when I consider the excruciating torments that must rack the distressed patient under these dreadful circumstances. But the reader can have no adequate idea of what I mean till he comes to understand the true seat of the disease by the help of dissections. As the malady increases, the shortness in breathing increases likewise, and before death closes the scene the inspirations are often so small that the chest is hardly seen to move, and the breath seems no longer to distend the lungs, but to be confined to the aspera arteria, or upper part of the thorax.

A cough frequently attends, yet is nowise essential to the disease, but merely accidental; however, it usually proves troublesome, and, when violent, is not without danger, as may be learnt from what hath just now been hinted.

The patient, when the disease is violent, generally lies on her back, seldom turning on her side or belly.

Vomiting, with complaints of a load and sickness at the stomach, are very usual symptoms; however, these are far from being always present. What is thrown up is commonly either yellow, green, or of a blackish colour. The vomiting will sometimes come on from the time of delivery, and not unfrequently precede it. When death approaches, there is, for the most part, a continual discharge, by vomit, of whatever is taken; and what is brought up is commonly either green or black.

The belly, at the beginning, is generally costive. Sometimes it is very regular, at other times a diarrhœa attends. When this last is the case, what is discharged is usually of a dark brown colour, and very fetid, and the stools are sometimes covered with a whitish froth. Flatulencies in the bowels are very common, whether the belly be loose or costive. When the disease terminates in death, involuntary stools are the general harbingers.

The patient, at first, often complains of some difficulty in making water, and discharges it in small quantities; but this usually goes off after having a stool or two. The urine, after standing for some time to settle, generally appears of a brown colour, and deposits a crude sediment, half floating at the bottom of the glass. What is meant by crudity in the urine is hard to define, and scarcely to be learnt but by ocular demonstration. It is a cloud or settling in the urine, which the physician expects to be changed, or concocted, as it is commonly termed, by the progress of the disease, into a thick, coloured sediment. But if a perfect flow of the lochia continues during the disorder, then the urine, after settling, generally appears red and inflamed. It is necessary to remark this last circumstance,

lest the physician should at first sight be deceived, and ascribe that to an inflammatory state of the blood which is owing merely to an innocent discharge from the uterus. As the disease abates, the urine, in common, puts on a remarkable change; it becomes turbid, usually of a yellowish or clay colour, not much unlike a decoction of Peruvian bark when cold, and deposits a thick yellowish sediment, frequently tinged with a mixture of purple. But the urine is not always so regular in its appearance, for sometimes it will greatly vary; however, in general, when a crisis is forming, a diligent observer may perceive plain indications of it in the urine. When the distemper ends unfavorably, the urine seldom changes, but continues pretty much the same to the last.

The lochia, or usual discharges after delivery, commonly lose their florid complexion, and diminish in quantity; but if the disease goes off soon, the natural flow generally returns. Sometimes, indeed, there seems to be very little change made with respect to the flow of the lochia. The discharge will now and then appear quite black.

The patient, in general, does not complain so much of want of milk, during the progress of this disease, as to prevent her suckling her child; however, the contrary will sometimes happen, especially if it be very violent, or a diarrhœa attend, and the stools be thin and watery.

Pain of the head is common to most fevers, and although in this malady, as observed above, it be among the first symptoms, yet it is attended with this peculiarity, that it seldom is accompanied with any delirium through the whole course of the disease, unless, perhaps, a few hours before death. Nay, sometimes the patient will retain her senses to the last, which, considering the violence of the disorder, is very wonderful. Perhaps it may be owing to the rapid progress the distemper generally makes, when it proves fatal; so that there is not time for that change to be made in the brain, as in many other fevers of longer duration; besides, the seat of this disorder is never in the head, but always confined within the trunk of the body.

The blood, when ordered to be taken away in this disease, was generally sizy, with a quantity of yellow serum. I do not remember ever seeing the blood in a dissolved state.

I have not remarked any precise time or critical day that nature takes for the termination of the disease; but she endeavours to relieve herself by three different ways: by a diarrhœa, by urine, and by sweat. A diarrhœa is the chief way by which, as far as I have observed, she is able completely to extricate herself; and this she often attempts from the beginning of the malady. The wife of Fareham, for example, was relieved from her disorder in forty-eight hours, by the kind efforts of nature in producing a diarrhœa. And the wife of Garret was cured in twenty-four hours, by the like spontaneous discharge. Of the other two evacuations, sweating is the most effectual.

The reader will probably expect that I should have taken notice here of the lochia, as the most probable, and I might say, almost the only method by which nature could form a perfect crisis. It is true, that at the beginning of the distemper, as said above, there is frequently more or less of a suppression or change made in the lochia, and a return of the same when the disease begins to go off. But I do not remember ever meeting with an instance where this malady was brought to a crisis by a flow of the lochia. Neither do I well comprehend how nature can throw off the disease this way, any further than by diminishing the quantity of blood, in the same manner as an hemorrhage at the nose or bleeding at the arm would do. But a discharge of blood alone does not appear, to me at least, sufficient to remedy the evil. Nor does nature make use of this way either to cure or prevent the disease; if she did, it would hardly follow so soon after that copious discharge of blood which succeeds every delivery. The suppression of the lochial discharge seems to be in consequence of the disorder, and the return in consequence of its abatement. This may probably be owing to a spasmodic constriction of the uterine vessels, occasioned by the pain within the abdomen, during the disease, and to a relaxation of them by its cessation; just in the same manner as may be observed, by ocular demonstration, in any large fresh external wound. For if an inflammatory disposition seize the vessels going to the part, the discharge will become thin and ichorous; but as soon as the inflammatory constriction of the vessels is removed, by means of proper evacuations and a cooling regimen, the discharge becomes immediately more free, and better conditioned. Be this, however, as it will, the truth is, as far as I have been able to discern, that neither the lochia, nor even the uterus itself, are primarily affected in this disease, but only suffer by consent; the same as the bladder or any other neighbouring viscus might do. The reason of this assertion will be explained more fully in its proper place, when we come to treat of the causes of this disease.

It is almost needless to remark that this fever must, of course, be complicated with any disorder that the patient might happen to labour under at the time of childbirth. The chief that I have met with in this way, of any consequence, hath been the phthisis pulmonalis. If any disease hath taken its immediate origin, as it were, out of the puerperal fever, and been combined with it, it hath been the peripneumony. I have met with several instances of this kind.

As to the miliary fever, so common among lying-in women, it hath no connection at all with the puerperal fever; and when it doth happen to be joined with it, I suspect it must generally be owing to an over-heated room, a warm regimen, an unseasonable use of cordials, or heating medicines. The puerperal fever is a disease *sui generis*, of a nature peculiar to itself, and as simple and regular in its appearance, for the most part, as any distemper incident to the human body; insomuch that it is a matter of no small surprise that physicians in general should have either overlooked it, or have been so irregular and confused in its description.

This fever, as to the time of its duration, will vary according to the violence of the disease, the manner of treatment, and the time of the patient making her complaints known. In general, if it ends favourably, it may terminate in three, four, or five days from the time of complaining. The wife of Lawson had her fever terminated even in twenty-four hours, by purging her with the sal catharticus amarus, notwithstanding the pains of the abdomen were very severe, and the pulse at 136. What is here to be understood by the word terminate is no more than that the pains cease, the fever abates, and the patient is out of danger. I do not mean that the sick person is able in that time to get up and walk about, as if nothing had happened. Undoubtedly she must require some time afterwards to recover her strength; and even the weakness from the preceding labour would demand that, exclusive of this intervening malady.

When the disease resists the efforts of nature, and baffles the assistance of art, it generally proves mortal, as far as I have observed, on the fifth, sixth, seventh, eighth, ninth, tenth, eleventh, or twelfth day after delivery, the day on which the delivery happened not being included. And this rule as to time I shall attend to through the whole of this discourse, unless where it is otherwise expressed. In this opinion I am supported by Galen. "A quo die, inquit, mulier pepererit, ab eo numerare incipias, non à quo cœpit febricitare: nam aliquæ secundo tertiove die, postquam pepererint, in febrem incidunt, atque ab eo plerique futuram crisim enumerant. Verùm res secus habet; quum oporteat à die, quo fœtum edet, enumerationem exordiri."[1] And this obvious reason may be assigned for it, namely, that the very hour of delivery can always be exactly ascertained; whereas the time of attack is often various and uncertain. Sometimes, indeed, the disorder may be protracted to a much longer period; but then it generally either begins later than common, or is attended with some particular circumstances. I have remarked that a diarrhœa, coming on either at the beginning or afterwards, and continuing through the whole course of the disease, will sometimes rather tend to prolong than quicken the time of death. The wife of Liner, for instance, had a diarrhœa from the first, which continued, at intervals, to the last, and she survived till the eighteenth or nineteenth day after her delivery.

Before death there is seldom that change made in the eye and countenance which happens in most other fevers, unless just at the very last, and perhaps for the same reason as given above.[2] Nor do the teeth, in general, collect that brown or blackish sordes which is so observable in many fevers. A delirium, I have observed before, seldom attends, and the same may be said of the hiccough and subsultus tendinum.

The pain of the abdomen generally abates, or entirely ceases, for some hours before death; but sometimes the patient expires in great agonies.

[1] In Prognostic. Charter., tom. viii., p. 668.

[2] Page 62.

The disease happens at all times of the year, and is incident to women of all ages after delivery, as well to those who have had many children as those who have had few. Such women as have suffered great hardships, or exerted their strength beyond measure, during gravidity, seem to be more subject to this malady than others who have gone through that state with more ease and tranquillity.

Having thus given a general description of the disease, I will collect into one point of view what I look upon to be its chief pathognomonic symptoms or characteristic marks. These are an acute pain and great soreness over the lower part of the abdomen, attended with a fever, and commonly a pain in the forehead, happening soon after delivery. Although these signs are sufficient, in general, to distinguish it from all other diseases, yet it may be necessary to particularize those with which it hath the greatest affinity, and mark out some of their chief distinctions.

It may be distinguished from after-pains[1] by the fever, by the exquisite tenderness of the belly, and the pain not being periodical, but continual.

2. From the milk fever, by the pain and tenderness of the abdomen; by the absence of tension or fulness of the mammæ, or shooting pains about the breasts and arm-pits.

3. From the miliary fever, by the general sensations of pain and soreness about the hypogastric region, and greater colour in the urine; by a less degree of hurry and confusion of the spirits; by having no eruptions nor sense of pricking or tingling in the skin; and if these last should happen, by their giving no relief, which in the miliary fever they commonly do.

4. From the iliac passion, by the pain not being so fixed to any particular spot, as round the navel, or the like; but being more diffused over the abdomen, and confined chiefly to the lower part of the belly; by the patient lying pretty still, and not twisting the body about, or pressing upon the belly with a view of relieving the pain; and lastly, by a diarrhœa either attending, or the body being easily soluble by cathartics.

5. From the flatulent colic, by the attending fever, the abdominal pain and soreness, and by the pains not moving about from one part of the intestinal canal to another.

6. From an inflammation of the uterus,[2] by not having the sensation of a weight and tumour, and a continual burning, throbbing pain in the region of the uterus, extending to the adjacent parts.

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[1] [It is very true that this greater tenderness of the belly is very different from the uterine soreness when the after-pains are severe, and when peritonitis is the prevalent characteristic; but in cases of hysteritis and uterine phlebitis, there may be no pain on pressing the abdomen, and very little uterine tenderness. This I have observed over and over again.—Ed.]

[2] [If the author, as I suppose, alludes to the unimpregnated uterus, his distinction is true; but inflammation of the uterus occurring in childbed is mainly distinguished by the comparatively slight pain, the purely local tenderness, the absence of abdominal distension, and of disorder of the bowels.—Ed.]

Hippocrates distinguisheth an inflammation of the uterus by the following signs:—"Ην φλεγμαίνηται ἡ μήτρη, ψαύεται. Ην δέ τι σφακελίζῃ καὶ παλιγκοταίνῃ, πῦρ ἔχει ὀξύ, καὶ μέγα, καὶ φρίκη σκληρὴ τὰ ἀμφὶ τὰ αἰδοῖα, ἐκπάγλως τε αἴθεται, καὶ δάκνεται, καὶ ὁρμᾷ· καὶ εἴ τις ἐπαφήσει τῳ δακτύλῳ, καὶ αὖθις κάκιον ἴσχει καὶ ὀδάξεται, καὶ τὴν κεφαλὴν ἀλγέει, καὶ τὸ βρέγμα, καὶ ἀχλύς, καὶ ἰδρὼς μετωπιδαῖος, τὰ ἄκρεα ψύχονται καὶ τετρεμαίνουσι, καὶ κῶμα ἔχει ἄλλοτε, καὶ ἐσακούειν οὐκ ἐθέλει, οὐδὲ ἡ ὑστέρη ἐνεργεῖ· ἀσιτίμ πολλή, καὶ στόμαχος οὐ πάμπαν εἰρύαται τὴν τροφὴν καὶ ἡ κοιλίη, καὶ βοᾷ, καὶ ἀναΐσσει, καὶ ὀδυνᾶται τὸ, τε ἦτρον, καὶ τοὺς βουβωνας, καὶ τὰς ἰξύας, καὶ παραφύσιας, καὶ ταχύ θνήσκουσιν: Si inflammatus fuerit uterus, vellicatur; quod si quid corruptum fuerit et recruduerit, febris corripit acuta et magna, horrorque durus partes circa pudenda; ferociter afficitur, mordetur, et concitatur. Ac si quis digito contigerit, rursùs pejus habet, et pungitur, caput et sinciput dolet, tum caligo, tum frontis sudor adest, extrema perfrigerantur ac tremunt, interdùm etiam sopor occupat, neque audire potest, neque aliquid uterus efficit; multum est cibi fastidium, neque stomachus, neque ventriculus omnino cibum attrahit; vociferatur, prosilit, dolet pubem, inguina, et lumbos, et occultos pudendi locos, celeriterque intereunt."[1]

Commentators differ with respect to the true meaning of the word ψαύεται. Charterius, as we see above, translates it "vellicatur;" Foësius hath it "contrahitur." The common meaning of the word referreth to the touch; and Hippocrates generally useth it in this very sense, as may be observed in Foësius's Œconomia, under the letter Ψ. I rather suspect, therefore, that there is a corruption in this part of the text, and that the true interpretation should be thus: "Si inflammatus fuerit uterus, tactui se ostendit:—an inflammation of the uterus may be known by the touch." Almost all authors who have described an inflammation of the uterus confide in the touch as much as anything, in order to discover the disease. Indeed, the swelling of the uterus and the sense of heat, which are inseparable from an inflammation of it, are the grand and leading ideas, and contain of themselves a general though short description of the disease, and therefore are the likeliest to be first introduced by any author who is about to describe such a malady. After this the more minute and particular parts of the description follow, as in the text.

The word σκληρή also doth not interpret well with φρίκη: "horror durus" is an odd and unmeaning expression. It would read much better, and be more descriptive, were it written σκληρά, and made to agree with the latter part of the sentence, in the manner that Foësius hath rendered it: σκληρά τά ἀμφι τὰ αἰδοῖα: "partes circa pudenda duræ sunt."

I will take the liberty to give my own interpretation of the whole passage, and leave every one to do the same. "Si inflammatus fuerit uterus, tactui se ostendit. Quandocunque autem in eodem

[1] De Mulier. Morb., lib. ii., cap. 50; Charter., tom. vii., p. 827.

aliquid corruptum fuerit et recruduerit, febris acuta et vehemens cum horrore nascitur, et quæ circa naturalia sunt, indurescunt. Quam maximè afficitur, sensus quasi mordendi est, et cum impetu morbus accedit; digito verùm admoto, iterum res pejus se habet, et aliqua quasi puncta sentiuntur. Dolor et capitis, et sincipitis adest. Oculi caligant, sudorque è fronte prorumpit. Extremæ partes membrorum frigent, et intremunt. Sopor quoque interdum urget; neque facultas audiendi est, neque utero vis ulla inhæret. Cibi fastidium multum est, nec stomachus, nec ventriculus omnino alimenti tenax. Vehementer ægra clamat, subito consurgit; dolent et pubes, et inguina, et lumbi, et naturalium partes interiores, celeriterque moriuntur."

From Aëtius we learn, not only the general symptoms of an inflammation of the uterus, but those also which are peculiar to the different parts of that organ, when they happen to be principally affected. "Uteri inflammatio (inquit) ob multas causas contingit. Indicant hanc muliebrium locorum, pubis, imi, ventris, ac lumborum dolores ardentes. Et si digitus in os uteri submittatur, occurrit ad contactum, durum, clausum, fervens, ac retractum, præsertim si in ipso, aut in collo fuerit inflammatio. Nam ubi cavitas, aut fundus uteri inflammatur, imi ventris dolor ostendit, ut ne contactum quidem foris admittat. Et plerunque uterus ad inflammatum locum retrahitur, atque hanc ob causam os, et collum ejus, avertitur. Differt autem ab ea quam suprà uteri retractionem appellavimus, quia in inflammatione febris est acuta, et ardor intensus. Si verò posterior ipsius pars inflammata fuerit, dolor circa spinam magis hæret, et, compresso intestino recto, stercora detinentur. Anteriorê autem partê inflammatâ, urinæ difficultas, aut stillicidium, consequitur ex compressa vesica, præsertim si dolor pectinum affligit. At ubi obliquos laterum locos inflammatio occuparit, inguina distenduntur, et crura gravantur, ac ægre moventur. Invalescente verò inflammatione, febres accedunt, dolor capitis, stomachi afflictio per consensum, imi ventris tumor, ardor, distentio, gravitas coxarum, lumborum, præcordiorum, inguinum, femorum, horrores discurrentes, ac pungentes pedum torpor, genuum perfrigeratio, extremarum partium exudatio, pulsus parvi ac densi, animi deliquium, exolutio. In augmento verò etiam singultus, dolor tendinis, colli, maxillarum, sincipitis, oculorum præsertim in fundo. Urinaque ac stercorum recrementa supprimuntur. Et inflammationê adhuc magis acutâ, febres augescunt, delirant, dentibus frendunt."[1]

These marks, taken collectively, and compared with the genuine and constant symptoms of the puerperal fever, will sufficiently distinguish the one disease from the other.

7. From the cholera morbus, by the costiveness that generally attends the puerperal fever at the beginning; and if it should commence with a diarrhœa, it is easily distinguished from that of the

[1] Aëtii Medic. Græc., &c. Per Janum Cornarium. Lugduni, 1549; p. 1008.

cholera, by its not being so sudden, so painful and profuse, nor sinking the patient so much; but, on the contrary, giving generally immediate ease, strength and spirits. Neither is it attended with that violent degree of vomiting as the cholera, nor with those spasms and contractions in the limbs. Besides, the cholera is confined chiefly to the close of summer and beginning of autumn, as regularly, says Sydenham,[1] as swallows come in the beginning of spring, and cuckoos towards Midsummer; whereas the puerperal fever happens all the year round. In a word, the complaints coming on soon after delivery, the pain and soreness being diffused over the hypogastric region, together with the general appearance of the disorder, will at once distinguish it from the cholera morbus.

CHAPTER II.

OF THE PROGNOSTICS.

THERE is scarcely any disease in the history of physic where delays are more dangerous than in the puerperal fever; and yet, unfortunately for the patient, there is no disease which is more apt to be neglected or trifled with, or, what is worse, injudiciously treated, through the ignorance of the lying-in woman and her attendants.

The patient, as hath been observed,[2] frequently mistakes her complaints for after-pains, and thinking they will gradually go off, neglects to make her case known and apply for proper aid. The bystanders fall into the same error, or taking it for some colic complaint, keep the patient hot, ply her plentifully with spices and caudle, and give her spirituous waters or warm medicines, under the notion of cordials. By these means the malady is greatly increased, makes quick ravage, and becomes in a short time inevitably fatal.

Nurses and women in general seem, in a great measure, ignorant of such a disease as this being incident to lying-in persons. I dare venture to say, that the very name of it is as much a stranger to most of them as if no such malady existed; and yet there never was a time when this disease did not exist. The consequence is, that knowing no danger, they fear none; whereas, on the contrary, they should be taught to dread the name of puerperal fever as they would the name of pestilence or plague; for I fear that the one destroys not more than the other. Like a fierce and untamed enemy, the one spreads his hostile banners in open day, and feasts on carnage and destruction, till, glutted with slaughter, he himself sinks down and dies! But the other, like a secret revengeful foe, stabs in the dark to the very vitals, and though he kills one only at a time, yet

[1] Sect. iv., cap. 2, p. 175.

[2] Page 57.

he is privately slaying every day, and never satiated; thus making up by length of time what the other does by a sudden devastation. They should be taught to know, I say, that pain and soreness of the belly, coming on soon after delivery, unless speedily relieved by judicious assistance, will prove mortal in a few days. They should be taught to know, that these complaints are attended with a fever, which is called the puerperal fever.

I cannot say how it may be with other physicians, but, for my part, I never hear a childbed-woman complain of a pain and tenderness of the abdomen, but I look upon her disorder with as much anxiety and circumspection as if I knew her actually labouring under an inflammation of the bowels, or a hernia with a strangulated gut; and I think it my duty to be as expeditious in relieving the one complaint as the other. I have dwelt the longer on this head, in order to show the necessity there is in this disease of the physician being made acquainted with its appearance in time, and to apprize the patient and her attendants of the great and imminent danger attending a neglect. Let us, therefore, return to the prognostics.

By carefully attending to the pulse and respiration, much may be learnt respecting the fate of the patient labouring 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 degrees of these are 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 128 to 112, then to 100, or the like, it is to be esteemed as one of the best signs. But if it continue at the same number, or rather quicken, 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 seem to be gone off, yet if the pulsations do not decrease in proportion, a relapse, or some other disorder, is to be feared.[1]

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[1] [I doubt not that every practitioner whose lot it has been to see much puerperal fever, will agree with Dr. Hulme as to the value of the pulse as a criterion of the disease, both as to its intensity, danger, and the prognosis; but it is of equal value, as affording the earliest indication of its inroads, even before the occurrence of the rigor. The pulse becomes very quick just before delivery, but immediately after falls to the natural standard or below it, as if from collapse, then rises again in the course of a few hours, and is calmed down; but the second or third day it is again quickened by the secretion of milk, after which, if all is well, it finally subsides. Now, I have repeatedly verified these alternations, and I have scarcely ever found them absent without mischief; their extent will of course be modified by the severity or facility of the labour. For example, if the pulse, instead of falling immediately after labour, keep up, there will either be hemorrhage, or some disease is present to occasion it. If it rise too high after this collapse, and continue so, we may well fear some form of puerperal fever.—Ed.]

A diarrhœa coming on at the beginning, if followed by a slower pulse, prognosticates safety. But if, after 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. 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.

If the disease be neglected in the beginning, it is frequently mortal; but if assistance be called in due time, it often easily yields to medicine.

When signs of the malady come on immediately from the time of delivery, it is commonly productive of evil.

If violent pains shoot across the epigastric region, through the ribs to the back, with a difficulty in breathing and a quick pulse, the disease will generally prove mortal, within the seventh or eighth day from the attack.

Want of sleep is not a favourable symptom. When the patient turns herself, and lies upon her side, it signifies a change for the better.

A whitish, moist, and soft tongue is no bad sign; but when it begins to be clear, it indicates safety. When the tongue becomes dry and rough, and changes its colour, let the physician be attentive to the fate of his patient.

A fixed colour in the cheeks, with a livid hue, portends no small danger.

Partial sweats, confined to the face, neck, and breast, indicate no good. When they are general, and attended with turbid urine and a slower pulse, the physician may encourage his patient.

A fresh flow of the lochia is an eligible sign.

If the urine continues crude, and of the same colour as at the beginning of the disorder, it prognosticates ill. Turbid urine, of a clay or yellowish colour, with a thick sediment, tinged with purple or red, is a token of recovery.

A cool, soft skin, as of one in health, unless it be joined with other favourable marks, is only a flattering symptom.

A frequent discharge, by vomit, during the course of the disease, of a green or black colour, is generally mortal. Death is speedily to be expected when the pulse becomes so quick and weak as scarcely to be numbered, when the patient throws up everything that is given her, when the stools flow involuntarily, and a cold clammy sweat hangs on the extremities.

CHAPTER III.

OF THE DISSECTIONS.

I WILL make a few general observations by way of preface. At the time of death, or some hours after, the whole abdomen was commonly found much swelled, but soft, and no way discoloured, unless by the veins which sometimes branched upon it. At other times it was not in the least tumefied, but had rather the contrary appearance, being sunk down and flat: this seems to happen mostly in those cases where there hath been a profuse diarrhœa during the course of the disease. Upon cutting into the abdomen, the membrana adiposa, abdominal muscles, and peritoneum, were always found in a sound state, except where it is otherwise expressed. All the bodies were opened about twenty-four hours after death. The manner in which I purpose treating this part of my discourse is, first to give a general history of the case, and then the dissection. In doing this I shall confine myself entirely to the symptoms of the disease, or such other circumstances as might happen to the patient before delivery, and which may tend to illustrate more fully the nature of the case. I shall not at present make any observations upon the morbid appearances after death, but leave the reader perfectly free to draw his own conclusions.

CASE I. The patient who is the subject of this dissection had an easy labour, and this was her second lying-in. The pains were severe all over the lower part of the abdomen, which was affected by the slightest touch, but particularly in the right iliac region. A looseness attended from the beginning, and the discharge was fœtid. A vomiting also came on at the same time, first of a green, and afterwards of a blackish colour. Both the purging and vomiting continued to the last. The urine was at the beginning high coloured, but afterwards changed to a more brown colour, with a crude sediment. The pulse, from the first, was at 136, and weak, and before she died, so quick and small as scarcely to be numbered. There was a difficulty in breathing, owing, as she said, to the acute pain in the abdomen, which was greatly increased every time she drew in her breath. The tongue was white, and there was much thirst and fever. She had a pain in her head, and could get no rest. The day before she died she thought herself much better. She used to complain of a pain in her belly, for some time before she was delivered, but was otherwise in health. She was strongly prepossessed with a notion, for a long time before delivery, that she should die in childbed. There was no hiccough nor subsultus tendinum; neither was she delirious, but retained her mental faculties perfectly to the time of her death. The disease proved mortal on the seventh day after delivery.

Dissection.—The abdomen was not swelled. Upon exposing the viscera a quantity of fetid liquor discharged itself, which was found floating among the intestines and in the pelvis. The omentum was greatly inflamed, and partly in a mortified state. On the right side, a little below the short ribs, part of the omentum was thickened, and very much gangrened, and, when scarified with the knife, discharged a quantity of stinking liquor, which seemed to be contained in cells. The intestines were not distended with air, as is generally the case in this disease, but adhered to each other, as if they had been slightly glued together. Small portions of a whitish or yellow substance, seemingly fat, stuck here and there between the folds of the intestines, as if they had been pasted to them. The intestines were, in general, inflamed, but particularly on the left side of the abdomen, where there also seemed to be a tendency to a gangrene. The vagina and external parts were unhurt. The uterus was perfectly sound, and contracted into a small compass, and lay concealed within the cavity of the pelvis. Nothing remarkable was observed in any of the other abdominal viscera. The contents of the thorax were not examined.

Case II. The subject of this dissection was twenty-one years of age, and this was her first child. She had a safe and easy labour. She was a healthy woman, excepting a slight pain in her left side, and a little difficulty in breathing, which she complained of for a month or six weeks before she was brought to-bed. The disease began on the second or third day after delivery, with a violent pain and tenderness all over the abdomen. These symptoms were accompanied with a fever, and severe shooting pains across the pit of the stomach and sides. There was a cough and difficulty in breathing. A vomiting attended from the beginning, first of a green, and afterwards of a dark-coloured matter, pretty much the same as was afterwards found in the stomach upon dissection. The vomiting continued till death. At first the belly was costive, but afterwards loose, and the stools were somewhat black and fetid. The abdomen was a good deal swelled; the urine was of a brown colour, and had a crude brown sediment. Once the sediment changed to a whitish colour, but returned again to a brown. The tongue was dry and the thirst great. The pulse at first beat 140 in the space of a minute, and was weak; but before death it reached 160, and was scarcely to be felt. Profuse sweats came on at the beginning of the disease, but as it increased they went off. There was no delirium, subsultus tendinum, nor hiccough. She died in great agonies on the eleventh day after delivery.

Dissection.—The abdomen was much tumefied. Upon penetrating into its cavity, there rushed out a quantity of fetid air, and a liquor of the same odour, mixed with pus. The omentum was found in a gangrenous state, and thin, having lost the greatest part of its fat. The mortification had particularly seized the inferior portion

of the omentum, which was dragged down towards the left side, so as to reach into the pelvis, and, by the distention of the inflated intestines underneath, was pressed close in that part against the os pubis. The stomach and intestines were greatly distended with air, particularly the former. The cæcum was also much inflated, but contained little else than air; the few excrements that were in it were thin, and of a dark colour. In the stomach was found a quantity of thick, blackish fluid. The vessels on the surface of the intestines and stomach were in different places distended with blood. The intestines slightly adhered to each other, as if pasted together, and small parcels of a fatty substance, of the same kind as those mentioned before, stuck fast, in various places, between their several convolutions, and, in some measure, glued them together. The uterus was in a sound state, and lay hid within the pelvis. Both lobes of the lungs were inflamed, and somewhat black, particularly in their most dependent part. No alteration was found in the pleura. Nothing particular was discovered in any of the other viscera.

Case III. The person who is the subject of the present dissection was thirty-four years of age, and this was her second childbirth. She had an easy labour, and made no complaints, either before or after delivery, till the third day. She began with a shivering, succeeded by a fever. This was followed by an acute pain all over the abdomen, but especially over the region of the stomach, short ribs, and down to the spine. A shortness of breath and vomiting attended. The discharge was green. The belly was neither costive nor loose. She preserved her senses entire. No hiccough nor subsultus tendinum came on. The disease terminated fatally, on the sixth day after childbirth.

Dissection.—The belly was greatly swelled. The skin of the whole body was of a tawny or yellowish hue. Upon viewing the abdominal contents, the omentum was found greatly mortified. A yellow, fetid liquor, with a mixture of pus, filled the pelvis, and floated among the intestines. The whole intestinal canal was distended with fetid air, but particularly the great flexure of the colon. A general inflammation appeared, scattered in various parts, over all the intestines. The stomach was not distended with flatus, but lay concealed under the liver, which was of an extraordinary magnitude. It had pushed itself, as it were, high up into the cavity of the thorax, and carried the diaphragm along with it, to which it adhered so firmly, in its whole convex surface, as not to be separated. In the right lobe was found a very extensive abscess, filled with hydatids, swimming in a fluid which was void of all smell. The hydatids were perfectly round, and of various magnitudes, from the size of a hen's egg to that of a hazel-nut. They were composed of a thick gelatinous substance, somewhat of a brown colour, but pretty transparent, and so firm as not to be destroyed by handling. The rest of the liver appeared to be quite sound. The gall-bladder was pretty large, and full of bile.

The lungs were of a remarkably small size, dense, and livid; they did not adhere to the pleura. The uterus was quite contracted, and lay concealed within the pelvis; its substance was somewhat thicker than ordinary, but of a firm texture, and perfectly sound.

Case IV.—This was her second lying-in, and she was about 28 years of age. She had complained of pains in the abdomen for some time before delivery, and told her companions afterwards that she had got a hurt in her belly, but did not describe the manner how or the particular part where she had received the injury. However, she made no complaints to her physician till about the first or second day after delivery, when she was seized with a fever, and severe pain and soreness all over the hypogastric region, attended with a vomiting. The matter thrown up was at first of a yellow colour, but in the progress of the disease changed to a green. A diarrhœa came on at the same time, which continued till death. The belly was never swelled, but, in a manner, quite emaciated. The pain ceased a day or two before she died. The disease proved mortal on the eighteenth day after delivery.

Dissection.—The abdomen was not tumefied, but quite shrunk. The viscera being exposed to view, the whole omentum appeared in a gangrenous state; the lower part reached down into the pelvis, and was entirely mortified, and had a most offensive smell. Its under surface lay upon the uterus; its upper stuck, as if glued, against that part of the abdomen near which the musculi pyramidales take their origin, or rather a little more to the left side. It had tinctured the external surface of the uterus with a variety of dark brown spots, so as to make it appear variegated or marbled, and had infected with an actual gangrene the peritoneum and muscular flesh at the place above the pubis just now mentioned. It had also made an impression of the same nature upon the ovaria and fallopian tubes. The omentum likewise adhered closely, through the whole compass of the abdomen, to the peritoneum above and the intestines below, as if pasted to them. On the right side, in the iliac region, an abscess had formed in the substance of the omentum, which being opened, discharged a quantity of purulent matter. A general inflammation had spread itself over the coats of the intestines in various parts, and in some places they seemed to be changed to a dusky colour. The substance of the uterus, notwithstanding the discoloration on its surface, upon dissection appeared altogether firm and sound; it was properly contracted into a small compass, and lay sunk within the pelvis. There was no fetid water, nor any other liquor, found within the cavity of the abdomen, except a very small quantity which moistened the bottom of the pelvis. The intestines, the omentum, and all the other parts within the abdomen, were remarkably dry; much more so than in any other body which I have seen opened, affected by this disease. Neither was there any kind of flatus confined within the cavity of the abdomen or intestines. Yet the parts diseased in

this subject were contaminated with such a gangrenous stench as scarcely to be endured.

Case V.—She was 33 years of age, and made no complaints before delivery. She was safely brought to-bed, and had an easy labour. This was her seventh or eighth child. The disease began on the third day after childbirth. There was a violent pain and acute soreness all over the abdomen, accompanied with a fever. Severe pains also shot across the region of the stomach, and down through the sides. A perpetual pain affected the head; she had, too, a difficulty in breathing, and a frequent cough. The tongue was dry, and had a brown streak down the middle. She had a purging from the first, which continued till death; and before that fatal period a vomiting succeeded, but no hiccough nor subsultus tendinum. Her breath was very fetid, and of so acrid a quality as to cause a sharp discharge from the nostrils, for a week or ten days together, of a person who happened to receive part of it by the nose, as she was attending her. She did not survive the seventh day after her delivery. She retained her senses perfectly to the end, and expired in great agony.

Dissection.—The abdomen was swelled. Upon laying open its cavity, the omentum appeared very much inflamed, and somewhat gangrened. All its fatty substance was nearly destroyed, seemingly by suppuration, and little remained of that viscus, except a thin membranous web, with pretty large vessels branching over it, distended with black blood. In some places this thin web was worn, as it were, quite through, being found perforated with holes. A yellow fetid liquor, mixed with pus, and minute pieces of a fatty substance, were found in the cavity of the abdomen and pelvis, but mostly in the latter. The stomach and intestines were greatly inflated, and had their capillaries here and there distended with blood. The latter slightly adhered to each other, and had the same sort of fatty substances pasted, in divers places, between their several convolutions, which have been described above. The lungs were found in an inflamed state. The uterus was quite sound and contracted, and lay concealed within the cavity of the pelvis. Nothing remarkable was observed in any of the other viscera.

Case VI.—This patient made no complaints before delivery, but after her death I learnod that, during her maiden state, she had been subject to profuse and dangerous uterine hemorrhages. Her age was 26 years, and this was her second lying-in. She was safely delivered, about ten o'clock in the morning, and was seized the next day about seven in the evening. She complained of a violent pain and great soreness all over the abdomen, from the os pubis up to the cartilago ensiformis, attended with a fever. Though the pain was thus general, yet some particular parts were affected more than others. The pit of the stomach was the chief seat of pain, the next was in both iliac regions tending upwards to the short ribs, and the other

was directly above the symphysis of the os pubis. No rigor or sense of cold preceded the attack. The pain at the pit of the stomach struck across the short ribs and down into the back. The belly was very little swelled at the beginning, but a good deal so before death, yet always remained soft. She had no pain in making water. There was no sense of heat or throbbing about the region of the uterus or vagina. The disease began with a diarrhœa, and the discharge was fetid and frothy. During the whole state of pregnancy her body was always very costive. There was a pain in the head, principally in the fore part; her thirst was very great; the tongue kept moist and white till the day before she died, when it became red and dry. Her pulse from the beginning was very weak, and beat at the rate of 160 times in a minute, and at length became so quick and small as not to be counted. The skin was temperate. Sometimes general sweats broke out, but in common they were partial, being confined chiefly to the face, neck, and breast. The lochia, for the first two or three days of her disorder, were of a proper colour, and in sufficient quantity; afterwards they diminished in both, but never quite left her till she died. She had a very small flow of milk. Her breathing was difficult; the inspirations were very quick and small, and increased her pains. She had no spitting, nor complained of any cough, till she was asked very particularly about that circumstance, and then she said she had a little incitement to cough now and then. The urine at first was very high coloured, which I attributed to the flow of the lochia; for as they diminished it changed to a brown colour, attended with a crude sediment, both which continued till death. She got no rest till the second or third night, and was disturbed out of her sleep by dreaming that her physician came to her bedside, and bade her put out her tongue, the impression of which was so strong that she immediately put out her tongue and awoke. Her slumbers in general were short, and interrupted by dreams of various kinds. On the fourth day of her disorder she vomited slightly twice; the discharge was small in quantity, and of a dark colour: she vomited no more after this except once, which was near the time of her death, and what she threw up was very small in quantity, and of a dark yellow. I was much surprised to find that everything she took stayed with her, and that no continual vomiting came on, as is usual in this disease when it proves fatal, which I could not account for till the body was opened, when the stomach was found so greatly distended as to be rendered in a manner quite paralytic. She complained much of wind in her bowels. The alvine discharge, at the latter end of her disorder, was not so offensive in smell as at first. It was of a dark yellow colour, very much resembling the liquor that was afterwards found in the stomach and intestines upon dissection. She retained her senses to within a few hours of her death, when she became somewhat delirious. The teeth contracted no foulness, neither did the eyes suffer that change which is observable in many other fevers. No hiccough nor subsultus tendinum came on. The

day before she expired the pains entirely ceased, and she thought herself better; but this was only a prelude to a general dissolution, for the shortness in breathing increased, the pulse became weaker and weaker, a cold sweat supervened, and closed the scene on the sixth day after delivery.

Dissection.—The body was very much swelled. Branches of veins appeared on each side, running from the groin upwards, and were of a lively green. Upon displaying the contents of the abdomen, the small intestines were seen greatly distended with air. On the right side of the abdomen they appeared of a silver colour, with their capillaries, filled with blood, scattered here and there over their surface. On the left side they had lost a good deal of that silver brightness, had put on a dusky colour, and had their coats more thickened on this side than the other. That part of the intestinal canal lying in the centre of the abdomen, immediately above the os pubis, laboured under a recent circular inflammation, of about four fingers' breadth diameter, but without any excoriation or loss of substance, and a quantity of pus was found adhering to the integuments that lay over it. No appearance was to be seen of the liver or colon: those two viscera being quite hid by the great inflation of the small intestines and stomach. This last viscus was inflated to an amazing degree. It came sweeping down from under the ribs of the left side, and filled the whole scrobiculus cordis. It pressed so strongly against this part, that when the integuments were divided it rushed out, and being confined by the ribs on each side, formed the appearance of a bladder filled with air, of a triangular shape, its apex pointing upwards. The winding of the intestines ran up close to the base of this triangle, and pressed against it. The omentum was drawn or pushed quite up, and lay rumpled upon the great arch of the colon. It was very thin, little remaining except its membranous part. On the right side, a portion of it, extending from below the short ribs, was highly inflamed, and in some measure gangrened. That part on the left side which is fixed to the longitudinal scissure of the spleen, was found in the same state; and that portion of the omentum which is connected to the convex side of the upper extremity of the stomach, was also much inflamed. A large vessel, distended with blood, surrounded the great arch of the stomach like a garland, and sent off branches, which spread themselves upon the omentum. Minute capillaries likewise ran branching from the omentum upon the external coat of the colon. Towards the upper extremity of the stomach, on the back part, an inflammation, of an oblong shape, had taken place, spreading about two or three inches. Upon opening the stomach, its rugæ were found quite obliterated; it contained a great deal of air, and a quantity of thick liquor, of a dark yellow colour. The intestines did not adhere to each other, neither were there seen any of those portions of fat mentioned in some of the former dissections, adhering between their various circumvolutions. They contained a great deal of air, and pretty much the same sort of fluid as was found in the cavity of

the stomach, only of a thicker consistence. The liver was of a smaller size than common, of a pale colour, as if it had been boiled, and its substance was very tender. The gall-bladder was small, and half filled with thin bile. The uterus was less contracted in this subject than I have generally observed in these cases, and lay flabby and loose in the cavity of the pelvis; but in other respects it was perfectly sound. The placenta had adhered to its upper part, and a dark-coloured mucus lined its whole cavity. Above a quart of yellow liquor, mixed with pus, was found in the cavity of the abdomen and pelvis. Both lobes of the lungs were blackish, and affected with inflammation. On the left side the lungs adhered, by a few membranous strings, to the pleura, near the middle of the thorax, towards the spine, but nowhere else. The pleura did not appear to be inflamed in any part. Upon piercing the pericardium, a good quantity of reddish-coloured serous fluid discharged itself. A long polypous concretion was found in the right ventricle, which did not adhere to the sides, but lay entangled among the tendinous fibres of the valvulæ semilunares.

CHAPTER IV.

OF THE CURE.

§ 1.—I SHALL divide the cure into two parts. Under the former will be comprehended the more simple method of treatment, and under the latter the more complex.

The patient at the beginning is generally costive, having had no stool from the time of delivery. If this be attended with the mildest degree of the disease, a simple emollient opening clyster will often procure two or three stools, and give immediate relief. If the injectian produce no evacuation, it is seldom of any service. In some habits of body, where the bowels are delicate, a medicine of this kind will cause five or six motions. The great advantage of the clyster is, that it generally causes an immediate discharge, without loss of time, which is a matter of some consequence in this disorder; and if it should not remove the malady, yet it opens the way for the more powerful means which are to follow. The chief objection to clysters is, lest their introduction should hurt the parts so lately affected by the labour. This may sometimes be the case if a great tenderness still remain, or if they should be administered by an injudicious person; but, in general, I seldom hear the patient complain of pain from the use of injections. They are undoubtedly at all times rather disagreeable, and may with great propriety be frequently omitted.

If the patient do not find herself greatly relieved by this simple

treatment, or if a clyster should be thought unnecessary, then recourse must be immediately had to cathartics. A solution of the sal catharticus amarus in water, the oleum ricini, the tartarum emeticum, and the vinum antimoniale, are what I have found to answer the purpose best. The two former are the mildest, and must be repeated till they procure a thorough evacuation, without which they are of no use. Of the oleum ricini I generally give one ounce at the first, and half an ounce every three hours afterwards, till some effect be produced; but the first quantity generally runs through the bowels pretty quickly, which is the great advantage attending this medicine.

When the tartarum emeticum or vinum antimoniale are made use of, they are to be given in small doses, every two or three hours, till they pass through the intestinal canal, otherwise they will answer no other purpose than to amuse the patient and deceive the prescriber. For though they might promote sweat, and thereby ease the patient for the present, yet when the disease is violent, it seldom goes off properly without a plentiful discharge by stool. We are to judge of the evacuation necessary to be made by the quality and quantity of the discharge, the abatement of the pain, and the strength of the patient. It may not here be amiss to observe, that previous to any alvine evacuation, it is proper to inquire of the patient whether the body be easily soluble or not, that the nature and dose of the cathartic medicine may be more judiciously adapted to the circumstance of the case.

Soon after stools have been procured, the patient generally finds an immediate relief from pain, kind sweats come on, gentle slumbers succeed, and the pulse becomes more calm, and slow. I commonly prefer giving the tartarum emeticum in a liquid state to the form of a powder, because it is more pleasant to take that way, and the dose can be more easily ascertained. The following prescription may serve as an example of what I mean:

℞. Tart. emet., gr. iv;
Aq. pur., ℥viiss;
Syr. caryoph. rubr., ℥ss. Misce.

Hujus cochleare unum, vel alterum, protinus assumendum; interpositisque horis duabus tribusve, idem medicamentum est repetendum, donec alvus aptè responderit.

After the intestinal canal is sufficiently cleared, and the pain abates, a gentle diaphoresis is to be encouraged by such medicines as neither bind the body nor are heating, both which are very pernicious. This intention seems best answered by small doses of ipecacuanha, tartarum emeticum, or the vinum antimoniale, combined with a gently-dosed opiate, and given about once or twice in the course of the twenty-four hours. In the intermediate spaces of time the physician may interpose the saline draughts of Riverius.[1] These

[1] The prescription of this celebrated author, in his chapter on Pestilential Fevers, stands thus: "Sal absinthii ad ℥j. in succi limonum recentis cochleari exhibitum." But

draughts, in order to be of any service, should be repeated often, and may be given either in the act of effervescence or otherwise, as the prescriber shall think proper. They may answer several purposes; they may operate as antiseptics, and assist in destroying the putrescence lodged in the bowels; they may also provoke urine, and help to quench thirst; and they have this further advantage, that they neither bind nor heat the body. I have frequently ordered the patient to drink a teacupful of chamomile tea every hour, which answered, I thought, the above good intentions very well, and at the same time seemed to quiet any spasmodic constrictions in the bowels which the patient might labour under, and assisted to keep up a regular discharge through the skin.

If preceding or during the evacuations above mentioned, a sickness at the stomach or vomiting should attend, the patient must, first of all, assist the efforts of nature, by drinking plentifully of chamomile tea, warm water, or any other diluting liquor, so as perfectly to cleanse the stomach; and then the rest of the cure must be conducted in the manner recommended above.

The common drink should be of a mild, cooling, and diluting nature. If the skin be dry and hot, the thirst great, and fever urgent, the liquors may be drunk cold; but if the patient perspire, then they should be taken lukewarm. Pure water, with a toast in it; barely-water, either by itself or with the addition of a little nitre, whey, made with rennet or vinegar, milk and water, lemonade, a slight infusion of malt,[1] mint, or sage tea, are the proper kinds of drink. I have frequently known the patient earnestly desire a draught of cold small-bear, to which I have consented, after qualifying it a little with a toast; and she generally drank it with great pleasure, and seemingly with advantage, finding herself much refreshed by it.

The patient must strictly abstain from all caudle, spices, wine, spirituous waters, heating medicines, and cordials of every kind, whether under the denomination of comforters, strengtheners, revivers, expellers of wind, promotors of the lochia, relievers of afterpains,or under any other specious title whatever, which the good women are too apt to bestow upon them, and thus ignorantly administer to the destruction of the unhappy patient.

Rest of body and tranquillity of mind are of the utmost conse-

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here, in all probability, is a typographical error of ʒj. for ℈j.; and what seems to confirm this opinion is, that afterwards the same kind of remedy is again proposed for the cure of the very same complaint (a continual vomiting), and comprehends a more perfect description of the medicine than the former, as follows: "℞. Salis absint., ℈j.; succi limonum recentis cochl. j.; mixta fuerunt in ipso cochleari et exhibita." (Centur. i., Obs. xv.) And I meet with the like quantity of alkali and acid, as in this last prescription, ordered in another place of the works of this author (Centur. ii., Obs. xcix). The proportion, therefore, which I here mean to recommend, is the quantity of one scruple of the salt to half an ounce of the juice.

[1] A gallon of boiling water to a quart of ground malt.

quence to all those labouring under the puerperal fever, because they are always at such times very easily affected. They should be kept as free from noise as possible, and should not be disturbed by company. Every piece of ill news, or any other thing that might give them the least uneasiness or surprise, should be carefully concealed from them, till strength of body and firmness of mind be sufficiently restored. For the same reason also too much light is hurtful; the room, therefore, at first should be darkened, and the light be only admitted according as the patient is able to bear it. The same rules should likewise be observed after every delivery, whether the person labour under a fever or not.

The clothes of puerperal women should be frequently changed for clean, dry, warm ones, lest, by retaining a great quantity of putrescent steams, they should add fuel to the disorder. Indeed, neatness and cleanliness should at all times be particularly attended to after every childbirth. For this purpose a short jacket-like shift, reaching only as low as the navel, as Baron Van Swieten rightly observes,[1] might be so contrived as to have a detached piece of cloth fastened to it to wrap round the inferior parts, and to be easily taken off or put on, as occasion requires, without fatiguing the patient. In changing the linen, great care should be taken that the access of cold air under the bed-clothes be prevented.

All kinds of bandage upon the trunk of the body must likewise, in this malady, be carefully avoided, lest by their pressure upon the tender abdomen and inflamed viscera they should help to increase the disorder. And it should always be remembered, that a compression of the abdomen, after any childbirth, is very prejudicial, for reasons which will appear more fully hereafter, when we come to treat of the causes of this disease.

Let me add to these directions, that all infants, after delivery, when cleaned and placed in bed, should always be put to the breast, as soon as ever they begin to cry or show any signs of uneasiness, though it should happen only a few hours after they are born. This practice is very beneficial, both to the mother and the child. It opens the lactiferous ducts, causes an easy and gradual flow of milk, and often prevents pain and soreness of the breasts, which frequently arise from an accumulation and obstruction of the lacteal fluid. And to a newborn infant, the mother's milk is both food and physic.

Great regard must also be paid to the state of the air in which the sick person breathes. The room should be large, and kept very cool. Fresh air, in warm or even temperate weather, should be let into it, by an opening at the windows or door, every day. The chief caution necessary with respect to this last direction is to prevent a thorough current, or the air blowing directly upon the place where the patient lies. The covering upon the bed should be no thicker than what the patient has been used to when in health. The bed-

[1] Comment. in Boerh. Aphor., tom. iv., p. 626.

curtains should be kept pretty open, to give the sick woman an opportunity of breathing a pure atmosphere. I do not object to having a fire, provided it be not so large as to over-heat the apartment. A small fire is of service; it acts as a ventilator, by carrying off the impure air along with the smoke, and causing a quick succession of fresh air into the room. Some regard in relation to these general rules must always be paid to custom. A person, for instance, who has always been used to lie very warm, is not to be so much exposed as one who has been accustomed to lie more cool; yet such a one is not to be kept hotter after delivery than usual. The author does not mean to recommend, but to avoid extremes, and to be always guided according to the different circumstances of the case.

The custom of confining lying-in women in an over-heated air, and to a warm regimen, is frequently attended with the most fatal consequence. It renders the whole nervous system extremely irritable, creates thirst, causes frightful apprehensions, tremors, palpitations of the heart, loss of sleep, uneasy dreams, febrile heats, premature and hurtful sweats, pains of the head, miliary eruptions on the skin, and fevers of the most dangerous kind. Yet how often do we find this baneful method put in practice. How careful are the good women to stop up every crevice, and keep out every breath of air. How anxious in heaping clothes upon the bed, so that the poor patient can hardly breathe under them. How cautious lest the curtains of the window or bed should be withdrawn! How observant in keeping up great fires in the room! And, that the internal state of the patient may correspond with the external, they take care to give her very liberally of warm caudle, with plenty of spices, and all the good cordial drinks they can think of, and these to be swallowed as hot as the mouth and stomach can well bear them! If this be not the readiest way to cause inflammations in the bowels and other viscera, and fevers of the worst tendency, in a person whose blood is already over-heated by a swift circulation, during the repeated pangs and throes of labour, I know not which is. But most certainly this is not the way to check the rapid motion of the blood, to cool the inflamed body, to quench thirst, to cure an aching head, and to call forth soft slumbers and a gentle breathing through the skin. Reason, experience, the inspection of the bodies of those who have died after puerperal diseases, all plead strongly against it.

Miliary fevers, and others of the like kind, are reckoned very common to lying-in women. Yet I am persuaded, from manifold experience, that these fevers are more the offspring of a heated room and warm regimen, as observed before,[1] than of anything peculiar to the state of child-bed women. I have attended more than 1,400 women after their deliveries, in the City of London Lying-in Hospital, yet I do not remember ever meeting with an instance of the miliary fever in that house. This I attribute partly to the cool

[1] Page 63.

regimen that is strictly enjoined to be observed there; but above all, to the admission of cool air, which is ordered to be let into the wards every day, at an opening in the windows. And probably it is for the same reason also that I have never observed, in that excellent asylum for pregnancy, any petechiæ, vibices, exanthemata, vesiculæ, puncticula, or any other febrile eruptions, joined with the fever of which we are now treating. But to return to the cure.

After the disorder is abated, or even after it seems to be gone off, a particular attention must continue to be paid to the state of the bowels. These must be kept gently open for some time, till the patient be quite out of danger; and if there should be a relapse, the treatment must be the same as above described, only adapting it to the strength of the patient and the particular circumstances that may happen to occur. But the more effectually to prevent a return, and to restore the weakened bowels to their due tone, small quantities of chamomile tea, or a slight infusion of juniper berries, may be drunk three or four times a-day, either by themselves or with a few drops of the elixir vitrioli acidum. After this, a cooling opening diet, with fresh air, bark of Peru, and gentle exercise, will confirm the cure.

It may probably seem wonderful that so simple a treatment as hath been prescribed should be powerful enough to remove so terrible a disorder; and I must needs own it hath often been a matter of agreeable surprise to observe how readily the disease, though very violent, would yield to this simple method of cure. Let us from hence, therefore, draw this conclusion, that it is not the multiplicity of medicine, but the knowledge of the cause, that must remove a disease. Herein lies the great mark of distinction between the physician and the empiric.

The reader may observe, that in the cure of this malady no regard hath been paid to the obstruction of the lochia, nor any particular remedies proposed for its removal. All such notice hath been purposely omitted. The author considers the obstruction of the lochia as only the effect, not the cause, of the disease. Take away the cause, and the effect will cease; or, in other words, cure the disease, and the flow of the lochia will return of course. I the rather insist upon this, that not even the least pretext may be found in this disorder for exhibiting emmenagogues and uterine medicines, as they are commonly termed, such as the pulvis e myrrha compositus, volatile salts, distilled oils, spirituous waters, and the like,[1] which are not only ineffectual, but noxious. The best emmenagogue, in a suppression of the lochia, is a cooling regimen, and a judicious regulation of the alvine discharge.

§ 2.—We will now proceed to the treatment of the disease, in its more irregular and complicated state. It hath already been remarked, that a diarrhœa will sometimes commence at the very beginning.[2]

[1] Vide Institut. Boerh., § 1226, p. 516.

[2] Page 61.

When this is the case, it is by no means to be checked; but we are to assist the beneficent operations of nature, by ordering the patient to drink plentifully of mild aperient liquors. Barley-water with nitre, lemonade, whey made with rennet or vinegar, thin water-gruel, weak chicken-broth, a slight infusion of malt, or a drink composed of a quart of barley-water, with the addition of two ounces of Seville oranges, impregnated with one drachm of salt of tartar, according to the different circumstances of the case, are proper on this occasion. They answer three good purposes: they help to dilute, correct, and expel the acrimony lodged in the primæ viæ, which nature is endeavouring to throw off. If a vomiting or nausea should accompany the looseness, chamomile tea should be given immediately, and drunk in such quantities as to cause a plentiful evacuation upwards. And in case these methods should prove insufficient, to assist nature in making a thorough discharge of the offending matter, recourse must be had to the more powerful means prescribed in the former part of this chapter.[1] The necessity of this must be judged of, by the nature and quantity of the discharge, and the relief the patient receiveth from thence.

If the pain of the hypogastric region should be accompanied with violent stitches in the sides, or over the pit of the stomach, and a pulse that resists the finger pretty strongly, then bleeding would be highly necessary. The first quantity should rarely exceed eight ounces, and in about six or eight hours afterwards, if the pulse still preserve its strength, and the pain continue, the arm should be tied up again, and a second quantity drawn from the same orifice. If that vein refuse to bleed, then a fresh opening may be made in some other part. We must be guided in our second bleeding by the appearance of the blood drawn, and the particular circumstances of the patient, considered both separate and collectively. When the pulse and strength of the patient are in such a state as not to bear much loss of blood, and yet indicate some evacuation that way, cupping on the shoulders may supply the place of venesection with great advantage. In this case, we should attend to the rule laid down by Aretæus of Cappadocia, and have the cupping-glasses much larger than what are commonly made use of: "esto autem magna (cucurbita) omni ex parte lata, dolentem locum ambire valens."[2]

But it should be always remembered that bleeding, in the puerperal fever (I speak with submission), is only to be considered as a secondary relief, though the first in point of time, and that the greatest stress is always to be laid upon evacuations by stool. In the quantity of bleedings, therefore, allowance should always be made for these evacuations, which must, at all events, take place. This is a very nice point to determine, and must entirely rest upon the sagacity and judgment of the physician. An error on either side may be hurtful; for if bleeding be neglected when necessary,

[1] Page 79.

[2] De Morb. Acut. Curat., lib. i., cap. x., p. 92.

it may increase the great tendency which we find to inflammation, not only in the omentum, but in the lungs, and other viscera; and if too much blood be taken away, it may weaken the patient so much, as to prevent her supporting the other evacuations. And from hence, I imagine, we may account for that contrariety of opinion which we meet with among authors with respect to bleeding in general in the puerperal fever; some laying it down as absolutely necessary, and others as strongly opposing it.

Where I to interpose my opinion in this matter, I would follow the advice of the intelligent Celsus, and not slavishly adhere to either of these tenets; but be, as it were, of a middle opinion, between the opposite extremes.[1] I would say that there are some cases where bleeding is very necessary, and others where it is highly improper; and that these will depend upon many contingent circumstances, which can only be rightly understood by the skill and attention of the physician. The best criterion to judge by is the pulse, and period of the disease. If the pulse be full, and vibrate strongly against the finger, bleeding is proper at any period, and under any circumstances, but more particularly so in the beginning. But if the patient hath neglected to call in advice in due time, by mistaking the disease for after-pains, or any other malady, then let the physician deliberate, and proceed with caution. For though there may be a flattering strength in the pulse, yet a tendency to a gangrene in the omentum, and other viscera, will often follow soon after, and nature will be hurrying on towards a diarrhœa, which seems to be the only way she takes in order to relieve herself from such a terrible disaster. If I must err, therefore, in this case, and who amongst us is free from error?—"Est enim hæc ars conjecturalis, neque respondet ei plerumque non solum conjectura, sed etiam experientia!"[2]—let it be rather, I say, in point of bleeding too little, than of bleeding too much, and in making up the deficiency by evacuations by stool.

To return to the pains in the side: I have rarely observed any signs of expectoration in this case; for though there is generally more or less of a cough, yet there is seldom any wheezing, rattling in the throat, or spitting, unless where the patient has laboured under a phthisis pulmonalis, or some other complaint in the breast before the disease came on. The way by which nature seems to endeavour to relieve herself, is a diarrhœa and sweat: she generally excites both these evacuations from the first, and the stools are commonly very fetid.

Guided by her operations, these have been the two outlets I have always had in view, carefully endeavouring to proportion them to the strength of the patient and the nature of the alvine discharge. If the stools continued fetid, I pursued that evacuation; if they became watery, or better conditioned, I refrained. The diaphoresis was

[1] In Præfat., p. 12.

[2] Ibid., p. 13.

promoted by the general methods above described. Where the pulse showed any degree of strength I always began the cure with bleeding, and repeated the operation according to the circumstances of the case. At other times, the pulse hath been so very quick and weak, that I durst not venture to order blood to be drawn.

Blistering, under these peripneumonic circumstances, is always proper, and can hardly be dispensed with. A vesicatory, as large as the hand, should be applied the very first hour, if possible, to that side where the pain is most violent. In the space of eight or ten hours, if the pains be not alleviated, another blister of the same magnitude should be put upon the contrary side. And if there be no particular stitch, but only a general oppression in breathing, then the plaster may be laid between the shoulders; and afterwards, if occasion require, first to one side and then to the other. Oily or spermaceti emulsious are very proper helps to quiet any cough that may attend, but no other stress is to be laid upon them. These may be assisted by making the patient breathe over the steam of hot water, to which a few grains of camphor, dissolved in a small portion of vinegar, have been added.

In this puerperal peripneumony, when the pulse begins to flag, and the disease puts on a putrescent state, the patient must be supported by cordials. For this purpose, the sal cornu cervi may be given, joined with the bark, and softened with a solution of of spermaceti to make them go down smoothly, and not irritate the fauces or stomach. As a drink, I have frequently ordered Clutton's febrifuge spirit, when properly diluted, which he directs to be prepared in the following manner:

"℞. Ol. sulphur. per camp. legitimè præparat.,
Vitrioli rect.,
Salis an. p. æ.,
Spir. vini rectificatiss. triplum horum omnium, digere per mensem; et ad siccitatem distilla."[1]

He advises so much of this spirit to be put to such a quantity of clear spring water as will make it gratefully acid, and then to be sweetened with fine sugar, according to the patient's palate; and thus you will have, he says, as agreeable a liquor, or julep, as can be desired by a thirsty person. I commonly give it in the proportion of one ounce to a quart of water. It generally promotes sweat, but sometimes it will rather disagree with the stomach. This febrifuge liquor of Clutton is supposed to be the famous punch which is kept as a secret by some inoculators, and given to lower the fever when two violent, and prevent too great an eruption of the small-pox.

From the recommendation of the radix senekæ, or polygala virginiana, in pleuritic diseases, I have been induced to try the efficacy

[1] Vid. A Short and Certain Method of Curing Continued Fevers. By Jos. Clutton. Third edit., p. 9.

of that root in the case now under consideration; but have not yet had sufficient experience of it to determine anything with certainty. But if what hath been reported of it holds good, it seems to possess qualities that may be serviceable in this complaint; for it is said to supersede, in a great measure, the necessity of bleeding; to operate chiefly by stool, urine, and perspiration, without inflaming the body; all which are the great intentions, according to my idea, that are principally to be followed in the cure of the puerperal peripneumony.

When the puerperal fever is thus combined with a peripneumony, the disease becomes at once very desperate, and requires the utmost skill and attention to save the patient. It seems to be no less than a general inflammation of the omentum, intestines, and lungs, and sometimes, also, of the stomach, commencing nearly at the same time, and disposed to run quickly into a state of gangrene. Not a moment's time is now to be lost, but the cure should commence, with all the power of art, within a few hours of the attack, if possible, otherwise the disorder makes such rapid progress, that the case, in a short time, becomes in a manner irretrievable. This obliges me to repeat to the attendants of all lying-in women what I have mentioned again and again, namely, that violent pains about the abdomen, coming on soon after delivery, if neglected or trifled with, will frequently prove mortal.

Sometimes stitches and difficulty in breathing, which arise only from flatulencies in the stomach or colon, will shoot about the short ribs and prove troublesome. They are easily distinguished from those of which we have just now been speaking, by their shifting from one place to another, and the small degree of fever that accompanies them. They are generally attended with a costive body, and go off, after procuring a stool, by clyster or otherwise. If the belly be open at the same time, they are easily dispersed by a draught prepared with assafœtida, and a few drops of the Thebaic tincture.

If a cough should be troublesome, I mean singly considered, or if there should be a violent pain in the head, then a blister between the shoulders generally gives the most relief. In the former case, spermaceti draughts, with nitre, often assist the blister, but are generally too inffeectual of themselves. A few drops of the tinctura thebaica may sometimes be added with great propriety. And now and then I have found, after the fever has gone off and a cough remained, with difficulty in breathing, a small quantity of the tinctura fœtida, given with a solution of spermaceti or gummi ammoniacum, of great service, and more especially if there were any flatulent complaints in the stomach or bowels.

When the pains of the abdomen, in spite of the general treatment described in the first part of this chapter, continue very severe, we must call in to our assistance external applications. Fomentations, emollient cataplasms applied over the whole abdomen, bladders of hot water, softening oils, either pure or medicated, steams of hot

water conveyed to the part, blistering of the abdomen, may all be tried in succession.

When the puerperal fever proves very violent, whether the disease be single or combined, it generally terminates in a diarrhœa. This, however, is to be considered in no other light than the kind efforts of nature to relieve herself from the disorder within the abdomen, and to carry it out of the body by means of the nearest emunctory, that is, the intestinal canal. This she boldly attempts by a profuse discharge. It is the last struggle which nature makes with the disease, and if her strength be sufficient to support her efforts, she may come off victorious. And this brings us to the conclusion of the curative part of our discourse, after first considering how far art may assist nature in carrying on this great design. The chief intentions of cure, in this critical state of the disease, are to moderate the efforts of nature with respect to the profuse diarrhœa, to endeavour to keep up the vis vitæ, or strength of the patient, and to correct the putrescent state of the solids and fluids. For this purpose an astringent antiseptic clyster should now and then be injected. Emollient, diluting, or nourishing clysters are, at the same time, to be interposed, as different circumstances shall require, but so as not to over-fatigue the patient. They may be composed of chamomile-tea, fat broth, pure oil, beef-tea, or the like. Thirty grains of the philonium Londinense, with one grain of the root of ipecacuanha, may be given, about once in twenty-four hours, in the form of a bolus, or in a little simple cinnamon-water; and an astringent cordial mixture may be in readiness to take after every stool. In case of faintness or great sinking, red wine and water, with a few drops of the spiritus volatilis aromaticus, may be given by way of cordial. The patient must be supported by nourishment, which should be given in small quantities and often, as well as by medicine. Chicken-water, or mutton-broth made weak and cleared of all its fat, beef-tea, rice-milk, a little chocolate and milk, or the jelly of hartshorn, are very proper. For drink she may take, very frequently, a tea-cupful of milk and water, or three parts milk and one of lime-water, or a slight decoction of logwood, or mint-tea, rice-gruel, red wine and water, or chamomile-tea; and add to these, at any time, a few drops of spirit of hartshorn.

These are the proper helps to moderate the colliquative discharge, and to keep up the strength of the patient. But the most capital point of all yet remains: I mean, to cut off the purulent fomes, the chief cause of the disease (as the dissections seem to indicate), and restore the tainted omentum and intestines to somewhat of their perfect state. With this view, after checking the looseness by the above methods, I have thrown in, between whiles, as much Peruvian bark as I durst venture on, guarded by aromatics and opium. When the diarrhœa returned, then the bark was omitted till that complaint was mitigated, and so alternately. In such a dilemma, what can the power of art do more than give nature an opportunity to throw

off, at intervals, the morbid surcharge, and in the intermediate space of time to endeavour to keep up the vis vitæ, and correct the remaining putrescence of the solids and fluids? By these means life may generally be prolonged, and as there must be different degrees of the disorder, from the slightest to the most inveterate kind, it may sometimes be preserved.

But when the disease has arisen to such a pitch as to render the omentum gangrenous, to induce the putrescent state upon the intestinal canal, and to cause a large quantity of purulent and other morbid liquors to float among the viscera, is it at all wonderful that the patient should at last frequently sink under this colliquative discharge? In such a desperate case, must it not require more than the united force of the whole materia medica to withstand its power? What medicine hath sufficient virtue to penetrate into the inmost recess of the body, and recover the putrid omentum? What plant is efficacious enough to heal the morbid intestines, to revive the sinking state of the patient, and draw off the purulent discharge from the cavity of the abdomen? Where is such a remedy to be found?

"Dic, quibus in terris, et eris mihi magnus Apollo?"
VIRGIL, Ecl. iii., ver. 104.

CHAPTER VI.[1]

THE AUTHOR'S OPINION OF THE CAUSE OF THIS DISEASE.

MEDICAL writers have ranged the causes of diseases under various heads, some of them rather more subtle than useful. I shall confine myself to three of them: the immediate, or proximate; the predisposing, or remote; and the occasional cause. The immediate or proximate cause of a disease is that which is sufficient of itself to produce the disease. The predisposing causes are such as precede, and lead on to the immediate; the occasional are such as succeed and promote the predisposing causes: these, being all combined together, form the immediate or proximate cause.

The immediate cause, then, of the puerperal fever, is an inflammation of the intestines and omentum. For the truth of this assertion I appeal to dissections. The chief predisposing cause, as I apprehend, is the pressure of the gravid uterus against the intestines and omentum.

The uterus, after impregnation, rises gradually out of the pelvis into the cavity of the abdomen. As it ascends, it carries its burden along with it, which receives a gradual increase in its bulk every day,

[1] [I have omitted Chapter V, which is occupied with a summary of the opinions of different authors.—ED.]

for the space of nine months, till at last it becomes so large as to distend the abdomen to an amazing degree. The progress of this distension is supposed to be nearly as follows:—In the space of three months after conception, the uterus rises above the brim of the pelvis, and the tumour in the abdomen begins to appear. At the fifth month, it is increased to a much greater magnitude, and rises up as high as the middle space between the pubes and the navel. By the seventh month, the fundus uteri reaches as high as the navel, and at the eighth month it is advanced midway betwixt the navel and scrobiculus cordis. In the ninth month, it rises to within a small space of the lower point of the breast-bone, and the neck of the uterus is then wholly distended with the fundus in a globular form. It is easy to imagine that the regularity of this distension must vary, more or less, in almost every gravid subject, according to the bulk of the child, the quantity of waters contained in the uterus, and many other contingent circumstances attending gestation, so that the very same woman will hardly carry her burden twice exactly like. It is remarked by authors that the substance of the uterus does not, in general, grow thinner by extension, but rather increaseth in thickness, hence its pressure against any part which it may happen to rest upon will be pretty great, even to the time of delivery. As the uterus increases in magnitude it will begin to sit heavy upon the intestines, and by the end of seven months, I should imagine, will press strongly against them. From that time to the approach of delivery the abdomen must be so tense and full, and the pressure so great against both the intestines and omentum, as greatly to interrupt the circulation in various parts of those viscera; and, near the term of childbirth, it must be so much increased, that it appears to me much more wonderful that the disease does not oftener happen, than that it happens so often as it does. But the all-wise Creator, who is provident in all his works, hath filled the gravid uterus with a fluid, for the preservation of the intestines as well as the tender infant, during a state pregnancy, and constructed the former as so many large hollow moveable tubes, filled with air and other fluids, rolling gently one upon another, and therefore easily yielding to pressure, and not so soon affected by it. The same wisdom is also conspicuous in the situation and structure of the omentum, for it is generally well guarded by plenty of fat, and not very susceptible of feeling, and is placed in a loose flowing state upon the softly yielding intestines. May not, likewise, that distribution of the fat in lines, which run on each side its bloodvessels, be designed as so many bolsters to defend them more effectually from pressure? At least, could anything be more artfully devised for such a purpose! The omentum, in the latter part of pregnancy, must either lie flat, which is its natural situation, or be rumpled and carried up, by the gravid uterus, in folds or doublings. When this last is the case, which probably is not unfrequently so, the danger of a strangulated circulation will be the greater.

The general effects of this pressure of the gravid uterus upon the intestines and omentum will be to interrupt the free circulation of the blood, particularly in those parts on which it happens to be most prevalent, and to destroy the tone of the bloodvessels. The other parts, more free from this compression, will receive a larger quantity of blood into their vessels than usual, by which means they will be distended, their coats weakened, and the surrounding capillaries filled with half-stagnating fluids, and may become more or less inflamed. The evils attending this pressure must be increased by respiration. The diaphragm, at every full inspiration, will press the intestinal viscera strongly against the distended uterus, and the abdominal muscles will as strongly resist it. Hence, all violent exercise or labour, in an advanced state of pregnancy, must be very hurtful. The frequent vomitings which happen to some women in the latter end of gestation, may for the same reason be injurious. If the child's head, or any hard part of its body, should be so placed in the uterus during gravidity, as to press strongly upon any particular part of the intestinal canal or omentum, then the danger will be increased, because, in that case, it would act upon it like a hard fixed body. As I am no practitioner in midwifery, I have not had an opportunity of attending so minutely to the different complaints, arising from this supposed pressure, during the state of pregnancy, as those who exercise that art. But I frequently meet with women, after delivery, endeavouring to account for their pains in the abdomen affecting any particular part, from the child's lying more on this or that side during gestation.

The nearer the woman approaches to her time, the greater will be the mischiefs arising from this compression. As soon as actual labour comes on, the woman is seized with particular pains, returning at intervals, which occasion such repeated convulsive motions upon the abdominal muscles and diaphragm, as to force the child down into the pelvis and cause delivery. By this painful and laborious action the body is much heated, a fever, for the time being, is produced, the intestines and omentum are strongly rubbed, and ground, as it were, against the gravid uterus, at every convulsive throe, till the child makes its way into the pelvis. After the expulsion of the child and afterbirth, the uterus gradually becomes less and less, and at last shrinks down into the bottom of the pelvis. The teguments of the abdomen, which before delivery were greatly distended, are now relaxed, and by degrees recover nearly their former state. The intestines and omentum, being freed from their incumbrance, the circulation becomes more equal through their whole substance, the vessels of those parts on which the uterus chiefly lay are immediately filled with blood; but being greatly weakened by such a long-continued pressure, they have almost lost their elastic power, and can scarcely propel forwards their contained fluids. Just as we see a compression, on any soft external part of the body, will cause a blackness in that part, probably from an extravasation of

the fluids, which will not go off for several days. And why may not the same thing happen to the tender substance of the intestines and omentum? By these means the vessels become completely filled with blood, and are ripe for inflammation. And if the injury done the intestines and omentum by these causes, or others to be enumerated hereafter, be so great as to produce an actual inflammation, then will arise the puerperal fever. But if, on the contrary, the vessels soon recover their strength, so as to keep up a free circulation, in that case the patient will never be sensible of any injury, and will be restored to her health, as if nothing had happened. From hence we may account for the mischief arising from the neglect of procuring stools soon after delivery, and for the great danger of keeping lying-in women hot, and giving them warm spices, wine, and spirituous cordials, lest the intestines and omentum, already turgid with blood, should catch the flame and destroy the patient!

I will now proceed to consider some other evil effects arising from this pressure. By long compression the intestines are, in some measure, deprived of their peristaltic motion, their coats are weakened, and become, in a manner, paralytic. Hence costiveness, windy complaints, and spasmodic constrictions in the bowels, so common to pregnant women. The consequence is, that, after delivery, their tone being lost, they become quickly over-distended with flatus, which I imagine happens more or less after all deliveries, but particularly after those that are unsuccessful; the capillary vessels of their tunics having likewise, as said above, lost their elasticity, are easily distended with blood, and soon brought into an inflammatory state. Besides, any particular part of the intestines, not covered by the omentum, will be particularly liable to these inconveniences. Now, that part of the intestinal canal which is situated in the hypogastric region is seldom covered by the omentum, but lies naked and exposed to this compression. And as the child seems chiefly supported in the abdomen by resting upon the brim of the pelvis, the greatest pressure will commonly be upon the small intestines, either in the right or left iliac region, or directly in the middle above the os pubis. From this last circumstance I account for the pain and tenderness of the hypogastric region, which is generally the constant and inseparable companion of this disease, and therefore constitutes the chief pathognomonic symptom. In dissection the first, and sixth, the intestines were chiefly affected on the left side, probably from the uterus pressing more on that side than the other. In the sixth dissection it is observed, that the coats of the intestines were more thickened on the left side of the abdomen than on the right, which appearance is generally deemed a certain sign of a preceding inflammation. And this, in all probability, was the cause of that partial circumscribed inflammation of the intestines, a little above the os pubis, mentioned also in the same dissection.[1] From all which it appears,

[1] Page 77.

that the intestinal canal must particularly suffer in this disease; especially in its inferior part, where the pressure is so great and so constant, and where the intestines have no apron or covering, such as the omentum, to defend them. And from hence, likewise, as I imagine, arises the great deception among authors relating to the cause of this disorder. For, finding it generally accompanied with a pain in the region of the pubes, happening soon after delivery, they immediately concluded that it must of course be owing to an inflammation, or some other affection of the uterus, which communicated its effects to the hypogastric region, and was irritated by any compression made upon the abdomen. Whereas it appears, by the dissections, that the uterus was sunk down within the cavity of the pelvis, out of the reach of external pressure, and in a sound state. Hence, then, I think, we may fairly conclude, that what they in general ascribed to an inflammation of the uterus, was owing purely to an inflammation of the intestinal canal.

The fæces being long pent up, by the pressure of the gravid uterus, become putrid, and, in the large intestines, often so hard as to be concreted into a sort of balls. This evil extending, more or less, through the whole intestinal circumvolution, that is, six times the length of the person's body, affords an ample source of putrefaction to irritate and corrupt the intestines, and at length to infect the whole fabric, but particularly the stomach and omentum, parts which are injured by the same causes, and closely connected. Those viscera, being once diseased, will act reciprocally upon each other; the bowels will affect the stomach and injured omentum; these, in return, will reflect back the disorder upon the intestines, by which means the complaints will sometimes become so general over the whole abdomen, that neither the physician nor the patient can hardly describe the true situation of the disorder; however, generally speaking, its chief seat will be found in some part of the hypogastric region. A fever will succeed, accompanied with great thirst, violent pain in the head, and frequently with a sickness at the stomach, or vomiting. The body will be either costive, or nature, by a beneficent effort, will indicate the method of cure by a diarrhœa. If this last should be the case, and the discharge should be very plentiful, so as thoroughly to empty the intestinal canal, and make a revulsion from the inflamed intestines and omentum, the disease will terminate favorably, unless it hath unhappily taken too deep root, before this salutary evacuation was brought about. Then, indeed, the intestinal canal and omentum will become more and more affected, and will soon change from an inflamed to a gangrenous state.

What I have here advanced may undoubtedly appear very singular. It is true we have no accounts, in any author which I have met with, of an inflammation of the intestines and omentum being the general cause of fevers after delivery, and arising chiefly from the pressure of the gravid uterus. But there are some passages in several writers of no small distinction, that strongly indicate a pos-

sibility of the omentum being greatly injured merely by compression. Caspar Bauhin, treating of the omentum, says: "That in some women, after delivery, it remains so collected about the middle of the belly, as frequently to excite considerable pains."[1] And the ingenious Ruysch had often been surprised with hard oblong tumours, remaining in the abdomen after childbirth, for years together, with little or no pain, though generally with some inconvenience or other, till he discovered the true cause by dissection. For he then found, in one of these cases, the omentum very much thickened, elongated, and degenerated into a fat, fleshy, scirrhous substance, adhering above to the bottom of the stomach, and below to the fundus uteri."[2] Baron van Swieten endeavours to account for such instances, as the first above mentioned, by supposing the omentum to be rolled up into the abdomen, by the rising uterus, and there, by the pressure of it, or by some other cause, to become exsiccated, and to have its lamellæ concreted in such a manner, as to hinder it afterwards from falling down, and regaining its proper situation. His words are: "Videtur autem quandoque omentum ab utero assurgente convolvi, et complicari: si jam, vel ab uteri compressione, vel ab alia quacumque causa, siccescat omentum, concretio lamellarum omenti metuenda erit, nec depleto per partum utero poterit evolvi, ut pristinum locum occupet."[3] But might not such changes be rather attributed to a preceding inflammation of the omentum, caused by the pressure of the uterus during gravidity? The celebrated Morgagni, in his late excellent work, seems to be of this opinion, and quotes these very two instances: "During pregnancy," says he, "the omentum, being compressed by the uterus and the other viscera, and for that reason sometimes inflamed, may be formed into an oblong and almost scirrhous tumour, which remains in some after delivery, as has even been observed by me; and affects them sometimes with pain, but always with some inconvenience or other, as Ruysch has taught us, and before him, Bauhin had hinted."[4] These observations, therefore (to which I did not attend till I had committed my thoughts on this subject to paper), help to confirm me in my opinion, namely, that the immediate cause of the puerperal fever is an inflammation of the intestines and omentum, and that the chief predisposing cause is the pressure of the gravid uterus.

Another great misfortune attending gravidity is, that the whole abdominal viscera, being straitened for want of room, will press strongly against the diaphragm and aorta descendens, by which means the lungs cannot be sufficiently expanded, a lesser quantity of blood will be carried into the inferior parts of the body, and a greater quantity retained in the superior, that is, from the midriff upwards. This overflow of blood will crowd in upon the heart,

[1] Theat. Anatom., lib. i., cap. xii., p. 44.
[2] Observ. Anatom. Chirurg. Cent., Observat. lxiii., p. 59.
[3] Comment. in Boerh. Aph., tom. iv., p. 460.
[4] De Sed. et Caus. Morb., tom. ii., ep. xlviii., § 46.

which will propel it directly into the aorta, in order to be carried into the extreme parts of the body. But the circulation being interrupted in the inferior part of that great trunk, prevents it passing readily to the lower extremities, therefore a larger quantity must necessarily pass into the aorta ascendens, and quickly return again into the lungs from whence it came. By these means, the circulation will be confined, as it were, to a lesser circuit, the capillary vessels of the lungs will be continually over-distended with blood, the circulation in them greatly impeded, and that organ always prepared to receive an inflammatory or putrescent diathesis, upon any supervening causes which may tend to bring on such a disposition. The violent circulation and heat produced by the labour-pains, together with the fever caused by the inflammation of the intestines and omentum, will, I imagine, very frequently be fully sufficient to effect this. Hence, probably, comes that easy transition which this disorder seems to make upon the lungs! The difficulty of breathing and the cough, the palpitation of the heart and the redness of the face after exercise, so common to pregnant women, support the former part of our argument; and the peripneumonic symptoms, so often accompanying the puerperal fever, sufficiently countenance the latter.

From what has been said we may conclude, that the degrees of this disease may be various, from the slightest to the most violent, according to the state of the bowels and omentum at the time of the attack. If they are very slightly affected, the disease, by a gentle treatment, may go off in a very little time. If more than slightly affected, then it will require a longer space and more efficacious methods. If still more affected, the danger will rise in proportion, and so on, till at length it may arrive at the most violent degree, especially when complicated with an inflammation of the lungs, and be in danger of proving fatal in a very short time! This is not mere surmise, for I think I dare venture to affirm, from my own experience, that there are all these states and degrees of the puerperal fever.

And hence, also, we may be able to give some reason why this disease is the most easy and the most difficult to cure, why its slightest degree is only a small remove from the state in which all women are after childbirth, and why its most violent degree is only a little remove from death: why all lying-in women have been, and ever will be, subject to this disease, because the causes that produce it are common to pregnant women at all times and in all climates: why the uterus is not, according to the generally-received opinion, the chief part injured; and why, on dissection, it was even found in a sound state:[1] why neither a suppression of the lochia, nor of the milk is the cause of this disorder, but mostly symptomatical: as,

[1] Instances of this kind are preserved in the Anatomical Museum of that accurate and ingenious anatomist, Mr. Henry Watson, of Rathbone place, Soho; whose valuable collection is always open for the general improvement of medical science.

also, why the puerperal fever is not an infectious disease, any more than the iliac passion, a pleurisy, a nephritis, or an inflammation in any other part of the body: why it may, in general, be easily cured, if taken at the beginning, and why a neglect of it must often prove fatal: why all testaceous powders, and astringents of every kind, given at the beginning, must frequently prove destructive; and why a compression by bandage upon the abdomen in this malady, or even after any delivery, is hurtful: why miliary, and other febrile eruptions, are not the necessary consequence of this disorder, but merely accidental.[1] From what has been proposed we may, likewise, learn why clysters and cathartics are so effectual in the cure of this distemper, and why all other methods should prove unsuccessful without them; why bleeding, therefore, may be only looked upon as a secondary help, though it should always be the first in point of time; why, in all fevers succeeding a state of pregnancy, an evacuation by the intestinal canal is the principal remedy; and lastly, why a thorough acquaintance with the nature, cause, and cure of the puerperal fever is a certain key to the knowledge and treatment of all fevers happening after delivery, whether under the name of milk-fever or any other.

Having pointed out the noxious effects of the primary and grand predisposing cause of this disease, the pressure of the gravid uterus, I will proceed to enumerate some other causes which have the same evil tendency. These happen either before or after delivery. The principal causes after delivery, which may be termed occasional, are too free a use of cordials and spices, an overheated air, an unhealthy state of the atmosphere, uneasiness of mind, a bad habit of body, an obstructed perspiration, but especially the neglect of keeping the belly gently open soon after childbirth; and, in a word, every possible accident which is capable of increasing the circulation of the blood. For the intestines and omentum, being prepared, as it were, by the preceding uterine compression, to receive any febrile commotion raised in the blood, will be ever ready to catch the flame, let the exciting causes be whatsoever they will: I only particularize the above as the most common and the most prevalent.

And as the puerperal fever hath a strong tendency to run quickly into a state of putrefaction, all causes during pregnancy which contribute to bring on a corruption of the blood and juices, will greatly conduce to this disease. Hence, breathing a moist or impure air, want of cleanliness, indolence, vexation, intemperance of every kind, great costiveness, hard labour or violent exercise, high-seasoned meats, too much animal food, are all very powerful predisposing causes. Pregnant women, therefore, should be very careful to avoid all these things as much as possible. Their diet should be plain and simple, with a due mixture of animal and vegetable substances. They should eat plentifully of fruit, and drink mild, cooling,

[1] On this head consult the judicious writings of the celebrated Professor Antonius de Haen, in his Ratio Medendi.

and acescent liquors. If this sort of diet be not sufficient to keep the body gently open, as costiveness is particularly to be avoided, they should take, now and then, a little cream of tartar, lenitive electuary, or magnesia. Their exercise should be regular, but always moderate; they should carefully guard against violent passions, and all anxious cares; and to avoid the bad effects of indolence, let them employ themselves in such domestic occupations as amuse the mind without fatiguing the body.

I will now endeavour to account for some of the morbid appearances which I observed in the dissection of those who died of this fever. The depraved liquors found in the cavity of the abdomen and pelvis, sprang, in all probability, from that volatile lymph which is continually perspiring through every pore of the abdominal viscera and peritoneum, and from the diseased parts of the intestines and omentum. The quantity of pus which was found mixed witb these vitiated fluids,[1] was probably the effects of the inflammation on the surface of the last-mentioned viscera; just in the same manner as we see pus frequently generated on the external parts of the body, in some inflammations of the eyes, for example, without any excoriation or loss of substance. This opinion seems to be confirmed by the sixth dissection, where a quantity of pus was seen actually adhering to the integuments which lay over the recently inflamed surface of the intestines.[2] This purulent discharge, as fast as it collected, would in general be washed away by the perspirable fluids steaming through the pores of the abdominal cavity, as well as by the general mass of liquors collected in the pelvis and abdomen, and would be found mixed therewith.

The great inflation of the stomach and intestines[3] might be owing partly to a paralytic weakness of their coats, from long pressure, so as to render them easily distended, but particularly to the air continually generating from the putrefaction of the excrementitious humours, causing irritation and spasmodic constrictions in various parts of the intestinal canal. As a proof of this last we find, where a profuse discharge by stool hath come on from the beginning, and continued through the whole course of the disease, so as to carry off this putrescent matter as fast as it was collected, that the intestines were not so distended with flatus, as happened in the subjects of the first and fourth dissection.

The slight adhesion of the intestines to each other[4] might be principally caused by the inflammation of their coats, assisted by pressure. The inflamed omentum, when it is not rumpled up, but lies smoothly over the surface of the intestinal canal, may likewise sometimes tend to bring about this effect. In the subject of the fourth dissection, where the omentum covered the whole surface of the intestines, it adhered closely, not only to the viscera below, but to the peritoneum above.[5] The greater or less degree of this adhesion

[1] Pages 73, 74, 75, 78.
[2] Page 77.
[3] Pages 73, 75, 77.
[4] Pages 72, 73, 75.
[5] Page 74.

may also depend pretty much upon the greater or less quantity of fluid collected in the abdomen, which by its interposition might hinder or dissolve such continuity. The dryness of the parts in the fourth subject of dissection was, as I apprehend, the chief cause of that general adhesion of the omentum to the whole compass of the abdomen which lay within its contact.

There is one circumstance, appearing on dissection, which at first seems almost unaccountable. I mean, how it comes to pass that the intestines and omentum, in the space of three or four days from the time of complaining, should receive so much injury. The subject of the third dissection complained only on the third day after delivery, and she died on the sixth, with the intestines greatly injured, and the omentum in a gangrenous state. It is difficult to imagine how the malady could make such a progress in so short a time. Yet this circumstance, strange as it is, strongly corroborates the opinion advanced above; namely, that the intestines and omentum become so chafed and irritated by the compression and friction of the gravid uterus during labour, as to be almost in a state of inflammation, in most women, at the time of delivery; and that very slender supervening causes, such as have been recited, will frequently reduce it to that state, and thus bring on the puerperal fever. Nay, I dare almost venture to go further and say, that it is not impossible, but very probable, that the omentum may sometimes be in a state of inflammation even before delivery, and the patient not be sensible of it. Suppose the uterus, for instance, should make a long-continued pressure upon one particular spot, at the lower part of the omentum, and all the rest be pretty free. Might not an inflammation take place, some days preceding delivery, upon that particular part only, and be some time before it spread so as to affect the whole omentum? Now, in such a case, I presume that the patient would not be immediately sensible of any pain, because of the insensibility of the omentum; that is, not till the inflammation had spread itself pretty nearly all over that organ, and reached the upper part, where the nerves become larger, and where it is connected with the other viscera. And if some slight pains should come on, either before or immediately after delivery, the patient might confound them with labour or after-pains, and pay no regard to them till the inflammation became general. In this case, as the disease advanced, a suppuration or gangrene, or both, would seize first upon the spot primarily affected, and from thence gradually advance upwards. The intestines, also, though actually inflamed, are not always attended with that degree of pain, fever, and other violent symptoms which are commonly expected. I have known a puerperal patient sit up in bed, eat heartily, and complain of very little pain in the abdomen, unless upon pressing it, yet the disease, in a few days, proved mortal, and I have found the intestines greatly inflamed. By these means the disease may, perhaps, now and then, make great progress before delivery, and either not be felt at all, or be mistaken for other

pains. Besides, the female sex being subject, from their peculiar make and nature, to a variety of changes and pains about the region of the abdomen, are more inured, as it were, to pain in general, and bear it much better, upon most occasions, than men. And this, also, may be one great reason why they often neglect the first symptoms of the puerperal fever, thinking, like many of their other complaints, they will cease of themselves.

From the insensibility, therefore, of the omentum, from the disease sometimes beginning at its lower part, and from the primary degrees of pain in the intestinal canal being mistaken for others of a different nature, I account for the seeming inconsistencies with respect to the time of complaining, and the great havoc which is found to be made upon the intestines and omentum so soon after the disease puts on its true appearance. Upon the same principles we may account for the distemper coming on either before or immediately after delivery; for the mortification which had particularly seized the lower part of the omentum, in the subjects of the second and fourth dissection,[1] as also for the sudden and imminent danger which, in some cases, must attend it. And lastly, from what has been said, the curious reader may likewise explain many other particulars, which will naturally occur to him in the perusal of the description, prognostics, dissections, and cure of this disease, but which would be too tedious to recount here. It is sufficient, for the present purpose, to have drawn the great outlines which lead to all the rest.

To conclude: we have seen, in the preceding chapter, that it is the general opinion of authors, from the time of Hippocrates to this day, that this disease principally arises either from a suppression of the lochia, an inflammation of the uterus, a retention of the milk, or from some other complaint peculiar to the uterus. My differing so widely in opinion, therefore, from the established sentiment of so many ages, may require some apology. All that I can offer in my defence is, that I have drawn my notion of the cause of this disease from a course of reasoning supported by dissections, and have grounded my theory upon a careful examination of all its symptoms. Appealing to the candour of the reader, I humbly submit the whole to stand or fall by the test of future observations; and lest I should have erred, I will now make the same excuse, and in the same words, as I have upon another occasion:[2] "Nunc propositum meum perfeci, et per totum opus, intrare tentavi in abdita quasi et penetralia morbi, quo facilius ejus latebras et recessus patefacerem, omnibusque exponerem; quod si recte peregi, mihi abunde est; sin minus, humanum est errare."

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[1] Pages 72, 74.

[2] In Libello de Scorbuto, p. 91.

OBSERVATIONS

ON

THE CHILDBED FEVER.

BY DR. LEAKE.[1]

INTRODUCTION.

If those diseases which have been found most dangerous and mortal in their effects ought principally to be considered by physicians, none will more deservedly claim their attention than the *Childbed Fever*, as there is not, perhaps, any malady to which the human body is subject where powerful remedies of every kind have been tried with more diligence and less success. But surely this circumstance, discouraging as it is, should not render them regardless of the event, but rather increase their solicitude for the patient's safety, and induce them to try new methods of cure, since those hitherto adopted have frequently failed.

Whilst I was preparing the following sheets for the press, Dr. Hulme published a treatise on the same subject, the 29th of February, 1772, where some points of doctrine being laid down as *new*, which I had repeatedly advanced, near three years before, in my public course of Lectures on Midwifery and the Diseases incident to Women, I cannot, without injustice to myself on this oocasion, omit the mention of the following circumstances, viz., that towards the end of the year 1769, and about the beginning of 1770, I attended several patients who laboured under the Childbed Fever, both in private practice and at the Westminster Lying-in Hospital, in consequence of being physician to that charity.

As I gave lectures on the theory and practice of midwifery, I thought it my duty to communicate whatever I knew on that subject to those gentlemen who did me the honour to attend as pupils; and, therefore, in consequence of such observations as the daily occurrences of different cases, and the frequent inspection of morbid bodies, afforded me at the hospital and elsewhere, I took the liberty to advance the following particulars, namely, that the omentum was

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[1] [Practical Observations on the Childbed Fever, &c. By John Leake, M.D., Member of the Royal College of Physicians, London, and Physician to the Westminster Lying-in Hospital. 1772.]

the part principally affected, either having generally found it almost totally consumed and melted down into a thick, curd-like pus, or partially suppurated and inflamed; and that this inflammation had often overspread the surface of the intestines. A large quantity of purulent whey-coloured fluid was also found in the cavity of the abdomen and pelvis, mixed with small clots of blood and curd-like matter.

I also laid it down as my opinion, that this fever was not occasioned by a translation or absorption of corrupted milk from the breasts, or from any obstruction of the putrid lochia; and also, that it was not owing to an inflammation of the uterus, or to any morbid affection of that organ, as generally believed and asserted by different authors; and, therefore, that it ought to be referred to other causes, as a disease of a peculiar nature, and distinct from all others. However, the conformity between that gentleman's writings and mine may be solely confined to the description of the characteristic symptoms of the disease, and its morbid appearances after death; in both which, as nature is generally uniform and consistent with herself, any two authors transcribing from the same original must necessarily agree; but in what relates to the causes and cure of the disease, so far from similarity of opinion, no doctrines can be found more opposite and dissimilar.

At the same time, I took occasion to mention an alteration of this article in my Syllabus of Lectures, having, in a former impression (with Hoffman), called it the Uterine Fever; but, being afterwards convinced there was nothing strictly uterine in that complaint, in the next impression, A.D. 1771, I gave it the name of the Acute Fever, peculiar to women after delivery.

I also, from experience, recommended early and copious bleeding, with the antiphlogistic method, in preference to everything else which I had seen tried in the cure; and as a confirmation of these facts, I appeal to the gentlemen whose names are subjoined, and who attended and took notes at the several public courses of my lectures given in the three succeeding years of 1770, 1771, and 1772, in which the several points of doctrine already mentioned were circumstantially and repeatedly laid down.

Being not a little solicitous for the recovery of the patients intrusted to my care, I spared no pains in giving my attendance by every possible opportunity, and also had the satisfaction of meeting Dr. James Ford, a gentleman deservedly eminent for his candour and skill, and one of the physicians of this hospital; but although we frequently consulted what was best to be done, and tried various methods and medicines for their relief, our best endeavours to that end often proved ineffectual.

It grieved me to find that so many women died of this destructive fever; but since there was reason to believe it was at first imperfectly understood, I still had hopes that, by time and observation, it might admit of more certainty in the cure, and become less formidable. I, therefore, made it a rule to commit to paper the

several symptoms and circumstances in the order they occurred, and also the daily and hourly changes which happened at different periods of the disease, as far as opportunity would allow me, either from my own attendance on the sick, or the information of the matron or nurses in my absence. I noted down their degree of violence and time of duration as exactly as possible, and also whether the patient became better or worse, in consequence of such particular symptoms as appeared from time to time.

These the reader may depend upon as so many facts or clinical minutes, which I collected as materials for a history of the disease; and as for the deductions or practical inferences arising from them, they are submitted to the judgment and candour of the medical reader as matter of opinion, to be confirmed or corrected, as they may be found to correspond with observation and future experience.

The great variety of opinions prevailing among speculative men, in what relates to the origin and cure of diseases, is a convincing proof of the fallibility of the human mind. The subject of physic is attended with so many difficulties, that we frequently deal in probable conjectures rather than certain truths; and this will always be the case in every science where so little can be decided by demonstration and actual experiment, and where the rest depends upon the caprice of our reasoning faculties, which are so insensibly perverted, and, as it were, led captive by the early prejudices of education, and the reigning customs of countries; that things thus seen through different mediums must necessarily strike our senses very differently, though in their own nature they are uniformly the same.

Respecting the most powerful remedies, as opium, mercury, and the bark, such is the opposition of sentiments concerning their use, that one would almost be tempted to conclude there was no true standard; no leading and unerring principles by which to determine either the effect of medicines or the nature and event of diseases.

The division of diseases into putrid and inflammatory, however simple and necessary it may appear, has been productive of much dissension and cavil among practitioners; but had they been less violent in contending about mere words, and more accurate in pointing out the true marks which constitute the difference in those two classes of diseases, they would have deserved better of the profession and the public.

With some almost every disorder is supposed to be of the putrid kind, and, therefore, cordials, the bark, and other antiseptics are directed as the sovereign remedies; and he that should venture to direct bleeding would run the risk of being called an executioner, rather than a physician. On the other hand, many in our own country, but especially in France and the warmer climates, look upon most diseases as inflammatory, and suppose that nothing is so requisite and effectual in their cure as bleeding, evacuations, and plentiful dilution; and the methods recommended by the former, in

the very same sort of cases, are deemed no better than rank poisons. Where men are thus enslaved by custom, or actuated by blind zeal, they often err in violent extremes, and assert their opinions with as much confidence as if there was not even a possibility of being mistaken; but, what is still worse, they sometimes reflect on one another in terms the most illiberal and unjustifiable, to the discredit of the profession and the injury of each other's reputation.

Which way are we to turn, where rocks lie on one side and quicksands on the other?

Nothing has been so great an obstacle to the improvement of science as the partiality or obsequious regard which men have been apt to pay to great authorities; for whilst they disregard the testimony of their own senses, and weakly or indolently assent to things as right on the credit of others, they are seldom at much trouble to examine whether they are really so or not; and errors early adopted are either reluctantly corrected, or at last take such a total possession of the mind, that they become habitual, and are retained ever after.

Much respect is certainly due to all such authors as have set down with candour and truth whatever they knew in the cure of diseases; but very often, instead of plain matter of fact, the reader is presented with such a medley of reality and fiction, partly from books, the author's imagination, and the disease itself, that when he has perused the whole, he is as much at a loss as ever how to proceed in practice.

Of late, indeed, medical writers have happily withdrawn themselves from the fairy-land of hypothesis and conjecture, and instead of deviating from the solid path of nature, as many of them had formerly done, are now principally guided by observation and practical experience.

Those who mean to get useful knowledge will therefore do well to take their information from the living body, by every opportunity of attending the sick; this will be going to the fountain-head, and reading, as it were, from the ample volume of nature itself, where the true state of the disease will more clearly unfold itself to the diligent observer, the effect of medicines will be better known, and the method of cure will from thence become more certain and consistent.

In the history of a disease, the several symptoms ought to be set down with simplicity and clearness, exactly as they present themselves, without any innovation, conjecture, or false colouring, which, having nothing to do with reality, would corrupt and adulterate the whole, and render it a mere recital of opinions and surmises, rather than a genuine description of the disease itself. A distinction should also be made between such symptoms as uniformly appear in the beginning, and are, as it were, the immediate offspring of the disease, and those which are only occasioned by the difference of constitution, age, climate, or errors in diet. The first ought to be considered

as the true and inseparable pathognomonic signs, which denote its nature and tendency, and from which the indication of cure is chiefly to be taken; the last only as accidental changes not so much to be regarded.

The state of the air, together with the patient's age and habit of body, should be mentioned; and the effect of medicines administered at different times, whether good or bad, should also be faithfully and candidly set down, and distinguished from the symptoms of the disease, or from simple efforts of nature, which, happily for the patient, are sometimes such as surmount every obstacle to a cure.

An accurate examination of the affected parts after death, by leading to the seat of the disease, also tends to perfect its history, and assist in throwing light on the cure; and this will always be most necessary in dangerous and uncommon cases, where powerful medicines have been tried in vain. By attending to those morbid appearances which have an intimate relation to such symptoms as were imperfectly understood, we proceed from effects to their causes, which could never be done with so much certainty by regarding the signs of the disease only. For instance, it did not appear obvious, from the symptoms of the childbed fever, that the omentum, rather than the uterus or intestines, was the part principally affected.

But although the opening of the bodies may afford much information, yet false inferences have often been made from them; for all such morbid appearances as there is reason to believe did not exist till long after the invasion of the disease, ought to be looked upon as so many consequences, and not the causes of it.

The seat of diseases is often apparent, though their causes are frequently too remote for the discovery of the most acute and accurate observer. But notwithstanding many changes are produced in the living body, for which no adequate or satisfactory reason can be assigned, yet there are some certain appearances which almost uniformly succeed one another. For instance, pain, from whatever cause it may arise, if violent, will produce spasm, fever, and inflammation; and these are often followed by some critical evacuation, which is salutary; or where that is wanting, by an abscess or gangrene, which falling on the vital parts, will render the disease incurable. This has often been the case in the childbed fever, and, therefore, such an unfavourable termination ought, if possible, to be prevented by evacuations, and the administration of such medicines as tend to carry off the cause of the disease by some of the natural secretions.

Sydenham has observed, that the fever which follows a suppression of the lochia, sometimes changed its type to that which prevailed in the epidemical season.

That women, after delivery, are more disposed to fever at one time than another, according to the constitution of the air, cannot be doubted, considering its great influence on valetudinary habits, and on diseases in general; but particularly the smallpox, epidemical

dysentery, and ulcerated sore throat, which not only become more frequent, but also more fatal, as the air changes from a healthy to a malignant state.

The great plague in London, A.D. 1636, which lasted twelve years, was more or less fatal at different periods, viz., in eight years, one with another, 2,000 people died yearly, and never less than 800 in one year, which shows that the contagion and its mortal effects depended as much upon the state of the air as on the disease itself. This circumstance is still more clearly proved by the great disproportion of deaths in different weeks: the number in one week increasing from 118 to 927 in the next; and in another, decreasing from 993 to 258; and from that number then again increasing, in the very next week, to 852.[1]

How diseases are produced or influenced by the obvious qualities of the air it is difficult to determine, notwithstanding all that has been said on the effects of heat and cold, moisture and dryness, or the winds blowing from particular quarters at certain seasons with different degrees of violence; seeing that very sudden changes of the weather, from one extreme to another, do frequently happen, without producing any diseases of the malignant or epidemical kind. In like manner, a defect in the natural secretions, the violent passions of the mind, or errors in diet, do at one time occasion a fever, and not at another; which evidently shows, that the first cause of diseases, whatever it is, acts more or less powerfully, as the natural temperament of the body concurs to increase or diminish its effects.

In the year 1746, during the winter season, a disease of the epidemical kind was observed to prevail with great violence among lying-in women.[2] It began with a diarrhœa, followed by pains in the abdomen; the lochia did not appear at their due time, and the belly became hard, tense, and painful; the head was also affected with pain, and sometimes a cough attended. About the third or fourth day after delivery, the breasts, which usually about that time were filled with milk, became flaccid, and about the fifth or seventh day the patient frequently died.

Poor women delivered in hospitals were observed most subject to this disease, and in the month of February it became so extremely dangerous and epidemical, that scarcely one in twenty escaped it.

When the bodies of the deceased were opened, we are told that coagulum lactis was found adhering to the exterior surface of the intestines, and serum lacteum contained in the abdomen. In some, the same kind of fluid was collected in the cavity of the breast. The stomach, intestines, and uterus, had undergone inflammation; and in many, the ovaria appeared diseased and suppurated.

The disease here mentioned seems to have been occasioned by a morbid affection of the uterus, and therefore may be considered as very different from that hereafter to be described.

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[1] Vide Grant on the Bills of Mortality.

[2] Acad. des Sciences, l'an 1746, in 4to, Mém., p. 160.

If the deaths of childbed women depended upon the same causes as those which proved mortal in the smallpox, dysentery, and reigning fevers of the season, as there was great reason to suppose, this circumstance could never have been so truly known as by examining the bills of mortality, and remarking how far the deaths under the article Childbed kept pace with those arising from the above diseases. But these bills are regulated with so little care and exactness, either in respect to the diseases themselves or the numbers said to die of them, that it would from thence be extremely difficult to determine this matter in a satisfactory manner. The yearly bills would by no means be sufficient to do it, because, although a greater than usual number might die in the epidemical season, yet in the subsequent months which make up the year, and which generally prove more healthy, the proportion of deaths might chance to be less, which, upon the whole, taking one year with another, would occasion but very little difference. I therefore regularly procured the weekly bills of mortality, during the whole time of the childbed fever, in order to ascertain this matter more exactly.

In the months of January, February, and beginning of March, the disease prevailed with uncommon violence, and was evidently epidemical in different parts of the town; although, on comparing the number of deaths occasioned by it with those arising from the epidemics of the season, I did not find that correspondence which at first I expected. However, the great difference in the number of women who died in the year 1770, compared with that of the preceding year, 1769, or the subsequent year, 1771, sufficiently and clearly proves that this fever was epidemical in the first. The number of deaths in the yearly bills of mortality for the cities of London and Westminster, under this article, were as follows: From December the 13th, 1768, to December the 12th, 1769, died in childbed 185; from December the 12th, 1769, to December the 11th, 1770, died 270; and from December the 11th, 1770, to December the 10th, 1771, died 172. So that in the year 1770, compared with the other two, the number of deaths was very near a third part more; and as this increase of number did not happen uniformly throughout the year, but was chiefly brought about in that half of it which commenced with December and ended with May, it is still more evident that it could arise from no other cause than a malignant constitution of the air.

But although it was proper and necessary to mention the bills of mortality as a standard to which the reader might be referred, if I might be allowed to form a conjecture of the mortality of this disease by what occurred to me, as well as several others of the profession with whom I frequently conversed on this subject, I should have no doubt but, at least, half as many more women died of it as those mentioned in the bills of mortality, which, instead of being set down under the article Childbed Fever, were indiscriminately placed to the account of flux, pleurisy, or some other disorder.

It is a public misfortune that those bills still continue to be kept in such a manner as to defeat their original intention, and to render all calculation in this matter vague and indeterminate.

Some years ago an application was made to parliament by the company of parish clerks, setting forth the necessity of keeping an exact register of births, burials, and marriages in all the parishes throughout England, instead of the present one, including christenings and burials only, as confined to the parishes within the bills of mortality for the cities of London and Westminster. Had this application been duly attended to, and supported by parliament, many great and obvious advantages would have been the consequences of it; for the healthy or unhealthy state of the air, at certain times and places, might from thence have been more exactly ascertained, as well as the increase of population, in which the strength of every nation consists.

SECTION I.

THE HISTORY OF THE CHILDBED FEVER, DEDUCED FROM THE SYMPTOMS OF THAT DISEASE TAKEN FROM THE LIVING BODY, AND FROM AN EXAMINATION OF ITS MORBID APPEARANCES AFTER DEATH; TOGETHER WITH ITS NATURE AND CAUSES, AS RESULTING FROM THE PRECEDING HISTORY.

As it appears that women, after delivery, are more subject to fevers during a distemperature of the air, I have, previous to the history of the disease, subjoined a short account of the weather, with a view to show how far the symptoms might be increased or abated by its influence, during those months in which it was found most epidemical.

Air is so essential to the existence of all animals, that the want of it only for a few minutes is destructive of life. It not only acts constantly on the surface of their bodies by its pressure, but is also continually taken into the lungs by respiration; and, therefore, it is no wonder the health should be so variously affected by it, as its qualities are changed and become more or less salutary. The diseases which are endemial in particular countries depend principally upon this circumstance; but human bodies being also often affected by intemperance and the passions of the mind, those acute distempers which sometimes rage for a time with uncommon violence among brute animals living in the open fields, and in a state of nature, are more evident proofs of its powerful influence. The first shows that the atmosphere of particular places is at all times more or less unwholesome; the last, that the atmosphere, in general, may become so for a time, from a variety of natural causes, which notwithstanding

are so obscure, that they would scarcely be known to exist, was it not for their effects.[1]

A short account of the Weather, from October, 1769, *to the end of May*, 1770.

The month of October commenced with fine clear weather, the wind, in moderate breezes, being chiefly at N.N.E. From the 5th to the 8th it was bleak and cold, with some rain. From the 9th to the 13th the days were clear and frosty, with foggy nights and mornings, the wind being first westerly, and afterwards shifting from west to east, and then to E.N.E. From thence to the 25th, moist and mild weather, the wind being variable; a day or two of frost then succeeded, and the month ended with mizzling rain and mild weather.

November began with mild weather, and some smart showers; till the 8th it was warm, moist, and gloomy, the wind being chiefly at S.S.W.; the remainder of the month was extremely variable, the nights being frosty, and the days sometimes clear and bright, and at other times overcast with clouds, attended with mizzling rain, the wind shifting to all points of the compass, but chiefly to W.S.W.

December commenced with frosty clear days and foggy nights, the wind being variable; to the 8th the weather in general was clear, but sometimes foggy, with mizzling rain, the wind being then chiefly at S. and E.S.E., with continual transitions from one extreme to another, viz. from a clear, frosty air to cloudy, damp weather with mizzling rain; and towards the end, frost, with sleet and snow; the wind to the 22d being mostly at W. and S.S.W., and afterwards it blew from the N. to the N.N.W.

January began with moist weather, and a thick atmosphere till the 4th, on which day there was a fall of snow, the wind being chiefly at W.N.W. and N.N.W.; to the 11th, smart frosty weather, with large quantities of snow, the wind at N.N.E. and N.N.W. From thence to the 17th it was fair and rainy, bright and foggy by turns; on the 18th a cold frost began, with a large fall of snow, the wind at N.E.; from thence to the 28th, mild, but variable, the wind being chiefly at S. or W.S.W., with moist, gloomy weather, which concluded the month.

February began with fine weather, which continued to the 6th, the wind chiefly at S.W.; from thence to the 8th, showers of rain and snow, with a frost, and the wind at N. To the 17th, changeable, moist weather, the winds chiefly at S. or S.W. On the 18th, alternate showers of hail, snow, and rain; from thence to the 22d variable; to the 25th, cold and bleak, with frost and some snow, the wind being stationary at N.N.E.; to the end, the weather was cold, moist, and cloudy, and the wind chiefly at S.W. and S.

[1] Here it is only a tribute due to merit, to apprize the reader of many curious and interesting discoveries on the properties of different kinds of air, lately published by the ingenious Dr. Priestley.

March commenced with moist, hazy weather, and a mild temperature of the air, with gleams of sunshine, which continued to the 7th, the wind continually shifting. To the 14th it was cold and gloomy, with considerable quantities of rain, the wind chiefly at N.E.; from thence to the 29th, sharp frost, with severe cold winds, and alternately large falls of snow and showers of sleet and hail, the wind chiefly at E.N.E. This month ended with a thaw and some rain, the wind then blowing from the south.

April began with rainy weather, and heavy showers of hail and sleet, the wind chiefly at W. and W.S.W; from the 8th to the 14th, cold, bleak, wet weather, with more snow and hail, the wind being stationary at N.N.E.: from thence to the 20th, fine weather, but showery, the wind at W. and W.S.W. This month concluded with severe wet weather.

May commenced with excessive cold, rainy weather, and frequent showers of snow and hail, the wind at N.N.E. and N.N.W. From the 4th to the 8th it changed to the S. and W.S.W., with cold, heavy rains; from thence to the 16th the weather, in general, was fine, with some thunder-showers; to the 25th, cold, unsettled weather; and towards the end of the month it was moist and hazy, the wind being at E.N.E.

Hippocrates observes, that a mild rainy winter, succeeded by northerly winds in the spring, was dangerous to pregnant women.[1] Agreeable to this observation, in the winter months, when the childbed fever began, the weather was observed to be remarkably mild and moist, with a warmer temperature of the air than was natural to the season; and this was succeeded by cold, bleak winds in the spring, which were very unfriendly both to animals and vegetables.

About the 14th of March, 1770, a sharp frost commenced, with large falls of snow, and alternate showers of sleet and hail, the wind being at north-east. This weather, which was uncommonly severe, lasted till near the end of the month, at which the malignant force of the childbed fever seemed to abate; for although several women were affected with it at the hospital soon after that time, only two of them died, namely, Ann Simms, who was seized with it before the frost began, and Ann Deuse, who died the 29th of the same month, just at the commencement of the thaw. The attack of the cold fit was less violent, and the subsequent febrile symptoms much more mild and favorable. The pulse was neither so quick or weak, nor was the sickness and vomiting so great; and instead of being followed, as usual, with pains in the bowels and griping, bilious stools, the diarrhœa was moderate; the pulse rose in strength, and a warm sweat broke out all over the body. Besides, the secretion of milk was seldom interrupted, but continued plentiful, which, in general, may be looked upon as a favorable sign, at least it shows

[1] De Aëre, Locis, et Aquis.

that the violence of the disease in such cases is not so great as to take it away.

The history of a disease will always be most perfect where so little has been done by art, that the operations of nature remain free and undisturbed. I shall, therefore, describe this acute fever peculiar to women after delivery, as it appeared when only assisted by medicines of the simplest kind.

Whenever the quickness of the pulse, brought on by the efforts of labour, does not afterwards soon go off, it denotes something amiss in the habit, tending to kindle up a fever, which will always be found more dangerous the sooner it invades the patient.

The childbed fever generally commenced about the evening of the second or beginning of the third day after delivery, with a rigor or shivering fit. Sometimes it came on sooner, and at other times, though rarely, it has been known to appear as late as the fifth or sixth day.

In many women the attack was sudden, without any apparent cause or preceding indisposition, and soon followed by headache, restlessness, great sickness of the stomach, and bilious vomitings.

Some had a bitter taste in the mouth; a nausea and universal langour; the countenance at first was pale, and often much altered, with a lifeless, dim state of the eyes, and an indolent pain over their orbits. These symptoms would sometimes foretell the approach of the disease, even before any coldness or shivering was perceived; but upon the whole, they may be considered as anomalous, for, in general, the shivering proceeded, and, allowing for the difference of age and habit of body, there are perhaps few diseases where the signs more regularly succeed each other, or where the morbid appearances after death were found more exactly the same.

Now and then, this fever seemed to be brought on by catching cold, or errors in diet, but much oftener by anxiety of mind; and, therefore, women of delicate constitutions, who are very susceptible and continually agitated by hopes and fears, are, of all others, the most subject to it, and recover with the greatest difficulty; consequently unmarried women, for obvious reasons, were very apt to be seized with it.

The degree of the cold fit was very different in different women: in some it would last near an hour, and was so intensely violent as to shake the body like an ague; others were only affected with a kind of thrilling sensation, or temporary chillness on the skin; which soon went off, and returned by irregular periods.

When the fit lasted long and was violent, I observed great anxiety and oppression at the breast, attended with a laborious respiration, but without pain; the patient was often affected with deep sighing, and complained of great weight at the heart.

In those who were young and of a strong habit, although the rigor was violent, its duration was sometimes short; and when the pulse rose in strength and fulness, and also became less frequent, it was

succeeded by a better state of the countenance, and the oppression was soon removed from the præcordia, although no eruption appeared on the breast or body, as I at first expected, till experience taught me otherwise.

In such cases, which unfortunately occurred but seldom, a universal glow was diffused over the whole surface of the body; the skin began to look more florid, and a free perspiration came on with manifest relief, although it was not always lasting.

On the contrary, those who were slightly attacked in the beginning, often had a return of the febrile accession, and were alternately hot and cold throughout the day, especially if the pulse did not rise, but continued quick and weak. In such, the fever did not seem to run high, the tongue being very little altered from its natural state, nay, sometimes it was even moist and soft, and the thirst very inconsiderable; yet, in the end, they did not escape much better than others where it was more violent.

Those of lax fibres, and of an irritable, hysterical habit, were oftenest thus affected, or where the constitution was much weakened by anxiety of mind, or a preceding bad state of health.

Sometimes the thirst was great, though the tongue had generally a better appearance in the beginning than is common in other fevers, for it was seldom black or very foul; but, as the disease advanced, became white and dry, with an increase of thirst, and at last was harsh and of a brownish colour towards the root, where it was coated with inspissated, yellowish mucus.

That perspiration which proved salutary overspread the whole body, attended with a moisture of the tongue and fauces, and also with an abatement of the thirst, sickness, and headache; but, on the contrary, where the sweats were confined to the breast, neck, and face, though they often continued to the last, I never could observe the least mitigation of the symptoms, such partial sweats being the very effect of weakness and febrile anxiety, and not owing to any critical effort of nature.

So great and sudden was the loss of strength, that very few of the patients were able to turn in bed without assistance, even so early as the first or second day after the attack; and most of them continued helpless throughout the whole progress of the disease.

In the cold fit the pulse was quick and small, and the pulsations so feeble and indistinct, that sometimes I was hardly able to number them exactly. When the hot fit came on, though it was then more full and distinct, it still remained quick, but was seldom hard or strong, except in a few instances, where the patient was young and plethoric. In general, it would beat from 90 to 137 strokes in a minute, varying by turns, in strength and frequency, from the lowest to the highest of these numbers, and *vice versâ*, in proportion to the strength or weakness of the habit and violence of the attack. An excess or defect of the natural secretions, the state of the mind, with many other accidental causes, will be found to produce great alteration in the pulse, both in respect to its strength and quickness.

The sympathy between the head and stomach is so great, that it is sometimes difficult to distinguish which of them is first affected; but in this disease the headache generally preceded the sickness at stomach. Where the last was great, the patient vomited spontaneously; otherwise the nausea continued till a purging began, and then usually ceased. The last was always most violent when nothing had previously been rejected by vomit.

It is here necessary to distinguish this febrile headache from that which very commonly happens at the coming of the milk, when the body is costive; the first may be relieved by a gentle emetic, the last may be effectually taken away by a cathartic clyster and laxatives.

The first attack of this fever is sometimes so violent, that, in many respects, it resembles the cholera morbus; for the pain, sickness, and burning heat in the stomach and bowels are almost the same, and the bile, in great profusion, is discharged upwards and downwards, though in the first the pulse is more quick and weak.

The fluid rejected by the stomach was yellow and ropy, and seemed to be a mixture of bile with a large quantity of gastric mucus. Sometimes it was green and porraceous; but when the vomiting continued till the advanced state of the disease, or returned towards the end, it was then watery and of a blackish colour.

The sickness at stomach was always much relieved by the vomiting; but when that abated, a violent purging came on, with severe gripings and pain in the bowels.

The vomiting attending this fever should always be distinguished from that which often accompanies a quick labour, from the violent efforts of the uterus. The last is not bilious, and soon goes off after delivery, without any bad consequences, or subsequent fever.

At the beginning of the diarrhœa the stools were yellow, frothy, and mixed with mucus. Sometimes they were greenish; but towards the end of the disease, at which time they often became involuntary, they were blackish, fetid, and more dilute, resembling the colour of moss-water.

I never saw this fever appear with any degree of violence but it was always attended with an obstinate diarrhœa; many of the patients had eight or ten evacuations in six or eight hours, which were followed by short intervals of ease; but neither the quickness of the pulse, the thirst, nor any of the febrile symptoms, were in the least abated by the discharge, although it was so frequent and profuse.

In short, the diarrhœa was evidently symtomatic, and only procured a respite from the pain by evacuating the offending bile. It depended so very much upon the fever, that whenever it obstinately continued, the diarrhœa remained unconquerable; and even although that seemed to abate for a time, as in the case of Juliana Thompson, it often came on again with violence, and so continued till the patient's death, whenever there was a return of the febrile accession.

Here the diarrhœa seemed plainly to arise from the effect of the

fever, which increases the irritability of all the abdominal viscera, and renders them more liable to pain and inflammation. The immoderate secretion of bile was also manifestly the effect, and not the cause, of the fever, which, by its acrimony and redundance, increased the purging, by stimulating the intestines to expel their contents. On the contrary, when the pulse abated in frequency, and the inflammatory symptoms subsided, the purging was proportionally less; and even when it continued longer than usual, it was not then attended with the same loss of strength, but appeared simply colliquative.

About the second day after the cold fit they complained much of pain at the pit of the stomach, darting down towards the navel, and sometimes from thence to the short ribs and sides. Now and then, as the disease advanced, some of them had an acute pain under the shoulder-blade, which struck obliquely downwards and forwards, from the thorax to the stomach. These pains were always most violent and intolerable during inspiration, which became interrupted and desultory, or, in these other words, they breathed with difficulty, and, as it were, by jerks. Some had a cough, which generally was most troublesome in the decline of the disease.

In several, the belly began to swell about the third or fourth day from the commencement of the fever, and became extremely tense and prominent, as in the case of Juliana Thompson and Margaret Walker, both of whom died. Whenever this swelling came on whilst the purging continued, and especially if it closely followed the pain, extending from the stomach to the navel, as far as I had an opportunity to observe, it was always a mortal sign, for not one of them recovered who were thus affected.

This morbid enlargement and tension of the abdomen supervening the pain at the umbilical region, should be distinguished from that accidental swelling of the belly, from the confinement of air in the intestines, which sometimes happens by a sudden cessation of the purging, and which will soon go off, without danger, by the use of laxative medicines.

About this period of the disease the patient had a wild, distressed, eager countenance, and a trembling hand; a local, crimson colour appeared in her cheeks, her lips were of a livid hue, and her nostrils tense and expanded. When these symptoms prevailed with violence, neither art nor nature were sufficient to procure relief.

The lochia, from first to last, were not obstructed nor deficient in quantity, neither did the quality of this discharge seem to be in the least altered from its natural state, a presumption that the uterus was not at all affected. Of this circumstance I was convinced, by making considerable pressure above the pubes with my hand, which did not occasion pain; but when the same degree of pressure was applied higher, between the stomach and umbilical region, it became intolerable.

Hence, it appears that the uterus is not originally affected, so as to produce this fever, neither does it usually suffer by sympathy, in

proportion with the other parts, as will be more evidently shown hereafter.

The secretion of milk was generally interrupted by the attack of the cold fit, and sometimes it was almost taken away; at other times it continued in a moderate degree for several days after, even till within a short time of the patient's death.

A slight chillness usually precedes the coming of the milk, which is often mistaken for that morbid shivering with which this fever commences; but with a little care it will not be difficult to distinguish the one from the other, for the first happens before the milk is collected, and is usually followed by a plentiful flow of it; but the last generally comes on after a secretion of that fluid is begun, which not unfrequently afterwards carries it off. From mistakes of this kind, I have sometimes been called in where there was no occasion; for when the disease was rife, and many died, the least appearance of it was very alarming to childbed women and those about them. Indeed, when a slight degree of this morbid shivering comes on exactly at the time of the milk-fever, a very good judge might then be mistaken; but a due attention to the nature and violence of the symptoms which speedily follow will soon set him right.

Now and then, there was a little difficulty in making water, but this was merely an accidental symptom, and not peculiar to the disease; for it often happens after laborious cases, where the neck of the bladder is slightly injured.

The urine was smaller in quantity than usual; when cold, it was generally reddish and high coloured at the beginning of the disease, and often without the least separation or sediment; but as it advanced, there was sometimes a whitish cloud in it, which floated near the surface, and when more crude and dense, sunk towards the bottom. It was also, now and then, of a whey colour, with a whitish, oily pellicle on the top; and when it deposited a sediment, it was generally chalky, and not lateritious. But the appearance of the urine was continually varying, and afforded very little information in the cure; for in some of those where there was even a copious sediment, though the bark was immediately liberally administered, the fever returned, and the patient died.

They had but very little appetite for food, and no profound, natural rest, their slumbers being disturbed by frequent moaning and startings, and when they waked, they seemed confused and not in the least refreshed; they generally slept with the mouth half open, and their eyes were imperfectly closed.

A perfect crisis seldom ever happened in this fever; it takes so severe a hold of the constitution at its first onset, that the vital powers languish, and are unable to produce that salutary event. Indeed, the suppuration of the omentum may be looked upon as a critical abscess, though of the unfavourable kind; for it seems to be an unsuccessful endeavour of nature to free herself from the morbid cause; but, wanting sufficient strength to throw it to the surface

of the body, it falls upon the interior parts, essential to life, and, therefore, unavoidably becomes mortal.

Sometimes there was a manifest remission of the symptoms; but where that was not attended with a universal sweat, or copious discharge of turbid urine, it was seldom lasting; in short, when the secretions are only partially promoted, the crisis is imperfect, and the patient is subject to a relapse.

Some of those who survived recovered very slowly, and were affected with wandering pains and a paralytic numbness of the limbs, like that of the chronic rheumatism. Some had critical abscesses in the muscular parts of the body, which were a long time in coming to suppuration, and when broke, discharged a sanious ichor, as in the case of Elizabeth Walters. Others were affected by a slow remitting fever, with great loss of strength and dejection of spirits; and several were so helpless and enervated, that they had involuntary stools for a considerable time after the dangerous symptoms were over.

When the disease proved mortal, the patient generally died on the tenth or eleventh day from the first attack. The longest I have known any one survive was Juliana Thompson, who lived fifteen days; and the shortest time of being cut off was in the case of Harriet Trueman, who lived only five days. Most of them had the clear and distinct use of their senses to the last, and generally expired calmly, without any apparent agony or convulsive struggle.

As they became more and more exhausted, and within a few hours of death, the pulse, which was exceedingly quick, and almost imperceptibly weak, at last was insensibly lost in a tremulous flutter.

Many authors, particularly the celebrated Baron Van Swieten and Levret, have supposed that this fever was occasioned by metastasis, or a morbid translation of the corrupted milk, or putrid obstructed lochia, to the brain, or to the contents of the thorax and abdomen, which there produced such diseases as were peculiar to those parts, viz.: headache, vertigo, and delirium in the first, and in the two last, inflammation of the lungs or pleura; nausea and vomitings at the stomach, with a diarrhœa and pain in the bowels. Others again, with Hoffman, imagine that it arises chiefly from an inflammation of the uterus.

These have generally been assented to, as the most probable causes hitherto assigned; yet it will appear, from the following observations, that they are very exceptionable and inadequate, and not consistent with the true nature of the disease.

To quote a multitude of authors for no other reason but that of showing their errors, would not only be useless but invidious. I shall, therefore, only consider the doctrine of those respectable modern writers already mentioned, and the more particularly as their opinions, at this time, principally prevail, and have, in a manner, superseded all the rest.

That the several circumstances which are supposed to relate to the cause of this disease may become more apparrent, it will be necessary to consider when and in what manner the milk is strained off in the breasts, and what are its qualities when pure or vitiated; and also to attend to the nature of the lochial discharge.

About the third day after delivery the patient is restless, and complains of a cold thrilling sensation towards the back and loins, succeeded by a feverish heat; the face becomes florid, the pulse more full and frequent, and at last the breasts begin to throb and enlarge, by what is usually called the coming of the milk. This slight commotion, or milk-fever, which seems to arise from a change in the circulation, is generally terminated in the space of twenty-four hours, by a warm critical sweat, or if the milk is suddenly repelled, by a diarrhœa, in consequence of which the febrile symptoms gradually go off.

Van Swieten supposes that this fever is also partly owing to an absorption of the lochia, which about this time becomes purulent.

Where milk thus secreted is not vitiated by a feverish heat of the body, or corrupted by remaining too long in the breasts, it may be absorbed and taken into the blood without any bad consequence; for milk being nothing but chyle, exalted and rendered finer by passing through the glands of the breasts, and being the proper nourishment of all animals, it will easily mix with and be assimilated into blood; and since every woman after delivery cannot suckle her child, nature has so formed the lactiferous organs as to dispose of the milk in this manner, when pure, without injury to the constitution.

If ever, therefore, the childbed fever is occasioned by a reflux of milk, that can only happen after it has been deprived of its balsamic quality, by too great a degree of animal heat, or by stagnating too long in its vessels; whereas this disease is sometimes so suddenly produced, and attended with such remarkable and instantaneous loss of strength, as appears by a history of the symptoms, that there is great reason to believe its first impression is made upon the nerves or vital powers of the body, and that there is neither sufficient time for the secretion of milk, or for any morbid change of that fluid.

Levret observes, that this translation of milky matter usually happens about a fortnight after the disappearance of the milk;[1] and Van Swieten asserts, that experience confirms this observation.[2] But could it only be satisfactorily proved, that such a translation of vitiated milk never happened earlier than the time above mentioned, it would then sufficiently refute the opinion of those who suppose it the principal cause of the disease in question, since, I believe, no instance can be produced where it came on so late as the fourteenth day; for, notwithstanding what Hippocrates mentions concerning the wife of Philinus, who was seized with a rigor on the fourteenth day after delivery, followed with an obstruction of the lochia, her

[1] L'Art des Accouch., p. 150.

[2] Van Swieten, Commentar. in Her. Boerhaav. Aphor., vol. iv., p. 610.

case does not appear to have been truly similar to that under consideration, a rigour being common to other fevers as well as that peculiar to childbed women, and the lochia not being obstructed in this disease.

It cannot be doubted but the milk may become depraved by various causes. Eating or drinking things which are improper, exposing the body to cold air, the excesses of anger or fear, will often disturb the secretion of this fluid, and occasion it to stagnate too long in the breasts; hence, its natural qualities may be changed, so as to render it pernicious; and, consequently, if it should be reassumed in the mass of blood in this vitiated state, it will disorder the body, and create a fever, which, however, in general, is soon carried off by some critical evacuation, as a diarrhœa or a miliary eruption; but if it is too long retained in the lactiferous ducts, it much oftener brings on an abscess of the breast itself. Such a fever, therefore, is very essentially different from that under consideration; the first being infinitely more mild in its symptoms, and, for the most part, void of danger, for I never yet knew one die in consequence of it.

Levret also has observed, that where the milk suddenly disappeared at the beginning of the disease, and afterwards soon returned, the patient was relieved. But whenever this circumstance happens with a mitigation of the symptoms, there is reason to believe it is owing to a cessation of the febrile cause, which no longer interrupts the secretion of that fluid, and which, therefore, will naturally return.

When the breasts subside, and the milk gradually goes off, or is suddenly repelled in those who do not intend to suckle, the lochial discharge may be observed to increase, and become more fresh and sanguineous, and also continues for a longer time than in those who do. It, therefore, appears, that at this time a plethora prevails in the constitution, which may fall upon the interior vessels, when the milk does not freely pass through the glands of the breasts; or even should no milk be strained off, the want of it will dispose the habit to a plethoric state. For this reason, women who do not suckle are visited with a return of the menses, even sometimes so early as in the fifth week after delivery; whereas in those who give suck, they are naturally wanting for several months.

Hence, also, it is manifest, that the female organs, after a certain age, are so disposed as to prepare a larger quantity of blood than is necessary for the support and nourishment of the body, which, in the time of uterine gestation, is consumed by the fœtus, and after delivery, by the child at the breast; but that this redundant quantity might not incommode the constitution during the time she is not pregnant, provident nature has ordered it off by the vessels of the uterus, once every month.

The milk, indeed, is not supposed to be strained from the blood; but as the separation of that fluid deprives the woman's body of so much chyle, which would otherwise be converted into blood, the consequence, in respect to her general habit, or the fulness of the vessels, will be exactly the same.

Presuming, therefore, that suckling after delivery would lessen the tendency to inflammation and fever, by diminishing the fulness of the uterine vessels, as well as those of the contiguous viscera, an order, which had formerly been made by the governors of the Westminster Lying-in Hospital at my request, that every patient during her stay in the house should suckle her child, was at this time more particularly insisted upon; for if the disease was occasioned by a translation of milk to the interior parts, it would then follow, that women who had plenty of that fluid, and in whom it was freely discharged by suckling, would, of all others, be the least subject to it; but even this caution was insufficient to secure them from the fever, for many, who had plenty of milk and suckled their children, were also invaded by it.

But to come to practical facts. In many women there was a plentiful secretion of milk, which continued till the fever was considerably advanced, and sometimes it lasted till within a day or two of their death; in some few, where the milk was either small in quantity or totally deficient, no such fever appeared, and in those cases where it did, it generally came on before there was any want of milk, which, therefore, was evidently the effect and not the cause of the disease.

Besides, if this fever was owing to a translation of milk from the breasts, it would also frequently happen to women who wean their children at the end of seven or eight months, which is contrary to experience. The case mentioned by Van Swieten, of such a morbid absorption of that fluid, in a woman a whole year after delivery, in whose pelvis a milky matter was found, only proves what possibly may, and not what usually happens.

Indeed, from the most careful examination of the morbid appearances, in the several bodies which were opened, I have the greatest reason to believe, that what has usually been taken for coagulated milk, lying on the surface of the intestines, is nothing but pure matter, owing to the suppuration of the omentum, and, therefore, of a peculiar kind, having a more white, thick, and curd-like appearance than that of common matter. As to what is called serum lactis, it seems to be only a purulent, whey-coloured fluid, collected in the cavity of the abdomen, by a morbid transudation from the inflamed viscera, or lymph become putrid by stagnating too long there, from a defect in the absorbing power of the lymphatic vessels.[1]

The next principal cause assigned for the production of this fever is an obstruction of the lochia, and a morbid translation of that putrid fluid to the internal parts.

A due attention to the nature of that discharge from the uterus

[1] [I think, as a general rule, it will be found that, in severe cases of puerperal fever, the secretion of milk will be prevented if the attack commence early, and arrested and finally suppressed if it begin at a later period. I need not say that all pathologists of the present day reject the notion of the fever being caused by a metastasis of the milk, just as much as they do the old fancy, that collections of matter in the pelvis were "milk abscesses," "dépôts laiteux."—Ed.]

called lochia, which is the natural consequence of delivery, will be most likely to discover whether it can have any share in producing this fever or not.

As soon as a child is born, the placenta, which, during pregnancy, served as a medium of intercourse between the mother and child, then becomes a lifeless mass, without circulation or further use, and, therefore, is soon afterwards expelled by the gradual contraction of the uterus. As the separation of this vascular cake from the womb is observed to be more easy at the end of nine months than in those cases where the birth is premature, this animal process may with reason be supposed analogous to the dropping off of ripe fruit from a tree.

The lochia, therefore, is nothing more than a simple discharge from all those vessels which are torn asunder by the separation of the placenta from the uterus, and does not naturally partake of a sanious or malignant quality, as generally supposed; for all the circumstances attending it exactly correspond with what is observed to happen after receiving a fresh wound in any part of the body; consequently, pure blood will first escape from those ruptured vessels, and afterwards a more dilute and colourless fluid, like the serum. About the third or fourth day the discharge generally becomes slightly purulent, and as the uterus contracts, and returns to its unimpregnated state, the orifices of the several vessels are gradually closed, and the lochia then totally cease.[1]

The accurate and ingenious Dr. Hunter, by whose nice and indefatigable researches anatomical knowledge has been so much improved, was the first who discovered that the exterior membrane of the bag, containing the child, called false chorion, is derived from the uterus; and as it peels off from thence like a kind of exuviæ or slough, at each succeeding birth, he gives it the name of membrana decidua.

By means of the lochial discharge, the internal surface of the uterus is freed from the putrid remains of the false chorion, which dissolves and comes away in a fluid state; and since there is nothing in its quality but what is common to the digestion of a fresh wound, it is not rational to suppose it can produce a fever so destructive to child-bearing women, even allowing it to be obstructed.

I have often observed the lochia small in quantity, and at other times redundant, without any bad consequence, and this seems chiefly to depend upon the difference of habit in different women, and the lax or tense state of the uterine fibres; so that the indication of danger is not to be taken from the quantity of the discharge, but

[1] [It may be well just to notice the physiological error contained in this passage, viz., that the lochial discharge is a hemorrhage from the torn vessels. No doubt some hemorrhage takes place from the vessels of that part of the uterus to which the placenta was attached for a day or two; but the proper lochia is a secretion from the lining membrane of the uterus—for some days of a red colour and thinner than blood, and gradually becoming paler, and at length greenish or yellowish, popularly called the "green waters," but never purulent in a healthy state of the womb.—Ed.]

from the nature of the symptoms attending it; for where there is no pain, inflammation, or fever in the first case, or loss of strength in the last, it would be highly improper to direct medicines either to restrain or promote it.

Besides this error of prescribing remedies where none are necessary, there is another so prevailing in practice and so pernicious in itself, that it deserves to be remarked, viz., that of giving emmenagogue or uterine medicines, as they are called, to promote the lochia; for those being chiefly of the heating kind, as aloes and the pulv. e myrrh. c., or else such as act by their powerful effluvia, as assafœtida, castor, and the like, are so far from being proper, where there is an obstruction of this discharge, that they are manifestly injurious, and would be as dangerous to the patient under such circumstances as forcing medicines given in nephritic cases, during the height of pain and inflammation. In short, all irritating medicines are improper in every painful or inflammatory affection of the uterus, and are, therefore, to be rejected in favour of gentle evacuations, plentiful dilution, and a cooling regimen.

When the lochial discharge becomes fetid, it has generally been looked upon as a dangerous sign; but as this often happens without any bad consequence, I am inclined to think it is rather owing to the admission of air into the cavity of the uterus, and the corruption of grumous blood contained there, than to any putrid disposition in the habit of body; however, it will certainly be right to promote the discharge of such confined sordes as soon as possible, which may be effectually done by the gentle alternate pressure of the hands applied to the region of the uterus, according to the method laid down by Dusse.[1]

Ruysch supposed that the fluid found in the abdomen, like the washings of flesh or corrupted lochia, was squeezed from the cavity of the uterus, through the fallopian tubes;[2] but in all those who were opened, I never saw the least quantity of such a fluid in the uterus, nor could observe anything to favour so improbable a conjecture.

When the uterus was laid open, it had, at first view, the appearance of a part disposed to become gangrenous; but this was owing to a considerable quantity of the membrana decidua, or false chorion, adhering to its internal surface; for when I had wiped away this mortified slough with a wet sponge, it was perfectly sound, and in its natural state. In the case of Ann Simms, the os uteri was somewhat livid and blackish; but as her labour was difficult, this was probably owing to the violence sustained, and not to any tendency in the disease itself to produce such an effect; for, notwithstanding the discoloration of the part, it did not manifest the least degree of putrid dissolution, but preserved its cohesion and natural firmness. It therefore becomes necessary not to regard any appearances as

[1] Acad. des Science, l'an. 1724, Hist., p. 51.
[2] Observat. Anatom., No. 84, p. 79.

morbid which arise from accidental causes, or such as are in themselves strictly natural.

The fever brought on by an inflammation of the uterus has often been confounded with the childbed fever; but those diseases are very essentially different, although they both require the same method of treatment.[1]

When the uterus is inflamed, it often becomes gangrenous; the head is affected with pain, a delirium usually attends the fever, and the uterine region is so exceedingly tender as not to bear the gentlest pressure without intolerable pain; but, on the contrary, in the childbed fever the head is seldom disordered, the uterus is not affected with pain, inflammation, or gangrene, nor does a delirium usually attend.

Besides these general signs of an inflamed uterus, there are others more fully mentioned by Aëtius than any other writer, which particularly point out the affected parts. When the fundus uteri is inflamed, there is great heat, throbbing and pain above the pubes; if its posterior part, the pain is more confined to the loins and rectum, with a tenesmus; if its anterior part, it shoots from thence towards the neck of the bladder, and is attended with a frequent irritation to make water, which is voided with difficulty; and if its sides or the ovaria are affected, the pains will then dart into the inside of the thighs.

An inflammation of the uterus, which often arises from a greater degree of violence applied to this part than its natural structure can bear, will generally bring on an obstruction of the lochia, and, on the other hand, an obstruction of the lochia may produce an inflammation of the uterus; but although such a local affection may create fever, it seldom proves mortal, without the inflammation is violent, and terminates in a gangrene. In the first case, the orifices of the vessels opening into its cavity are shut up, consequently the discharge will be obstructed, and will not return till the tension is removed by bleeding, laxatives, and plentiful dilution; in the last, they are supposed to be constricted, and, therefore, opiates and the warm bath, together with emollient clysters, will be the most likely to afford relief.

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[1] [Dr. Leake has made the common mistake of supposing this form of the disease with which he was acquainted to be the only one, and therefore as peritonitis, and not hysteritis, was the local character of the epidemic; any other local affection removed the disease from the category of puerperal fever. We have already seen that inflammation of the uterus may characterize as true an epidemic of puerperal fever as peritonitis.—Ed.]

SECTION II.

PRACTICAL OBSERVATIONS AND INFERENCES ARISING FROM THE HISTORY OF THE DISEASE, WITH THE METHODS MOST CONDUCIVE TO THE CURE.

THE sudden change produced in the habit by the effect of delivery, and that alteration in the course of the circulating blood which must then necessarily happen from the contraction of the uterus after delivery, seem to be the principal reasons why the abdominal viscera are at this time so liable to inflammation.

When the pressure of the gravid uterus is suddenly taken off from the aorta descendens, after delivery, the resistance to the impulse of blood passing through all the vessels derived from it, and distributed to the contiguous viscera, will be considerably lessened; it will therefore rush into those vessels with a force superior to their resistance, and by putting them violently on the stretch, may occasion pain, inflammation, and fever; particularly in the omentum and intestines, where they are numerous and most yielding; and this is more probable, because those arteries, before they enter the viscera, are divested of their strong external coat.

That such a change in the circulation does actually happen, is manifest from those faintings which sometimes follow a quick delivery; for, when the long-continued pressure of the uterus is removed, the blood, by gushing into the inferior vessels, will for a time deprive the heart and brain of their usual quantity.

This contraction of the womb also renders its vessels impervious to the blood which before passed freely through them for the service of the child during pregnancy; and, consequently, a much larger quantity will be thrown upon the contiguous parts, which will still add to their distension and increase their tendency to inflammation; more particularly as the womb is abundantly supplied with blood, and receives a greater quantity of vessels in proportion to its bulk, than any other part of the body.

The immoderate secretion of bile, which commences about this time in the childbed fever, most probably arises from the same cause; for, as the vena portæ ventralis, which brings blood to the liver, is rooted in the intestines, it will necessarily receive from thence a larger supply than before; hence a more copious secretion; as it is universally allowed, that the quantity of fluid strained off in any gland will always be in proportion to the quantity and velocity of blood passing through it.

It therefore appears, that although this fever is attended with a preternatural secretion of bile, it ought not to be considered as one of the bilious kind; for the great redundancy of that fluid seems truly symptomatic, like that occasioned by pain and spasm in the

nephritic colic, or other painful affections of the abdominal viscera.

At the attack of this fever, the vessels on the surface of the body, during the cold fit, are exceedingly constricted, as is evident from the paleness of the skin; and from this cause, also, a greater quantity of blood will be driven to the internal vessels, which will still further increase the quantity of redundant bile. Agreeable to this observation, the bilious vomiting was generally most violent after the shivering fit, and, in a great measure, in proportion as that was more or less violent; and even when it was abated, a return of the cold fit would often bring it on again, as well as the diarrhœa.

From this twofold change in the circulation, the vessels of the heart and lungs will also receive more blood than before; hence, a difficulty of breathing, with anxiety and oppression at the breast and præcordia, which are all relieved by the approach of the hot fit; that is, as soon as the heart reacts, and throws its blood from the centre to the circumference of the body; and when this cannot be effected, from its want of sufficient power, the blood will stagnate in the large contiguous vessels, and the patient will suddenly expire. Instances of this sort, though rare, have been known to happen, particularly in the cold fit of an ague, where the attack was uncommonly violent, or in diseases of the very destructive kind.

It therefore may be affirmed, that in general, every degree of rigor is followed by a degree of fever proportionate to it; from the reaction of the heart, which will always be greater or less according to the force impressed upon it by the effect of the cold fit; so that when this is violent and of long duration, the consequence is much to be feared; especially as nature, by the febrile struggle, does not usually in this disease bring on a salutary crisis. As the heart now acts strongly, the momentum of the blood on the solids will be greatly increased, and will occasion tension, pain, and inflammation, which, if not soon removed, will end in a suppuration of the internal parts, and produce a collection of matter in the cavity of the abdomen, from which it cannot be evacuated, and therefore must necessarily prove mortal.

If the preceding reasoning be right, it will show the necessity of of attempting to diminish the cold fit, by the plentiful use of diluting fluids given warm; and also of hot applications to the extremities and surface of the body, to relax the cutaneous vessels, and invite the blood thither, so as to relieve those of the viscera from distension; for whatever is the cause of this fever, its first impression seems to be made upon the nerves, which lessens their influence on the body, and prevents that free and equal distribution of the blood necessary to a state of health.

To answer this intention, I would prefer an infusion of any of the grateful aromatic vegetables given warm, as that of mint or sage, rather than fluids of the spirituous kind; for, by their heating quality, they would increase the violence of the hot fit or subsequent

fever, which is the principal thing to be guarded against; whereas, the former may be given at discretion, so as only to act during the time of the rigor, and will afterwards become of service in abating the febrile symptoms by their diluting and resolvent power.

This tendency to inflammation will be most likely to produce violent effects after delivery, when the abdominal viscera are in a tender irritable state; both from that change in the circulation already mentioned, which for a time will render the woman's constitution weak and valetudinary, and also from the violent efforts of labour itself. That particular parts of the body are more disposed to inflammation, as the habit changes and becomes more irritable, is very evident from repeated observation; for instance, in cases of a stone in the bladder, the pain and inflammation are not continual, but only produced at particular periods from some accidental exciting cause, which at that time renders the affected part more sensible.

As long as the solids of the body continue in their natural state, they will allow of being stretched to a certain degree without pain; but as soon as they become inflamed or diseased, the least irritation or distending cause will bring on the most intolerable sensations; and this seems to be the reason why air or fæces contained in the bowels, at one time produces excessive pain, and at another none at all.

Hence, also, a complication of this fever with the pleurisy or peripneumony; and sometimes a delirium, frenzy, or madness may attend, where the blood is more immediately determined to the brain by anxiety, grief, or any cause which occasions the intense exercise of the mind. Three cases of this kind have occurred to me, in all which the disease was fatal; one of them was that of a baker's wife, in Westminster, who remained well till the fourth day after delivery, but, being suddenly disturbed with some religious scruples, she was violently seized with this fever, attended with a delirium, which carried her off; notwithstanding the uncommon attention paid to her safety by an eminent physician, who was called in at my request, and with whom I wished to have consulted, but was accidentally prevented.

Dr. Hales, in his curious hæmastatical experiments, clearly demonstrates, that the impulse of the blood on its containing vessels is exceedingly increased by the violent action of the muscles, particularly those of the abdomen; he also remarks, that air retained in the lungs after a deep inspiration has the same effect; and since the birth of a child is brought about by a combination of muscular forces viz., from that of the uterus, assisted by the action of the very muscles already mentioned; namely, those of the abdomen and diaphragm, the last of which is pressed down on the inferior parts at every deep inspiration; it becomes evident, that violent stress is laid upon the vessels of all the abdominal viscera, even in those labours which are strictly natural. Such are the effects of labour-pains on the whole vascular system, that the pulse, which before was temperate and regular, then becomes full and frequent, the complexion

florid, and sometimes the face is enormously swelled, by the violent efforts and strainings of the body. Till such a change is produced, women are not subject to this fever; for I observed that those with child, who assisted the nurses in attending the sick, were perfectly free from it, even when it was most rife; but being delivered, several of them sickened soon after, and were affected with the same symptoms as the rest. May not this circumstance, therefore, added to that change in the circulation already remarked, and also to the great sensibility and irritability of the habit, which is observed to prevail after delivery, concur, as so many exciting causes, to kindle up this fever? and also show why women are never subject to it before, but only after delivery, and more particularly during an unhealthy constitution of the atmosphere: for if this disease was owing to the compression of the abdominal viscera in general, or to that of the omentum in particular, independent of any alteration in the air, as some have asserted; since this cause is the same in all gravid women, its consequences would also be uniform, and the disease would be equally frequent at all times of the year, instead of prevailing with uncommon violence at particular seasons: besides, if it was occasioned by the pressure of the gravid uterus on the contiguous viscera, it would necessarily happen before delivery, when that pressure was greatest; whereas, experience shows that it never appears till after delivery, even in the epidemical season. In short, if pregnancy produced this fever, pregnant women would be subject to it, and delivery, by emptying the uterus, would not occasion it, but cure it, according to that universal axiom, take away the cause and the effect will cease.

The vital powers of the viscera being thus impaired, their several functions will be unduly performed, particularly the absorption of lymph from the abdominal cavity; hence, a depravity and corruption of this retained stagnating fluid, and an increase of the pain and inflammation of those parts with which it is in contact; hence, also, a swelling of the belly, which may be looked upon as a true tympanites. This morbid affection did not seem to happen from wind in the bowels; for, if so, it would have subsided by the frequency of the purging stools: it was evidently owing to the expansion of air generated in the cavity of the abdomen, arising from a putrid dissolution of the omentum, and from a corruption of the purulent fluid found there.

The dissection of bodies thus affected confirmed me in this opinion; for on cutting into the abdomen, a putrid flatus, intolerable to the smell, issued forth with a hissing noise, and the prominence of the belly immediately subsided. In general, there was but little air in the intestines, which were likewise almost empty of fæces, and only contained a blackish fluid like that voided by stool, with particles of something which looked like fat after it had been melted and was become cold.

Considering the suppuration of the omentum, and the large quan-

tity of purulent fluid found in the abdomen after death, it is easy to see how a fever, which was truly inflammatory in the beginning, may soon become putrid by an absorption of that fluid; which, like old leaven, will taint the blood, and, by exciting a putrid ferment in the whole mass, will change its qualities into those of its own morbid nature.

The structure and use of the lymphatics, and their existence as a distinct system of vessels, numerously distributed to the several cavities of the body, as discovered and accurately described by Dr. Hunter, together with experiments made on quadrupeds, sufficiently demonstrate the reality of this absorption in the human body; for it has often been observed, that although a large quantity of any warm fluid had been injected into the abdominal cavity of different animals in the living state, not a drop of it could be found after death.

Besides, as the liver chiefly receives its blood from the intestines, the omentum, and mesentery, which is loaded with oil, absorbed by the veins from the two last parts, so as to render it fitter for the secretion of bile, it will follow, that, as soon as the omentum is destroyed by a putrid dissolution, the refluent blood carried to the liver will be vitiated and corrupted, and passing through that gland to mix with the general mass, will contaminate the whole, and produce a true febris purulenta. Hence, general inflammation, adhesions of the lungs to the pleura, a collection of putrid serum in the thorax, and matter under the sternum, as in the case of Harriet Trueman; and this appears the more probable, because, on inquiry of the patient's friends, I could not find that she had ever been in the least subject to any complaint in the breast. Moreover, as bile, of all the humours in the body, is most liable to be changed, this fluid, tainted with blood brought from the diseased omentum, will soon become putrid, and, by its caustic acrimony, create anxiety, sickness, and vomiting, with tormina in the bowels, and a profuse diarrhœa, so that it will now offend in quality as well as in quantity, which last has already been sufficiently taken notice of. Before it is altered from its natural state, it seems, in a great measure, inoffensive to the stomach, because the fresh, inspissated bile of animals, given as a medicine, does not occasion the above disorders.

Thus, I think, it will evidently appear, that the symptoms of putrefaction were not originally such, but are produced by metastasis; not from that of vitiated milk or obstructed lochia, as generally supposed, but by the absorption of those purulent fluids stagnating in the abdomen, and by a morbid translation of matter from the suppurated omentum; and if ever the marks of putrefaction appear in the beginning, they are confined to the primæ viæ only, and arise from the tainted rancid bile, for a corruption of the blood and juices never happens till in the advanced state of this disease; otherwise, such a putrefactive tendency in the habit would certainly exert itself sooner, and produce the disease before delivery, especially in the epidemical season.

As soon as an internal mortification commences, the pain ceases, which persuades those present that the patient is better; but when this suddenly happens, after it has been excessive for a long time, and in an advanced state of the disease, without any critical evacuation which could prove salutary, it is a fatal and delusive sign; and soon followed by a sinking, quick, and intermitting pulse, swelling of the belly, a distressed countenance, with partial, faint sweats on the breast and face, and sometimes by a delirium, which show that death is at hand.

That acute and incomparable practical physician, Baglivi, was the first who described the mesenteric fever, and observes, that latent inflammations of the viscera are generally the cause of those fevers called malignant, and which often end in an abscess or gangrene of the affected parts when bleeding has been neglected.

In painful or inflammatory diseases of the viscera, so great is the sensibility of the several parts, that the whole nervous system is easily drawn into consent, hence a perversion or defect of their several natural functions. The heart will also be affected with a spasm, and not being able duly to perform its office, the pulse will become quick, weak, and intermitting. This diminution of nervous influence on the affected internal parts, will also account for the great and sudden loss of strength, and show why the pulse is weak, quick, and irregular, in the childbed fever, instead of being hard and full, as in the pleurisy; and, indeed, in most diseases of the abdominal viscera the pulse becomes languid, and loses its firmness, before there can be any actual prostration of bodily strength: as in cases of taking poison, or where a violent fit of the gout suddenly fixes upon any of the vital parts.

As it appears that women, so long as they remain with child, are not more subject to this fever than others who are not pregnant, it will follow that a distemperature of the air is not alone sufficient to produce it, until it is assisted by a change of the habit in consequence of delivery; but as such a change is then common to all women, it is also evident, that, in general, it may be endured without much danger, whilst the season remains healthy; since scarce one in a thousand is then affected with it, except from errors in diet, the passions of the mind, the effect of taking cold, or other manifest exciting causes; consequently, it will always be found most severe whenever such concurring causes are most numerous, and in proportion as they are more or less dangerous in their own nature; thus, for instance, it will always be found most fatal when most epidemical, that is, during a distemperature of the air, and least of all so, when it happens in healthy seasons from accidental causes only. If, at such a time, it should arise simply from taking cold, it is often terminated by a profuse long-continued sweat; if from food offending the stomach, in quantity or quality, the patient is often soon relieved by spontaneous vomiting or a diarrhœa; but, on the contrary, if it is brought on by the passions of the mind, the event is differ-

ent; for as the cause continues, so does the fever likewise; besides, in such cases, there is generally a defect in the natural secretions and excretions, and as nothing will weaken the vital powers of the body so much as distress of mind, a salutary crisis is then hardly ever known to happen.

It has also been observed, that the disease generally comes on about the second or third day after delivery, and that the sooner it attacks the patient the more she is in danger. The sensibility and irritability of the body, which are always observed to be greatest at that time, seem to account for the first of these circumstances, and also show why the fever is then most dangerous in the event; seeing that this predisposing cause, existing in the habit, will then most powerfully co-operate with, or increase the agency of any other external cause which may chance to occur.

From the preceding history of the childbed fever, joined to its morbid appearances already mentioned, the following conclusions may be drawn by way of recapitulation.

First, that it does not arise from a translation of corrupted milk, nor obstructed lochia; secondly, that it is not owing to an inflammation of the uterus; thirdly, that a certain mechanical change produced in the body by delivery, is the principal predisposing cause of the disease, and the reason why it is peculiar to women after delivery only; fourthly, that whenever it is remarkably frequent and fatal at particular seasons, its proximate cause ought to be referred to a noxious constitution of the air; which was still more fully proved by those cases where the fever suddenly appeared in the epidemical season, without any other evident cause whatsoever; fifthly, that it may sometimes happen in the most healthy seasons, from the accidental causes already enumerated; and that in such instances it is least dangerous; sixthly, that the temporary change brought upon the habit, by delivery, may generally be endured without producing this fever, if none of the causes already mentioned then happen to supervene; and also that women are more or less subject to the impression of all such causes, in proportion to the sensibility and irritability of their habit; lastly, that it is not owing to the pressure of the gravid uterus on the abdominal viscera in general, or the omentum in particular; for if so, pregnant women would be more subject to it than those lately delivered, which is contrary to all experience.

I have been more diffuse in what relates to the pathology of this disease, because nothing will so much tend to establish a rational method of cure, as those observations which immediately result from the disease itself; the structure and use of the several affected parts, and their morbid appearances after death.

In the childbed fever, therefore, as well as all those which, like it, are truly inflammatory, and uniformly produce internal suppuration, bleeding is the only remedy which can give the patient a chance for life; especially as local inflammation, if violent, more frequently

terminates by suppuration than any other means, where that has been neglected.

Indeed, from the strictest attention to the several symptoms and circumstances of this disease, without shaping a theory to coincide with any particular method of practice, the reasons for bleeding are as manifest and cogent as in the pleurisy itself, where an empyema is sometimes brought on; for a collection of matter either in the thorax or abdomen is equally fatal.

The principal objections by those who are averse to bleeding, are as follow. Considering the loss of blood after delivery, and the subsequent lochial discharge, it would exhaust the patient's strength too much, especially as she is usually enjoined an abstemious diet for several days after, that by lessening the strength, it would prevent a crisis, increase the irritability of the body, and aggravate all the symptoms of this fever, or dispose it to become putrid. But those are groundless fears, and plainly contradicted by what is observed in practice; for the violence of the fever, and the symptomatic purging arising from it, will be found to sink the patient's strength much more than the loss of blood; which, on the contrary, by removing the tension and pain from the bowels, which act as a stimulus and keep up the diarrhœa, will have the effect of an anodyne, and more safely abate that discharge than either opiates or astringents, both of which are highly improper at the beginning of the disease. Bleeding, by diminishing the quantity and force of the blood through the liver, and the larger internal vessels, will likewise lessen the secretion of bile, and therefore relieve the sickness and anxiety at stomach, as well as the difficulty of breathing and oppression at the præcordia.

Besides, I am inclined to think that women after delivery, especially those who do not suckle, are able to bear the loss of blood much better than is generally imagined; for as the fœtus does not then demand its long-accustomed supply of nourishment, it will revert to the mother, and create a kind of temporary plethora, as already observed.

It ought, also, to be remarked, that neither inanition nor plethora is natural to the body in a healthy state; that the one extreme is as hurtful as the other, and will produce irritation in as high a degree; for in plethoric habits, where the vessels are overcharged, and violently upon the stretch, all the symptoms of irritability are evidently increased. The same quantity of light which did not offend the eye in its natural state, becomes intolerable to it when inflamed; and the ear is not able to endure the least noise, without being disagreeably affected, after being seized with inflammation.

To proceed. Early and copious bleeding,[1] at the first onset of

[1] [It is worthy of remembrance that early and copious bleeding has been recommended by both Denman and Hulme, and is not, as has been sometimes stated, the suggestion of Dr. Gordon of Aberdeen, who merely mentions more definitely the quantity, viz., from twenty to twenty-four ounces at one time.—Ed.]

the disease, will prove much more serviceable than afterwards; thus, eight or ten ounces of blood taken away at first, will afford more relief than twice that quantity at different times. By the first method, the tension of the vessels is suddenly taken off, and the pain, fever, and inflammation, are therefore abated. The whole vascular system being now relieved, a more free and equal distribution of the blood will follow, and the natural secretions being more duly performed, a salutary crisis may the rather be expected. On the contrary, where the vessels have remained long on the stretch, and being, as it were, overstrained, have lost their resisting power, all the above symptoms will be increased; and although blood should at last be drawn, if the inflammatory symptoms have run high, and matter has begun to form in the omentum, or any of the vital parts, from which it cannot be evacuated, it is then too late to expect relief, for the disease must necessarily become fatal, both by a dissolution of the parts essential to life, and by a confinement of that purulent fluid, which will not only corrupt and destroy the surrounding parts, but by its absorption will soon taint the whole fluid mass; so that, although bleeding in the beginning is the principal remedy to be depended upon, it will seldom prove of service after the second or third day of the attack; and if directed still later, will only further exhaust and enfeeble the patient, and hasten her end.

Considering the languid state of the patient, and the weakness of the pulse, even in the beginning of this fever, I was surprised to find that the inflammation had sometimes run so high, and made so rapid a progress, as to produce matter in the abdomen, so early as the fourth or fifth day after the first attack, as will appear in the case of Harriet Trueman, which fully proves the necessity of bleeding early, or not at all.

Practitioners, from a scrupulous attention to their reputation, are generally sparing in the application of such remedies as have been doubted in their good effects by those of the profession, or even where vulgar prejudices have been violent in opposing their use. It is no wonder, therefore, considering the weakness of the pulse, so remarkable in this fever, together with the objections already mentioned, that bleeding should have been directed with an uncommon degree of caution; for if blood was drawn at all, it was only in the most trifling quantities, and seldom till the decline of the disease, where everything else had been tried in vain; and consequently, where matter being formed, neither that evacuation, nor any other human means, could possibly avail. Thus, the misapplication of this remedy plainly appears to have been the reason why it was not sooner adopted as safe and beneficial.

In short, as no purulent matter is ever formed without a preceding inflammation, and as no means have hitherto been found so effectual in abating inflammation as bleeding, laxatives, and plentiful dilution, those who cannot see the absolute necessity for their use, must certainly shut their eyes on all conviction.

As the cure will be found to depend principally on the seasonable loss of blood, it will be requisite to regard all such indications as may be taken from the state of the pulse, and to lay down such rules and cautions as particularly relate to this circumstance.

Nothing will so clearly point out the time when this remedy ought to be directed, as a previous acquaintance with the natural state of the pulse, which is found to vary exceedingly in different habits of body: a difference in the size and distribution of the artery constituting the pulse will also occasion very different impressions on the finger, in regard to its strength or weakness; consequently, it ought to be alternately felt in each arm of the same person. The general habit, age, and manner of living will also afford great information in this particular; for instance, if the patient is young, and has previously enjoyed an uninterrupted state of health, with a keen appetite and good digestion, when the pulse in such a person seems to sink in the very beginning, such a sudden alteration arises from oppression, and not weakness, and requires immediate loss of blood; particularly, if no profuse evacuation has preceded, such as hemorrhage, diarrhœa; or long abstinence, anxiety of mind with want of rest, or great bodily fatigue. On the contrary, if she has been of a valetudinary, hysterical habit, with lax fibres, a bad digestion, and pale aspect, a languid pulse, with such appearances, may reasonably be imputed to a real want of bodily strength rather than oppression; and consequently, bleeding ought to be omitted.

We are also told, that on compressing the artery at the wrist with the finger, if from being small and apparently weak, it suddenly becomes more strong and renitent, we may be sure it is oppression, and not weakness, which then prevails; this, however, I think, is not an opinion well-founded, for whether the artery beats languidly from real weakness, or the diminished impulse of the heart, or whether the action of the arterial system is overcome by too great a plenitude of the vessels, the effect will be nearly the same in both cases, and the artery will act weakly on the touch.

The degree of strength will be better known by attending to the more obvious signs of strength or weakness, and by regarding the slowness or frequency of the pulse; for, in proportion as the bodily strength is exhausted, it increases in frequency; and, on the contrary, when the strength remains unimpared, the number of pulsations are proportionably less; but being both more full and strong, the circulation is then more uniformly carried on than when the artery beats quicker, for the free and equal distribution of blood through its vessels does not depend upon the frequency of the heart's contraction, but on the degree of strength and energy with which it acts at each pulsation.

But the most secure way of proceeding in doubtful cases, will be to feel the pulse during the time that blood is flowing from the vein; if its strokes become more strong, ample, and free, the quantity to be taken away may be increased; but if it sinks and loses its equality,

the bleeding orifice should immediately be closed. However, care is to be taken, lest we are imposed upon by that languor of the pulse, brought on from the compression of the artery, by an over-tightness of the ligature round the arm.

It was necessary to be more particular on this head, as there is great difference between nature oppressed and nature exhausted, and as the safety of the patient principally depends upon a true distinction between a real want of strength and that which is only apparent.

Without we are previously acquainted with the natural state of the pulse, and its number of strokes in a minute, when the body is in health, but little information can be had when we are told that it beats a hundred and twenty, or any certain number of strokes in a minute, in the time of a disease. I have, therefore, in the history of the cases which follow, rather chosen to signify the degree of feverish heat, by the general terms of weak and strong, quick or slow, as applied to the pulse, than by mentioning the precise number of its strokes in a minute.

From these preceding general observations, the indication of cure is to be taken: hence it will follow, that bleeding ought to be directed at the very onset of the disease; secondly, that it will be necessary to diminish the violence and duration of the cold fit; thirdly, that the redundant, corrupted bile is to be evacuated and corrected as soon as possible; fourthly, that the diarrhœa, when excessive, ought to be restrained by emollient, anodyne clysters, and gentle sudorifics, or even by opiates and mild astringents, when the patient's strength begins to sink under the long-continued discharge; and, lastly, that where the signs of putrefaction or an intermission of the fever appear, that antiseptics and the Peruvian bark may be administered.

The choice of remedies is often a matter of great difficulty, even to those most conversant with the nature of diseases; and after that is determined, it is not so much the medicine itself, as the application of it, which renders it truly salutary; for as things derive their value from their proper use, so efficacious medicines injudiciously administered, like blessings perverted, are of all others the most dangerous; since whatever is powerfully good when properly given, will become as powerfully bad if misapplied.

As it is of great use to discover by a fair trial what medicines are principally to be depended upon in the cure of particular diseases, so it would be highly serviceable if those in practice, conscious of their own upright intention, would also venture candidly to point out such methods and medicines as they had found either useless or prejudicial.

In general, I think, too much is attempted by medicines; and as their proper application requires much skill, so it ought no less to be deemed true medical knowledge, to determine when it is better to stand still, and watch the operations of Nature, rather than to proceed in the dark, and run the risk of thwarting her salutary endea-

vours: by such means some diseases either become tedious in the cure, if happily they are cured at all, which, in a manner left to themselves, or treated by simple remedies, would perhaps be terminated more favourably, especially where the habit of body is good, the viscera sound, and the natural secretions neither greatly defective nor perverted.

Nothing can be more blameable than that precipitate and desultory method of flying from one medicine to another, at the appearance of every new symptom, without waiting a sufficient time to observe the effect of any; it is indeed prescribing for the symptoms only, instead of the cause of the disease, from which they spring, and is not acting more rationally than he who should attempt to clear his garden of weeds by plucking off their leaves.

In regard to the loss of blood, the quantity to be taken away is not so much to be determined by its appearance, as by the degree of pain, fever, and difficulty of breathing; for its siziness is not uncommon in pregnant women, even in a state of health; and in diseases of the inflammatory kind, it seems to be the consequence, and not the cause of inflammation, for the first-drawn blood is seldom ever so sizy as that taken away after the continuance of the fever.

When the patient is young and plethoric, the pulse full, the thirst great, the skin dry, and the urine high coloured, she may lose eight or ten ounces of blood in the beginning with great safety and advantage; and a smaller quantity may afterwards be repeatedly taken away, in proportion to the violence of the symptoms.

Large draughts of warm tea, or any other diluting liquor may then be given, and afterwards, bladders half full of hot water may be wrapped in flannels and applied to the soles of the feet, the axillæ, and sides, in order to lessen the violence of the cold fit, and to keep up the circulation in the extremities and surface of the body, where it is most languid.

One would have imagined that the warm bath bid fairer to answer this intention than anything else, as it acts like a universal fomentation applied to the surface of the body, and the rather since it has been found to procure almost instant ease in other disorders of the bowels; but to the confusion of all theory, in those cases where it was tried, it by no means answered my expectation; and from what I could learn, succeeded no better with others, for the greatest part of those died for whom it was directed; this, however, in some measure, might be owing to want of bleeding, which was generally neglected in the beginning; or because, like that, it was made use of too late, viz., after the formation of matter in the abdomen.

Upon the whole, the warm bath, by first acting as a resolvent, from an absorption of the aqueous particles into the blood, will soothe the nerves, relax the skin, and enlarge the pores, and, therefore, will tend to promote a free prespiration without heating the body; and as I am still inclined to think favourably of it, when seasonably applied after bleedings, could wish to recommend it as a remedy which deserves further trial.

When it is thought necessary, a bathing-tub, near two parts full of warm water, may be placed at the patient's bedside, into which she may be gently lifted, and suffered to remain for ten or fifteen minutes, or longer, if she does not grow faint; when taken out, a clean warm sheet may instantly be applied all over her body, to sponge up the moisture; after which a loose flannel gown, long enough to come down to her feet, may be put on warm next the skin; and draughts of any thin diluting fluid may then be given in bed, to promote a free prespiration. The bath should only be of a temperate degree of heat, otherwise, instead of relaxing, it will crisp the fibres of the skin, and defeat the very purposes for which it was intended.

To evacuate offending bile from the stomach, nothing proved more effectual than the following emetic:—

℞. Tart. emet., gr. iiss.;
Aq. alex. simp., ℥iss.;
Oxymel. scillit., ʒiij. Misce.

It acted much sooner than ipecacuanha, and did not bring on such intolerable and long-continued sickness after its first operation, which perhaps might be owing to a more perfect solution of the antimony by the acidity of the oxymel; it also seems to possess a febrifuge quality, and disposes the patient to sweat; but this might probably be owing to what is common with other emetics, which produce such an effect by agitating the body.

When the nausea and sickness are violent, the vomit should be weaker; but if the stomach is scarcely affected, it may then be wholly omitted, and a gentle laxative given after bleeding, which will procure a free discharge of bile.

Bleeding ought always to precede the emetic, for reasons already given, and also because the abdominal viscera will suffer less from the efforts of vomiting when the vessels are more empty.

After the greatest part of the bile has been rejected, either by a spontaneous vomiting or the emetic draught, the putrescence, or rancid acrimony of what remains, should also be corrected. Acescent vegetable juices seemed most likely to answer this intention, as those of oranges, lemons, &c. I, therefore, at first directed them in large draughts of weak tea or barley-water; but such was the tenderness and irritability of the intestines, that by the continuance of this method the patient would soon have been purged to death, and consequently they were immediately laid aside. We also tried the saline mixture, where the acid was exactly neutralized, and which, on many accounts, promised fair for a useful medicine; but that likewise proved so purgative, that it could seldom be safely continued without the addition of spermaceti and gum. arab., which rendered it more soft and friendly to the stomach and bowels, although even this alteration was not always sufficient to remedy the inconvenience complained of.

The following draught, which is purposely directed in a smaller

quantity than usual, may be given every four or five hours, or at any time as occasion requires:

℞. Sperm. ceti
Mucilag. gum arab., āā ʒss. bene
Tritis et subactis, sensim adde
Succ. limon., ℥ss.; cum
Sal. absinth. saturat.,
Aq. cinnamom. simp., ℥j.;
Syr. balsamic, ʒj. Misce.

The saline mixture, given in a state of effervescence, has sometimes been known to stop the most violent bilious vomitings, where everything else had been tried in vain.

The frothing or conflict which arises on mixing the acid and alkali seems more properly ebullition than fermentation; yet there is reason to believe that the effect of this medicine, given as above, is produced by something similar to what the chemists call gas sylvestre, or the effluvia escaping from fermenting liquors, which will sweeten and restore flesh that was become putrid and stinking.

So powerfully antiseptic is this subtile gas, that we are told the plague at Marseilles was stopped by its influence; for that dreadful calamity suddenly ceased soon after the vintage, owing, as was supposed, from the vapours arising from the vast quantities of fermenting new wines made there.

Where this fever arises from the violent passions of the mind, and attacks a patient of a plethoric habit, attended with a delirium, an emetic would be very improper: half an ounce of lemon-juice, in a teacupful of water, may, therefore, be given, upon which a scruple or more of the sal absinth., dissolved in the same quantity, may be drank immediately after, so as to produce an effervescence in the stomach, from which none of the subtile effluvia can escape; and, therefore, it will still more effectually answer the intention of correcting the corrupted bile, especially if the alkaline salt is allowed to predominate; for the process of sweetening and purifying rancid train oil depends chiefly upon its antiseptic principle.

This mixture will also evacuate gently by stool, which is more necessary where no emetic has previously been given.

Those who direct medicines in this disease are extremely divided in their opinion concerning the diarrhœa, being in doubt whether it is critical or symptomatic. An evacuation happening so early as to usher in the disease, cannot properly be considered otherwise than symptomatic, as I have already endeavoured to show; but wherever the case appears perplexing, the best and surest way will be to keep a watchful eye on the patient; if she is much relieved by the appearance of this or any other discharge, it never ought suddenly to be suppressed; but, on the contrary, if the symptoms which before prevailed either continue without mitigation, or are aggravated, and, above all, if her strength begins hourly to sink and decline, such an evacuation should speedily be restrained or totally taken away, if it is in the power of medicine to do it, without losing time in making

distinctions which are more nice than useful. But however simple and obvious this method may appear, it has not been sufficiently attended to.

When the diarrhœa is truly critical, which is seldom the case, it commences later; the stools have more consistence, and are of a yellowish hue; the belly is soft, the appetite and sleep return, and the patient is much relieved; on the contrary, in the symptomatic diarrhœa, the stools are black and slimy, at last becoming watery, and sometimes of a dark olive colour, or like that of rusty iron; the thirst and fever continue, and the belly is tense and painful.

But although the diarrhœa is not strictly critical, yet it manifestly affords relief in the early stage of the disease, and therefore ought not to be stopped by opiates or astringents, which are highly injurious, especially in strong plethoric habits, where bleeding has been neglected. By constipating the bowels, they will concentrate the sordes collected there; and if the purging does not return, great oppression at the stomach will follow, with an increase of thirst, sickness, and nausea; in short, whenever these medicines are thus unseasonably administered, they will always be attended with the worst consequences, and an aggravation of all the feverish symptoms, as I have had frequent occasion to observe.

On the contrary, when the body is kept laxative, the intestines are unloaded of their putrid contents, the sickness and oppression are relieved, and the fever considerably abated.

Emollient clysters, prepared from fresh animal substances, should next be frequently administered, and the longer they remain with the patient, so much the better, as they will then more effectually cherish the bowels by their gentle warmth and relaxing vapour, and act as an internal fomentation to the whole abdominal viscera; besides, by being absorbed, they will dilute the blood and become powerfully resolvent.

Seven or eight ounces of chicken or beef-water, or a weak decoction of chicken guts, without salt or any other addition, will answer the purpose extremely well; but all such clysters should only be given milk-warm, and in a small quantity, otherwise they will distend the intestines, and by creating pain will soon be forced away.

Whenever the bowels are affected with pain, opiates, after evacuations, are best given in clysters, being then immediately applied, as it were, to the naked nerves of the affected part; hence, they diminish the irritability of the intestines, relieve pain, procure sleep, and are less liable to affect the head than when given by the mouth: thus g^{tt}. xxx. of the tinct. thebaic. may be added as occasion requires.

Clysters of the cathartic kind are also necessary before the use of purgatives, when the patient has been long costive; for where the last have been given and do not readily pass off, severe gripings and tormina will follow.

Some are so timorous, that they will not venture to give laxatives

till the fourth or fifth day after delivery, lest they should check the lochial discharge, or bring on a dangerous purging; but these are unnecessary cautions, for I never knew the lochia interrupted, nor any diarrhœa brought on by their seasonable and proper use; but, on the contrary, the last will often suddenly happen, where the body is suffered to remain too long costive, in consequence of the intestines being over-distended with the indurated fæces, which create pain, and stimulate them to expel their contents.

The headache, a delirium, or fever, are sometimes brought on by omitting the use of laxatives, which may be given with safety at any time, but are indispensably necessary about the second or third day after delivery, especially in strong habits, where the patient does not intend to suckle her child. In short, the more the body is kept cool and temperate, by a solutive regimen, the better chance she will have to avoid a fever, and the more regularly will all the natural secretions and excretions be carried on.

The following laxative mixture, which is extremely gentle and pleasant, may be directed in the quantity of two spoonfuls or more every two or three hours, till it produces an effect:

℞. Ol. ricini, cum vitel. ovi solut., ℥j.;
Magnes. alb., ʒij.;
Mann. calab., ʒiij.;
Aq. hyssop., ℥viij. Fiat mistura.

As soon as the stomach and bowels are sufficiently emptied, the following antimonial powder may immediately be administered; but sometimes it proves violently irritating, even in very small quantities, and will produce a dangerous superpurgation if not managed with the greatest caution; if this should happen, five drops of thebaic tincture may be occasionally added to each dose of the julep in which it is to be given.

℞. Tart. emet., gr. iss.;
Magnes. alb., ʒj.
Accurate contere et fiat pulv. in sex portiones dividendus, quarum sumat unam 4ta quaq. hora, vel subinde pro re nata, cum cyath. julep. sequentis.
℞. Aq. cin. simp.,
Aq. menth. v. simp., āā ℥iv.;
Syr. Croci, ʒiij. Misce et fiat julepum.

When the first or second dose of the powder produces no sensible effect, it ought to be given oftener, and in a larger quantity, till it either creates a nausea or gentle perspiration, without which it seldom procures relief. They should then be given by longer intervals, otherwise they will be apt to weaken the patient too much; however, upon the whole, I know nothing better than emetic tartar in very small doses, with the addition of an opiate, if necessary, more particularly after profuse evacuations; for it not only seems to combat the fever, but much more safely and effectually restrains the diarrhœa than astringents, by promoting perspiration and exciting a nausea at the stomach, which, in some measure, inverts the excessive peristaltic motion of the intestines, and prevents their frequent discharge.

When the patient was much reduced by a return of the evening paroxysm, attended with chillness, wandering pains, dejection of spirits, and a torpor and coldness of the extremities, the third part of a grain of this medicine, given about an hour before its approach, afforded sensible relief, by producing a gentle sweat.

This sort of perspiration may be moderately encouraged by plentiful dilution with weak tea, or if the purging is violent, with rice-water, which generally agreed better with the patient than anything else; but the sweats excited by a heating regimen, which stimulates the solids and increases their action on the blood, are highly prejudicial, and often destructive to the patient, as well as those brought on by an immoderate quantity of bed-clothes, or keeping the room too hot and close; for if those in perfect health soon grow faint and languid, when deprived of fresh, pure air, the same effect, in a much greater degree, will necessarily happen in the body when weakened and oppressed by a disease.

Whenever the weather is intemperately hot, the fresh air should always be allowed to breathe in at that part of the bed-chamber most distant from the patient, which will gradually diffuse itself around, and revive her exceedingly, without the least danger of catching cold.

When the bowels are stripped of their mucus, they become so exceedingly tender, and the stools are so frequent, that she will soon sink under the discharge, if medicines of the irritating kind are any longer continued. The rice-water, used for common drink, may now be given, with the addition of gum arabic, in the proportion of an ounce to a quart; and where the pulse is feeble and the patient much exhausted, a common spoonful of brandy may occasionally be added to that quantity rather than wine, which is apt to turn sour on the stomach, and to occasion eructation and pinchings in the bowels, with an increase of the diarrhœa.

Nourishment that is light and simple should now be given often, and in small quantities; beef or chicken-water, poured from the dregs, after the fat has been taken off the surface, and gently boiled with ground rice, and the addition of a stick of cinnamon, was found to agree with the stomach, and is extremely soft and friendly to the bowels, as it will supply them with artificial mucus, and nourish the body at the same time.

Whenever the strength is evidently perceived to sink under the excess of the diarrhœa, three grains of the pil. e. styrace, or the following bolus, may be given at discretion, with a spoonful of simple cinnamon water, or a very small quantity of any other grateful fluid; for in such cases, I observed that medicines in a solid form are the longest retained, and, therefore, most eligible.

℞. Pulv. e bolo comp. cum opio, ℈j.;
Syr. e cort. aurant. q. s. ut fiat bolus.

Should the discharge notwithstanding continue obstinate, with

severe pains in the bowels, clysters, prepared with jelly of starch and the yolks of eggs, in equal proportions, and dissolved in a sufficient quantity of rice water, with the addition of thirty or forty drops of thebaic tincture, may be administered by intervals, as occasion requires, and will often procure immediate ease.

The progress of this disease is frequently so rapid, that there is not sufficient time to wait for a regular or distinct intermission, as in other fevers; and, therefore, if the bark is given at all, that must be done without hesitation, at the very first favourable opportunity.

It was observed, that this disease becomes a true febris purulenta in its decline, from the absorption of corrupted fluids stagnating in the cavity of the abdomen, although it was strictly inflammatory in the beginning, so that the putrefaction at this time existing in the habit, like the siziness of the blood, the bilious vomiting, and diarrhœa, is truly symptomatic, being manifestly the consequence, and not the cause of this fever.

Indeed, there is reason to believe that very few diseases are putrid in the beginning, and that all, or most of them, have a tendency to become so towards their conclusion, when the vital powers of the body are diminished, and its juices vitiated by an excess or defect of their natural motion.

Here it were to be wished that the efficacy of that sovereign remedy, the Peruvian bark, might secure the patient from danger; but both reason and experience, as well as the very nature of the disease itself, in a manner exclude such hopes of relief, for although its liberal use might possibly be sufficient to destroy the putrefactive tendency begun in the body, by the absorption of the corrupted fluids, yet the large quantity still remaining in the cavity of the abdomen, from which it cannot be evacuated, must necessarily prove destructive; however, as we cannot always be certain when matter is formed, all possible means should be tried to prevent it, and the bark ought to be given, at all events, in large doses, often repeated.

It has been feared, that the use of this medicine might suppress the lochia; but I am assured, from repeated experience, that it may be given to women after delivery with the greatest safety, whenever necessary, for I never could observe it produced any bad effect, or diminished that discharge, but, on the contrary, often altered its quality for the better, and also rather seemed to increase its quantity, especially in women who were weak and delicate.

Sometimes the bark increased the purging, and even brought it on again after it had ceased; in such cases it was necessary to join five grains of the Pulv. e bolo comp. cum opio, with each of the following draughts:

℞. Cort. Peruv. pulv., ℥j.;
Aq. font. lb. ij.;
Leni igne coq. ad demid. et sub finem adjice,
Fol. rosar. rub. sicc., ℥ij., cola.

℞. Hujus colat., ℥iss.;
Extract. Peruv. cort. moll., ℈j.;
Aq. cinn. spt., ʒiij.;
Confect. alkerm. ʒj. Fiat haustus alternis horis exhibendus.

When the first draught was found to purge too much, I sometimes directed the following:

℞. Cort. Peruv., ℥j.;
Cort. granat., ʒiij.;
Aq. lb. ij ad demid. coq. et cola.

℞. Colat., ℥iss.;
Tinct. cinn., ʒij.;
Tinct. thebaic., gtt. v.;
Confect. alkerm., ʒj. F. haustus.

Blisters have seldom been applied in the cases of lying-in women, on account of their severity, especially from the fear of that tormenting disorder the strangury; but if, as many imagine, they produce their good effects by a powerful stimulus, and by raising an inflammation on the skin, rather than the discharge they occasion, the application of sinapisms would then effectually answer the purpose, without any danger of that complaint, and, therefore, will deserve the preference to blisters prepared with cantharides, though I have not yet seen them sufficiently tried to speak from my own experience.

Though we are told that blisters are improper and injurious, till the fulness and frequency of the pulse subsides, yet I would wish it ever to be remembered, that whether we endeavour to relieve the patient by this or any other means, it must be early, or it will not be at all; and, therefore, after bleeding and evacuations, as soon as that alarming symptom appears which denotes an inflammation of the omentum, viz., pain darting downwards from the stomach to the navel, it will be advisable immediately to apply either a blister or sinapism to one or both sides.

This practice, I think, will be sufficiently justified by the great relief they afford in fixed pleuritic pains, or wherever there is local inflammation.

Volatile liniments and penetrating topics, such as the following, have also been found serviceable, particularly where the use of blisters appears exceptionable or improper.

℞. Ol. dulc. amygd., ℥iss.;
Camphor., ʒss.;
Spt. volat. aromat., ʒiij. Misce.

These are the best reasons that I am able to assign for the expediency of the remedies pointed out in the childbed fever; but I did not venture to trust to them from theory only, nor expected that others should do so, till observation and experience had convinced me of their good effects, particularly early and copious bleeding, and the antiphlogistic method, which I am, therefore, desirous to recommend, in preference to everything I have hitherto seen tried in the cure of that fatal disease.

SECTION III.

OF THE PROPHYLACTIC METHOD, OR MEANS CONTRIBUTING TO PREVENT THE DISEASE.

THE childbed fever, when produced by a distemperature of the air, like the epidemical dysentery or ulcerous sore throat, may at last become infectious; but when it only arises from such accidental causes as have already been enumerated, and which are confined to particular habits and constitutions, I believe it will then never communicate itself to a second person.

It is probable that many diseases which are foreseen might either be prevented or rendered less dangerous in their event, by what is called the prophylactic method, a branch of physic not hitherto sufficiently cultivated.

Sydenham supposes, that of those women who fail in childbed, scarcely one in ten of them die for want of strength, or by what they have endured in labour, but in consequence of their rising too soon from bed; and therefore he would not have them taken up at least till the tenth day after delivery. There is so much reason in this observation, that it ought to be duly regarded; but I think it may be said with truth, that the proportion of those dying of the childbed fever, compared to the number who die from dangerous or difficult labours, is at least double of that mentioned by Dr. Sydenham.

It is sometimes easier to avoid the approach of an evil than to find a remedy for it when present; therefore, every attempt towards it will be more or less necessary, in proportion to the danger of the evil itself; and since it appears that the childbed fever, in the epidemical season, is frequently fatal, it would be a most desirable circumstance, and a thing of real importance, if means could be devised to secure women from its influence.

I should be inclined to hope that this is possible, at least in a certain degree; and the rather, from what has been judiciously and experimentally laid down on the subject of fevers and infection by Dr. Lind; or, although the disease should appear, the symptoms would probably be milder, and the event more favourable.

It has been observed, that the more the body is endowed with an exquisite degree of sensibility, the more it becomes disposed to receive infection; would it not, therefore, be rational and expedient, when this disease is most frequent and fatal, to administer such medicines, a few days before and after delivery, as have been known to strengthen the constitution, and to diminish the sensibility and irritability of the habit? If so, nothing would so powerfully contribute to this end as the liberal use of Peruvian bark, together with the chalybeate waters, particularly those of Pyrmont or Spa.

Where the nervous system is extremely irritable, and thrown into disorder from slight, accidental causes, the prudent use of opium will also be attended with great advantage, as it will restore rest to the body and tranquillity to the mind, by dispossessing it of those disquieting ideas which disturb and pervert the natural secretions, and tend to excite a fever. It has been supposed that this medicine will suspend the bodily powers, and render them torpid and sluggish in shaking off diseases; but it appears too hasty a conjecture, for in women of hysterical habits, who frequently suffer from agitation of mind, and where the pulse from thence becomes quick, weak, and tremulous, there is not, perhaps, to be found a more sovereign and effectual cordial in the whole materia medica.

It will also be necessary to caution the patient against all such adventitious causes as have been known either singly to produce this fever, or to add to the influence of the air in bringing it on; such as sudden terror, or long-continued distress of mind, rising too soon from bed after delivery, errors in diet, or cold air admitted to the body in a full stream. Her food should be simple, easy of digestion, and chiefly of the vegetable acescent kind; her drink may be wine and water, acidulated with orange juice, or any of the grateful acids. She should use gentle exercise, and breathe a free open air, guarding against all sudden changes from one extreme to another. The bed-chamber, after delivery, should be cool, and neither incommoded with much noise or strong light. In a word, the body should be kept still and quiet, and everything carefully avoided which disagreeably engages the attention of the mind.

Nothing will sooner dispose the fluids to a state of putrefaction than long fasting, which occasions a stinking breath and looseness of the teeth, so that animals starved to death may be said, in reality, to rot alive. From this circumstance may be inferred the great advantage of frequently taking in aliment or attemperating acescent fluids, with a view to prevent diseases of the putrid kind; for it may also be observed, that they will survive a long time by the use of water only, which carries off the acrimonious salts and rancid oils by urine, and therefore hinders the juices from becoming putrid.

How far some of those rules and cautions might be conducive to the preservation of women, if duly regarded before delivery, I cannot, from experience, determine, as the patients at the Westminster Hospital were always received in actual labour; and, considering how much people, in general, are swayed by opinion and vulgar prejudice, I did not choose to urge this matter too far in private practice, lest, by its novelty, it should carry with it the appearance of an experiment, to which those of weak understandings are always averse, however safe and rational it might be in itself, or however useful it should prove in the conclusion.

The pernicious custom of binding the body too tight is also to be avoided, as it will produce difficulty of breathing, headache, and oppression at the stomach.

Particular odours will likewise occasion very bad effects, and have an inconceivable power on some particular women of a delicate, hysterical habit, being sometimes known to bring on sickness at the stomach, a delirium, and faintings.

I think it will be advisable for the patient to suckle her child, at least for the first three weeks or a month, although the principal danger seems to be over before the end of a fortnight.

Nothing will so soon dispose women to this fever as breathing a putrid, confined air, especially if it be warm and moist; for these qualities destroy its elastic power, and not only render it unfit for respiration, but also more apt to generate diseases of the putrid kind.

Peu gives a very striking and self-evident proof of the truth of this assertion, having observed that in hospitals where women were delivered in wards among the wounded, a great many of them died, so as to occasion a suspicion of the skill or attention of those who delivered them.[1] The matter being attentively considered, they discovered that this uncommon mortality was owing to the putrid effluvia continually exhaling from the wounds of the sick; and, as a confirmation of this conjecture, it was observed, that when the number of wounded patients increased, so did this contagious fever among the childbed women, and vice versâ.

This circumstance will suggest a very useful hint, which ought to be duly regarded by all those who have the direction and superintendence of public lying-in hospitals. The wards should not be overcrowded with beds, in order to avoid the danger of breathing air rendered impure by a great number of people confined in a narrow space; and also the cries of children, and the noise of such women as may happen to be in labour. The different wards should not only be kept exceeding clean, but also ventilated by a stream of fresh air passing through them, as they become empty by succession.

When the heat of the weather is extreme, the air may be rendered cool and refreshing, as well as antiseptic, by sprinkling the boards with pure water and vinegar; for all fluids, in a state of evaporation, have been found to generate cold.

This method was constantly observed at the Westminster Lying-in Hospital, during the epidemical season. Such wards may also be fumigated with fragrant gums, as those of myrrh and gum copal, with the addition of Cascarilla bark; but above all, the steams of boiling vinegar, to which lavender flowers have been added, with a sufficient quantity of camphire, may frequently be taken into the lungs, as the most grateful and effectual preservative that perhaps is to be found.

Lind observes, that the admission of pure air, or the most perfect ventilation, is not always sufficient to abate the activity or dislodge the infectious matter from the place of its residence; he therefore

[1] Peu, la Pratiq. des Accouch., liv. ii., chap. i., p. 268.

recommends the proper application of fire and smoke, as the most certain and effectual means of extinguishing the source of contagion. He also advises the burning of wood fires, as it has been experimentally found that the smoke of burning wood not only tends greatly to abate its violence, but also to preserve the uninfected from its malignant power.

He directs the wards or infected chambers of the sick to be closely shut up, and then to be fumigated with brimstone strewed on charcoal fires; and further adds, that, except the plague itself, no infections more pestilential and mortal have been known to prevail anywhere than those in some ships, yet he never heard of any ship which did not immediately become healthy, after being thus carefully and properly fumigated; and if we are not misinformed, some very late accounts from abroad assure us, that the plague itself was prevented by methods of the like kind.

Next to the smoke of burning wood, especially spruce, or that of the terebinthinate kind, he esteems the fumes of gunpowder for purifying a tainted air. All bodies, during their consumption by fire, afford a large quantity of mephitic air, which has been found powerfully to resist putrefaction; and upon this principle I believe that the good effect of the preceding method solely depends.

Experiments show that animals cannot long survive nor flame subsist without the accession of fresh air; even a common candle will require a gallon of this fluid in a minute. Considering, therefore, that the atmosphere is continually injured by the corruption of perishable bodies, and the effect of artificial fires, with those natural and more immense ones proceeding from volcanoes, it seemed a matter of wonder how the air could still preserve its original purity, till Dr. Priestly discovered that the perspirable matter or effluvia of vegetables is the grand resource, the sovereign remedy, which nature applies to restore the salutary principles of air, thus injured and unfit for respiration.

From this circumstance, it will appear no irrational caution to place pots of myrtle, southernwood, or mint, in the chamber of the sick during the epidemical season, as those vegetables are continually throwing off their antiseptic vapour. But it is to be observed, that the good it produces is not owing to any aromatic quality, for vegetables of an offensive smell, and even such as were almost inodorous, were found most powerful in resisting the putrescent quality of air.

Hence, the custom with some of putting green boughs round the sick, or sprinkling the ground with new-gathered leaves and flowers, on the supposition of affording refreshment and disposing the patient to sleep, does not seem ill-founded; for although they were ignorant how such relief was procured, they might, notwithstanding, have sagacity enough to observe that the effect was certain.

The matrons of all public hospitals, in cases of extreme danger, should administer the medicines prescribed with their own hands;

they should also take care that the nurses do their duty, and frequently supply the patients with clean, well-aired linen, otherwise the warmth of weather in the summer season, added to the heat of the body, may occasion a corruption of the lochia, which will taint the air, and not only render it offensive, but highly noxious.

During the first week or ten days after delivery, women should wear half shifts and skirts, for the greater convenience of changing them with ease, as occasion may require.

In such hospitals there ought to be particular beds or couches, for the sake of delicacy and neatness, as well as to keep the rest dry and clean. These delivery-beds, as they are called, being placed upon casters, may be brought close to another bed prepared for the reception of the patient, into which she may be gently conveyed, after resting a little to recover her strength and spirits from the fatigue of labour. This method will afford exceeding comfort and refreshment to a woman after delivery, and will also contribute greatly to her recovery, by removing her from the wet linen, which would subject her to take cold.

The mattresses and bedding should often be inspected, and frequently exposed to the sun and open air; and all foul linen should immediately be removed out of the wards, together with the putrid, bilious fluids rejected by the stomach or bowels.

When the patients at the hospital were helpless, and unable to sit up in bed to take refreshment, they were supported by a kind of half-chair, made for that purpose, and placed behind their back, which was found extremely useful on such occasions.

SECTION IV.

THE HISTORY AND TREATMENT OF THE DISEASE FURTHER ILLUSTRATED BY PARTICULAR CASES; WITH ANIMADVERSIONS AND REMARKS ON THE WHOLE.

THE reader will find that the following cases were not set down with any intention to show how successfully they were treated; but rather as examples of the dangerous tendency of the disease, which was oftentimes such as neither art nor nature had power to subdue. I have paid no regard to the caution of omitting some of those where it was fatal, or of inserting others when the event was favourable; in short, I have nowhere put a mask on the face of the disease, or suppressed the mention of a single circumstance which I thought could prove of the least use in being known; but have, at all events, described it as I found it in the epidemical season, and as it will be

found by others, under the like circumstances, viz., dangerous in its nature and difficult of cure.

From what has been advanced, it appears that the human body is so constructed as only to sustain violence to a certain degree, and, therefore, if the force of a dangerous disease is superadded to that indisposition brought on the habit by delivery, it is generally then much more fatal than at any other time; so that certain maladies which might have been separately endured, become destructive by their united power. In the smallpox, for instance, taken in the natural way, about one in seven or eight may probably die; but supposing those affected with it to be women at the point of delivery, scarcely one out of the whole number will be found to recover.

Case I.—Elizabeth Waters, a young woman of a strong, healthy habit, aged 21, was delivered in the Westminster New Lying-in Hospital, April the 7th, 1768. On the fourth day after she complained of the headache, which she said was owing to her being disturbed by another patient in labour, who lay near her in the same ward. Her pulse was tolerably good, and neither very full nor frequent; but as her headache continued till the next morning, eight ounces of blood were then taken from the arm, which afforded her much relief. She had milk in her breasts, and the lochia were discharged in due quantity, without any pain or tension of the belly. Two days after the pain in her head returned with violence, attended with thirst and fever, for which she lost seven ounces more blood; she took a laxative mixture, which had its proper effect, and afterwards the saline draughts every four or five hours, from which she seemed better; but as the pain in her head still continued, I directed leeches to her temples the next evening, which gave her ease.

She was apparently much better for a few days, her appetite being good and her aspect cheerful; but soon after relapsed, and was seized with severe and excruciating pains, like those of the acute rheumatism, in her limbs and body. She became quite helpless, and was not able to turn herself in bed without assistance.

I attended this patient with Dr. Brickenden, one of the physicians of the hospital. We directed antimonial powders, which she took as occasion required, but without much relief, as the pains continued, with a slow, lingering fever, for seven or eight days, and as they abated were succeeded by a great number of bluish discolorations on the skin, which were terminated by abscesses in different parts of her body. As they advanced slowly, and did not point with tension and redness, but were soft, and of a pale, livid hue, we directed the bark, with wine and good nourishment to quicken the circulation, and assist nature in bringing them forwards, as they plainly appeared of the critical kind; but, notwithstanding they were constantly poulticed twice a-day, not one of them came to suppuration so as to break, even at the end of six weeks from the beginning of her disorder; she was, therefore, removed to the West-

minster Hospital, where the abscesses, in number eighteen, as I was informed, were opened; and after remaining some weeks there, she at last recovered, and being cured and discharged, came and returned thanks at the Lying-in Hospital.

Case II.—Elizabeth Becket, aged 26, and of a healthy constitution, after a difficult labour, which lasted several hours, was delivered of a dead child, at the hospital, February the 18th, 1769.

She was affected with the headache, and sick at stomach, from the day of delivery, but did not vomit.

February 19th. Her pulse being frequent, and somewhat full and strong, and the headache violent, I directed eight ounces of blood to be taken away; an emollient clyster was then administered, and she afterwards took the saline draughts, with spermaceti, every five or six hours. Towards the evening she had four bilious stools, and appeared better.

20th. Her thirst was excessive, her tongue white and dry, she perspired but little, and had three evacuations by stool; she diluted plentifully with weak tea, and took her medicines as before.

21st. Slept but little; her eyes were bloodshot and prominent, and her headache not abated; her skin was dry, and her pulse being stronger than usual in such cases, eight ounces more blood were taken away.

22d. She slept the preceding night; her headache was greatly relieved, and all the febrile symptoms manifestly abated; notwithstanding she remained weak and helpless, and had involuntary stools for a few days after; but as her strength increased, this inconvenience went off, and in about a fortnight's time from the first attack she perfectly recovered.

The milk continued till the fifth day, and the lochial discharge did not seem altered from its natural state.

Remarks.—I would not here have it inferred that these two patients recovered because bleeding was directed; but rather from their having this fever when the season was not epidemical; for it is to be remarked, that the attack is not then so violent, and all the subsequent symptoms are less severe. The shivering fit in the beginning is generally less, and the diarrhœa and bilious vomiting are either inconsiderable, or do not appear at all; the pulse is neither so quick or weak, and the disease, instead of being terminated about the tenth or eleventh day, is often protracted far beyond that period, from acute becoming truly chronic, and then seldom proving fatal.

Elizabeth Burges was the first patient seized with the childbed fever in the epidemical season; she was delivered on the 6th of December, 1769, and died about twelve days after; but the particulars of her case I cannot distinctly remember.

Case III.—Juliana Thompson, aged 21, and of a delicate habit,

having received a stroke on her belly, was suddenly seized with labour, and delivered in a chair as she was coming to the hospital, December the 7th, 1769.

She continued pretty well for the first two days, but was rather languid and dejected in her spirits, having had a slight uterine hemorrhage from the time she received the hurt to that of being delivered.

Dec. 10th. Was feverish and thirsty, and complained of great pain in her head; there was no appearance of milk, and the lochia were discharged in their natural quantity. She took lenitive elect. with oil of almonds, which procured her two or three evacuations; the thirst and fever were abated, and her headache was much better.

11th. Continued better, and was able to sit up in bed.

12th. Her face was florid, her cheeks beset with a deep crimson colour, and her pulse was quick and weak; the tongue looked clean, though her thirst was intense; she diluted plentifully with tea and barley-water; the saline mixture with spermaceti was given occasionally, and a clyster of beef-water directed to be administered. Towards the evening a difficulty of breathing came on, with oppression at her breast, and a pain in her left side.

When I visited this patient with Dr. Ford, we directed the tartar emetic, in the third part of a grain, to be given every four or five hours, and a blister to be applied to her side; the emollient clyster was also repeated.

She had six or seven stools in the night, and the next day appeared easier, but was languid and weak; her pulse continued very quick, and the blister did not rise.

As there was sediment in her urine, with signs of a remission, we thought it advisable to try the bark in decoction; but it purged her immoderately, although the simple cinnamon-water was added; and therefore was left off.

The next day she complained of pains shooting downwards from her stomach to the navel, for which a volatile liniment was applied; but as it did not procure her much relief, we directed the warm bath the day following, in the manner already mentioned at p. 135, a long flannel gown being next her skin; she was afterwards put into a warm bed, and supplied with beef-tea and other warm fluids, in order to encourage a gentle perspiration.

Bladders, half filled with warm water and wrapped in flannels, were applied to her stomach and sides, where she still complained of pain and oppression, and the emollient clysters were also continued, with g^{tt}. xxx. of the thebaic tincture.

The next day her belly began to swell, though the purging still continued; she had partial, faint sweats on her breast and face, and was now extremely weak, though perfectly sensible, but could take nothing except nourishment for several days before her death, which happened on the 25th of December, being the fifteenth day from the time of the febrile attack.

Margaret Walker, another patient in the same ward, was delivered on the 11th of December, and sickened soon after the former. They both lay ill at the same time, and laboured under symptoms so exactly similar, that it would be unnecessary to set down the particulars of this last case. She died on the 21st of the same month, nine days after being seized with the disease.

Case IV.—Mrs. Y——, a lady near the Abbey in Westminster, young, and of a strong and healthy habit, after a labour perfectly natural, was suddenly attacked with a violent shivering fit, the third day after delivery, being the 1st of January, 1770. She was also affected with a thrilling, uncommon sensation, as if a cold, wet sheet had been applied round her body.

She complained of headache, and was sick at stomach; during the excess of febrile heat, her pulse beat 130 times in a minute, and was more full and strong than usual in this fever; her countenance was florid, and much altered from its natural state, having an unusual stare with her eyes.

Small portions of emetic tartar, viz., the fourth part of a grain, were given with the saline mixture every four hours. She diluted plentifully with barley-water and balm-tea, but did not perspire.

The second day after the attack a violent bilious purging came on; the antimonial powders were then given by longer intervals; the saline mixture was discontinued, and emollient clysters were directed. She took rice-water, and the white decoction for common drink.

The fever and diarrhœa continued very violent for three or four days; her belly swelled, and she frequently complained of much pain at the bottom of her stomach, and towards the navel. Sometimes there seemed to be obscure signs of a remission in the morning; but towards the evening the fever again returned with violence.

As she apparently grew worse, and as I was at that time ill and unable to give her due attendance, I desired Dr. Hunter might be called in, which was accordingly done. He directed eight ounces of blood to be taken away, the clysters to be repeated, and a bladder, filled with scalded bran, to be applied warm to the umbilical region. The next day I met Dr. Hunter and Dr. Hugh Smith. The saline draughts, with ʒss. of the confect. damocratis, were directed every six hours, and, in other respects, much the same method was pursued as before.

When Dr. Smith visited this patient with me the day following, we found her delirious, and, therefore, instead of the confect. damocratis, ℈j. of the pulv. contrayer. c., was added to each saline draught, which was ordered to be continued as before. Four spoonfuls of the tincture of roses were given in the interval, and clysters of chicken-water were directed to be administered frequently. The two following days I was prevented from seeing her, during which she took medicines of the warm cordial kind, but without perspiration or any abatement of the febrile symptoms.

A few days before her death she was delirious; her eyes were bloodshot and filled with involuntary tears; at the same time a miliary eruption appeared very thick on her breast and body, and her stools, which were frequent and very fetid, came away insensibly.

Leeches were then applied to her temples; the clysters were repeated, and her strength was supported by nourishment and wine; but all without a salutary effect, for on the 12th of January she died, and several hours before her death became perfectly sensible.

The lochia were discharged in due quantity; but there was no secretion of milk.

Remarks.—The signs of putrefaction in this patient before death were very evident, the smell of the room several days after she was buried being intolerably offensive, notwithstanding it had been thoroughly cleansed and fumigated with frankincense.

Purgative medicines, which are found so extremely beneficial in the secondary, putrid fever after the smallpox, cannot here be employed to advantage, because of the tenderness of the bowels and excessive loss of strength from the preceding diarrhœa; so that the bark, with opiates and frequent nourishment, seem most likely to afford relief, where that is in the power of medicine; but, unfortunately, the state of the patient is generally at this time such, for the reasons already given, as excludes all human assistance.

Where the stools are excessively putrid, it might be worth while to try the effects of fluids which contain a large quantity of fixed air, given in clysters, as they have been found powerfully to resist putrefaction, agreeably to some late hints in Dr. Priestley's curious tract on the Method of Impregnating Water with fixed Air.

Elizabeth Tomkins also died of this fever the 15th of January, 1770.

Case V.—Mary Evans, aged 29, was delivered February the 5th, 1770, without any uncommon circumstance attending her labour, which was easy and natural.

Her habit of body was apparently good, but being crooked and narrow-chested, she was subject to an habitual difficulty of breathing. She took an anodyne draught, with spermaceti, and passed a good night after delivery.

Feb. 6th. Perspired gently, and was free from pain and fever.

7th. At seven in the morning, was attacked with a slight shivering fit, which lasted about fifteen minutes, but was not succeeded by any violent degree of feverish heat; she took the antimonial powders every three or four hours, and fell into a gentle perspiration, which seemed to relieve her; an emollient clyster was also directed.

8th. Rested the preceding night, and continued tolerably easy; she had one bilious stool in the morning, was weak and languid, but free from pain, and got some sleep.

9th. At nine in the morning she had a shivering fit, which was relieved by drinking warm fluids, and the application of hot flannels

to her extremities and sides. In a few hours the cold fit in a slight degree returned, and was succeeded by a fever and partial sweats on her breast and temples; she had some rest the former part of the night, but at two o'clock was awoke by violent gripings and tormina in the bowels, followed by nine or ten bilious stools, after which she had ease.

10th. About twelve at noon she was seized with a great difficulty of breathing, and in the time of inspiration was affected with intolerable acute pain, striking down from her breast to the navel; but there was no tension nor pain in the belly, nor any symptom that could strictly be called uterine, the lochia being neither fetid nor deficient in quantity; her pulse, at the same time, was quick and unequal; but, considering her great difficulty of breathing, six ounces of blood were taken away, and the following mixture was given occasionally; a broth clyster, with $g^{tt.}$ xx. of thebaic tincture, was also directed, and she took rice-water or decoct. alb. for common drink.

℞. Lact. ammoniac., ℥vij.;
Sperm. ceti solut., ʒij.;
Elix. paregoric., ʒiij.
Fiat mistura cujus sumat cochlearia duo subinde urgente dolore vel dyspnœa.

After bleeding, her pulse became somewhat stronger, and its strokes were more distinct and free; the pain at the navel and difficulty of breathing were a little abated, and she passed a tolerable good night with refreshing slumbers.

11th. In the morning she was weak, but free from pain or much fever, and breathed with considerable ease; about three in the afternoon she became feverish again, and in the evening her pulse was quick and almost impreceptibly weak; her limbs were cold, and partial clammy sweats overspread her face and temples.

I directed two spoonfuls of the following mixture to be given every two or three hours:

℞. Spec. e scord. cum opio, ʒj.;
Aq. cin. simp., ℥vj.;
Aq. nucis moschat., ℥j.;
Syr. e cort. aurant., ℥ss. Fiat mistura.

An anodyne clyster was directed as before; her extremities were kept warm with hot flannels, and she passed a restless night, being delirious by turns. At four in the morning she had four black fetid stools, which were voided without pain. At seven she was perfectly sensible, and so continued till the hour of ten, at which time she calmly expired, being the fifth day from the attack of the fever.

The lochial discharge was natural, and she had milk at the usual time, which left her soon after the febrile attack.

Dissection.—After making an incision into the abdomen, from the navel to each anterior angle of the os ileum, and turning down the muscular flap over the pubes, about five ounces of white, curd-like pus covered the surface of the intestines; it did not run out

when the abdominal cavity was laid open, being of a much thicker consistence than common matter. On further examination, I found that the greatest part of the omentum was melted down, and formed this purulent concrete, and that the small portion remaining was much inflamed, and slightly adhered to the intestines. About a pint and a half of a putrid fluid, like whey, was found in the cavity of the pelvis, mixed with concreted matter, and bits of black grumous blood, which seemed to have escaped from the eroded vessels of the omentum.

The uterus was contracted to the size of a swan's egg, and shrunk down below the brim of the pelvis. On cutting into its cavity, small flaky pieces of the false chorion were found adhering to its surface, but it did not contain any kind of fluid; in short, this part, as well as the bladder, was perfectly sound, and without the least mark of inflammation, or any other morbid affection.

The substance of the liver was also sound, but appeared pale, bloodless, and as if it had been parboiled, and the gall-bladder was full of blackish bile.

The stomach and intestines were in their natural states; the first contained about half a pint of a watery blackish fluid, which smelled like rancid bile; and in the last, was found twice that quantity of a dark green fluid, somewhat like that in the stomach.

The spleen was large, but sound.

The sternum being raised, the lungs appeared of a livid hue, but on cutting into their substance, neither pus nor tubercles were found, nor any signs of inflammation; only the left lobe, at its posterior and superior part, slightly adhered to the pleura.

The veins on the neck and breast on the left side, were enlarged to three times their natural diameter, and were filled with blood of a bluish colour.

Remarks.—When respiration becomes extremely difficult and painful, in diseases of the thorax or abdomen, especially those of the inflammatory kind, nothing affords such speedy relief as bleeding; for if the breath is drawn in with excessive pain, the lungs cannot be sufficiently inflated, and, therefore, the blood will not be freely discharged from the heart through the pulmonary artery; hence, great oppression and anxiety at the præcordia, which, if not speedily removed, may produce a mortal suffocation; but when matter is already unluckily formed, as in the preceding case, it will then plainly appear, that the patient is past the assistance of art, and that neither bleeding nor anything else can avail.

As this disease is principally seated in the omentum, and uniformly produces an inflammation of that part (epiploitis), I think it will strongly enforce a necessity for the early loss of blood, together with the immediate application of blisters to the sides, or even to the umbilical region, to prevent, if possible, a morbid affection of the viscera, which, when once begun, is rapid in its progress, and generally fatal in the conclusion.

Case VI.—Ann Hewatson, aged 26, and of a delicate habit, was delivered February the 5th, 1770. Her case was somewhat laborious, and the birth of the child succeeded by a discharge of grumous blood from the uterus: the placenta came away without any assistance about an hour after delivery; she was easy in the night, and had refreshing sleep.

6th. Being inclined to sleep, took a spermaceti emulsion without any opiate; perspired gently, had a good night with natural rest, and waked free from pain or fever. The lochial discharge was large in quantity and fetid, but the belly was soft, and without pain.

7th. Continued easy, and had a moderate secretion of milk.

8th. About ten in the morning, after a breakfast of tea, without any evident cause, she was suddenly attacked with a rigor, which shook her whole body like an ague-fit; the shivering lasted above half an hour, gradually becoming less and less intense from its onset.

She took the emetic draught already mentioned, which operated mildly: towards evening, the antimonial powders were given by due intervals; she was extremely feverish, thirsty, and restless at night, but was somewhat relieved by a free perspiration, which came on about twelve o'clock.

9th. Had four bilious frothy stools, preceded by violent pains and gripings in the bowels: an emollient clyster was injected. Her pulse was quick and weak, and the febrile symptoms violent. She had a very restless night, but only one evacuation by stool, and without pain.

10th. In the morning had nine or ten blackish stools, mixed with mucus, which were extremely offensive, and attended with great pain; her pulse were excessively quick, she breathed laboriously, as it were by jerks, and complained of great oppression across the breast and stomach, and of pain striking down under her shoulder-blade, when she drew in her breath: eight ounces of blood were taken away, and a starch clyster with $g^{tt.}$ xxx. of tinct. thebaic was administered: she only now took rice-water, with a small portion of brandy in it, as everything else purged her immoderately. Towards the evening seemed a little better, her pulse was not so frequent, and the pain and feverish symptoms were somewhat abated.

11th. Hot and restless, with faint sweats on her breast, neck, and face. The emollient clyster was repeated without the opiate, after which she had some sleep.

12th. The clyster came away with a bilious stool; she was manifestly much worse, her pulse being very quick, and her thirst intense; she breathed laboriously, had a fixed crimson colour in her cheeks, and was also much troubled with a cough and viscid phlegm, which she was unable to expectorate, but found relief by taking the following mixture:

R. Sal. absinth., ℥j.;
Succ. limon., ℥iss., peracta effervescentia, affund.;
Aq. hyssop., ℥vj.;
Elix. paregoric, ʒij.;
Syr. balsamic., ʒiij.
Fiat mistura cujus sumat cochlearia duo subinde pro re nata.

13th. She was supported by a cordial julep when faint, together with light nourishment, and wine given by spoonfuls.

14th. Breathed with great difficulty, and her pulse was very quick and weak. She had partial sweats on her stomach, breast, and face, attended with coldness of the extremities, great languor, and all the symptoms of approaching death: she died about two in the morning, being the eighth day after the attack.

Remarks.—At the time of the shivering fit, which happened on the third day, this patient had plenty of milk in her breasts, which afterwards suddenly disappeared, and was totally gone off in the evening, her breasts being then loose and empty: the defect of milk is, therefore, manifestly a consequence of the morbid cause.

There is, however, one circumstance, which, although it seems to controvert this opinion, I cannot help mentioning, viz., those who were seized with this fever were not subject to abscesses of the breasts; and of those who happened to have such abscesses, I have never known one die; neither are they subject to a diarrhœa, or much symptomatic fever, although the pain attending a suppuration of the breast is often very acute.

The putrid discharge of the lochia in this case appears merely accidental, and only owing to a corruption of the coagulated blood retained in the uterus, from the access of air, like that which came away soon after delivery.

Phœbe Hill, aged 19, was also violently seized with this fever on the 11th of February, and, contrary to my expectation, recovered, and was discharged in perfect health on the 3d of March.

She was blooded early and liberally, and treated much like the former patient, but I did not take minutes of her case.

Case VII.—Elizabeth Gardner, aged 32, was delivered in the hospital the 11th of February, 1770; her labour was natural, and her habit of body strong and healthy, although she had been troubled with a violent cough for several weeks before delivery.

12th. Her pulse was full and frequent, attended with great thirst, sickness at stomach, and pain in her head and bowels; she took the saline mixture, with spermaceti, and an emollient clyster was administered: she also drank plentifully of weak tea and barley-water, but did not perspire, and passed the night without sleep.

13th. I visited this patient with Dr. Ford. Her pulse being exceeding quick, and more full and strong than usual, attended with excessive thirst, a violent headache, and dry skin, we directed ten ounces of blood immediately to be taken away: a lenitive electuary was afterwards given, and also an emollient clyster, which produced

two or three lax stools: she diluted plentifully, but did not perspire, and passed a restless night.

The secretion of milk was moderate, and the lochial discharge natural.

14th. In the morning had some refreshing sleep, with a gentle perspiration, her thirst and fever being somewhat abated: she had three evacuations by stool, but still complained much of an intolerable shooting pain in her head, especially at the time of coughing: eight ounces more blood were taken away, which was not near so sizy as that first drawn.

15th. Much disturbed by her cough in the night, perspired but little, and had no sleep, though her headache was something better.

16th. In the evening her pulse was extremely quick, her thirst immoderate, and all the febrile symptoms increased: she was sick at stomach, and had three bilious stools, with severe gripings in her bowels: the antimonial powders were given every three or four hours; about two hours after taking the second, she threw up a large quantity of viscid phlegm, mixed with bile, and in the night had eight or nine black stools, the last of which was very fetid, and mixed with blood and mucus. She was delirious by turns, very restless, and had partial, faint sweats on her breast and face.

The vitel. ovi, with mucilage of starch, was dissolved in rice-water, and injected as a clyster, and she took the following draught:

℞. Sperm. ceti solut., ʒss.;
Pulv. e tragacanth, c. ℈j.;
Aq. cin. simp., ʒiss.;
Tinct. thebaic, gtt. xv.;
Syr. e mecon., ʒj. Fiat haustus.

17th. Her stomach and bowels were much relieved, she slept in the night and waked refreshed; her pulse was weak but equal, and she perspired moderately.

18th. Better in all respects, but complained of great soreness in the bowels at the time of coughing: she took the anodyne draught at night, and the starch clysters were continued with light nourishment.

19th. She was weak, but continued easy, her pulse was regular, and she perspired gently. Instead of medicines, she now took calf's-foot jelly, and nourishing broth, to repair her strength.

20th. Gained strength; from this time gradually continued to recover, and the 9th of March she was discharged from the hospital in perfect health.

Ann Williams, who was delivered in the hospital on the 14th of February, was seized with this fever, and recovered under the like treatment.

Elizabeth Cousenitt, of a sickly, consumptive habit, also had the fever the 23d of February, and died the 3d of March: there was no

secretion of milk, but the lochial discharge was natural. She was treated in the usual manner, but not blooded.

Case VIII.—Ann Simms, aged 22, and apparently healthy and strong, was delivered on Tuesday the 6th of March; her case was somewhat laborious, the child's head being large, and detained several hours within the bones of the pelvis: an emollient clyster was directed in the evening, and she took an anodyne draught: passed a restless night, and without the least perspiration.

7th. Feverish and thirsty, her pulse quick and somewhat full, and her skin dry. She took the saline mixture, and diluted plentifully with nitrous drink; a clyster of beef-water was also given in the evening: she had a very indifferent night, and but little rest.

8th. Had some sleep the preceding night, and seemed a little better; she had milk in her breasts, and being costive, complained of the headache: a cathartic clyster was administered in the evening, which procured two evacuations, and her head was easier.

9th and 10th. Somewhat feverish and restless, though free from pain.

11th. Continued very restless; her pulse was quick, her tongue white and dry, and her thirst intense, without any perspiration: at night, she took a saline draught, with ten grains of nitre and g^{tt}. xv. of thebaic tincture, but had scarcely any rest.

12th and 13th. The febrile symptoms continued, and though she diluted plentifully, her skin remained parched and dry. Six grains of James's powder were then administered, which puked her twice, and afterwards procured her three stools: at night I directed her another powder and an emollient clyster, with g^{tt}. xxx. of thebaic tincture: she had some sleep in the night, but no free or equal perspiration.

14th. In the morning apparently better, and disposed to sleep, but towards the evening was sick at stomach, and threw up a large quantity of bitter, glairy fluid; in the night she was seized with severe pains in her bowels, followed by seven or eight bilious stools, and afterwards she had some sleep.

15th. Her pulse was quick, her skin dry, and her hand tremulous; her looks were wild and staring, and her cheeks beset with a deep crimson hue; she breathed laboriously, and complained of great pain in her side, and belly towards the navel: at night she had six black watery stools; after which, an anodyne draught and a starch clyster were directed: she seemed relieved, and slept for several hours.

16th. The pain in her belly and side was but little abated; she was extremely hot and restless, and could not sweat; I directed three spoonfuls of the following mixture to be given, which produced no perspiration although she took it every two or three hours:

℞. Sal. volat. ammon., ʒj.;
Succ. limon. recent. express., ℥iss., misce;
Aq. alex. simp., ℥vj.;
Tinct. croci., ʒiij.;
Syr. ejusd., ℥ss. Fiat mistura.

17. Much worse in all respects, the pulse being exceedingly quick, and almost imperceptibly weak; cold, clammy sweats overspread her breast and face, which was now pale and deathlike, and about twelve at noon she expired.

The lochia were discharged in their natural quantity, and she had milk in her breasts till within a day or two of her death.

Dissection.—When the body was opened, the next day in the evening, the inferior lateral portion of the omentum was found much inflamed, its vessels being turgid, and, as it were, injected with blood, but the greater part of it was destroyed by a suppuration; what remained, adhered to the small intestines, and they also slightly to each other, where their convolutions came in contact.

The uterus was contracted to the size of a large fist, and lay at the bottom of the pelvis; the fundus uteri seemed to partake of that general inflammation which had apparently first affected the omentum, and afterwards superficially overspread the intestines, the mesentery, and contiguous parts; but on cutting into its substance, it was perfectly firm and sound, although it had a livid appearance towards the cervix and os internum, which was probably owing to the violence sustained by those parts in the time of labour.

In the cavity of the pelvis was found above a pint of whey-coloured fluid, with three or four ounces of thick matter, which did not uniformly mix with it, but floated in it like curds in whey, together with several bits of black, coagulated blood.

The liver was sound, but remarkably pale, and the gall-bladder was turgid with a large quantity of olive-coloured bile, in consistence equal to that of honey, and with difficulty squeezed through the cystic duct. The stomach contained about half a pint of black oily liquor, resembling that which was voided by stool.

The contents of the thorax were sound, and without any morbid appearance, except a slight adhesion of the right lobe of the lungs to the pleura.

Case IX.—Ann Cook, aged 20, and of a delicate habit, after an easy labour, was delivered in the hospital the 13th of March, 1770.

The same evening she complained of sickness at stomach, with pain in her bowels, and passed a restless night.

14th. Continued sick at stomach; took the antimonial emetic draught, and threw up a large quantity of bilious ropy fluids from the stomach, also had one lax stool; after which, a broth clyster was injected, with thirty drops of thebaic tincture. She passed a tolerable night, perspired moderately, and had some refreshing sleep.

15th. Free from pain in the bowels, and had a good night's rest.

16th. Sick at stomach, and vomited a large quantity of porraceous fluid; her pulse was quick, and her thirst excessive: she took the antimonial powders every four or five hours, but perspired little, and had a restless night.

17th. In the morning complained of great sickness, and a burning heat at her stomach, with a violent headache, and threw up near a teacupful of dark green liquor, which seemed to be almost pure bile: she had also five bilious stools.

At night she was suddenly seized with an acute pain in her side, and great oppression at her breast; being likewise almost suffocated with tough phlegm, which she could not bring up: her pulse was exceeding quick and somewhat weak, and her countenance ghastly; but as she breathed with vast difficulty, I directed seven ounces of blood to be taken away, and that she should draw in the steam of warm water into her lungs at each inspiration: she afterwards took one of the antimonial powders, which occasioned her to vomit twice, and gave her two stools. She was exceeding weak, but breathed with a good deal more freedom and ease: an emollient anodyne clyster was injected, and she was ordered a spoonful or two of warm spiced wine when faint.

18th. In the morning she breathed with more ease, and was free from the load at her breast; her pulse beat regularly, but was extremely languid: bladders with hot water wrapped in flannels, were applied to the soles of her feet; she took light nourishment often, and now and then a spoonful of spiced wine.

19th. She had refreshing slumbers the preceding night, and gained strength; nothing was now given but frequent nourishment.

20th. Continued better; directed the following draught to be taken twice a-day, which greatly increased her strength:

℞. Decoct. Peruv. cort., ℥iss.;
Aq. cin. spt., ʒiij.;
Spt. lavend. c., gtt. xxx.;
Confect. alkerm., ʒj. Fiat haustus.

In about a week's time she was much recovered, and went out of the hospital the 2d of April in perfect health.

Case X.—Philadelphia Ford, aged 28, was delivered the 14th of of March, 1770, and was well till the third day, when she complained of great pain in her head, with lassitude and inability to turn in bed: her countenance was florid; she had a brown dry crust on her tongue, and an unquenchable thirst: her appetite left her, and there was not milk enough to give suck. The medicines usually administered on such occasions had but little effect; but all the febrile symptoms were much relieved by the appearance of a red cutaneous swelling on the joint of her great toe; in a few days, another swelling of a livid colour appeared below her hip; they both were poulticed and fomented, but did not suppurate; the last

threw off a black mortified slough, and discharged a sanious ichor. I directed her a decoction of the bark, with tinct. aromat., and by allowing her wine and good nourishment she recovered.

Ann Deuse, of a thin, weakly habit, died of this fever, notwithstanding various remedies were tried for her relief: she had a natural labour, and remained well for the first three days; inadvertently she sat up on the fourth day, and found herself not well towards the evening: on the fifth, she was seized with a shivering fit, the next day complained of pain in her belly and side, and on the 29th of March she died, being the sixth day after the attack.

She had milk in her breasts, and the lochial discharge was natural.

Bleeding in this case was not thought eligible. I have not known any instance besides this, where the disease proved fatal in so short a time, when it commenced so late after delivery, being, in general, then the most favourable.

The body being opened, almost exactly the same morbid appearances presented as in the preceding cases: the omentum was destroyed, and a large quantity of matter and purulent serum collected in the abdomen. The intestines were superficially inflamed, but the uterus and all the other viscera were perfectly sound.

Rebecca Day, of a healthy, robust habit, after a natural delivery, was seized with the headache and sickness at her stomach; two days after, a miliary eruption appeared on her breast and body, but without relief, for all the febrile symptoms gradually increased, and she died the 25th of April, being the tenth day after delivery.

The lochial discharge was not defective, neither was there a want of milk till after the attack of the fever.

The body was opened, but as the appearance of the affected parts was much the same, and only differed in degree from those already mentioned, a recital of the particulars would be unnecessary.

Case XI.—Harriet Trueman, young, and of a strong healthy constitution, May the 2d was delivered of a monstrous child, which presented with the arm, so that the case was preternatural in a double sense.

As this patient was of a plethoric habit, and subject to a cough, I directed seven ounces of blood to be taken away before the delivery was attempted, to prevent, in some measure, the danger of inflammation, which might arise from the violence applied in turning the child.

After delivery an emollient clyster was directed, and a saline mixture with spermaceti and syr. e mecon., of which she was to take three spoonfuls every four or five hours, as occasion required: she was free from pain, and had a good night.

3d. Perspired gently, continued free from pain and fever, her cough less violent, and she passed her water with ease; the mixture

was continued, and a clyster as before given in the evening: she remained easy during the night, and rested well.

4. Continued perfectly easy, and passed a good night: the lochial discharge was natural, and she had no pain in the region of the uterus.

5th. About three in the afternoon she was seized with a difficulty of breathing, with tightness and oppression across her breast and stomach; seven ounces of blood were immediately taken away, which was exceedingly sizy. The strokes of her pulse were weak, quick, and indistinct after bleeding, but soon became less frequent, and more ample and strong; she found herself much relieved, and could then breathe with freedom; was disposed to a gentle perspiration, and had refreshing slumbers in the night; the mixture and emollient clyster were repeated.

The secretion of milk was moderate.

6th. She continued easy, had a natural evacuation by stool, and slept by intervals.

7th. At four in the morning her difficulty of breathing and cough returned; she was sick at stomach, vomited up a ropy, bilious fluid, and had five black stools. Her pulse was weak, frequent, and intermitting; her breasts subsided, and the milk suddenly disappeared.

I directed a powder, with the third part of a grain of the tartar emetic, and a scruple of the pulv. contrayer. c. to be repeated every four or five hours after, if the first had no sensible operation by sweat or vomiting, and also an emollient clyster.

She passed a restless night without perspiration, her belly began to swell, and she had several involuntary bilious stools.

8th. Her respiration was frequent and laborious, her pulse quick and weak, her skin dry, and she complained much of pains in her sides, and across her belly near the navel, at the time of drawing in her breath.

I directed fomentation to her belly and sides, the powders to be repeated, and a starch clyster to be injected in the evening, with $g^{tt.}$ xxx. of the tinct. thebaic.

She took rice-water with a small quantity of brandy, for common drink, and a spoonful of spiced wine when faint.

The involuntary purging still continued violent, and she had no rest.

9th. Complained of pains in her breast and belly, her difficulty of breathing increased, her pulse was quick and almost imperceptibly weak; she was delirious by turns, had cold clammy sweats on her neck and face, and about four the next morning she expired.

Dissection.—When the body was opened, the greatest part of the omentum was suppurated, and converted into thick matter, the remaining portion being much inflamed and slightly adhering to the folds of the intestines. The cavity of the pelvis and abdomen contained about three pints of putrid serum, together with clots of concreted pus, and small pieces of coagulated blood.

The uterus was much contracted, and shrunk down to the inferior part of the pelvis; its substance was sound, though the os tincæ was somewhat livid, which appearance not being considered as morbid, has already been taken notice of.

Scarcely any marks of inflammation appeared on the intestines or mesentery; the liver was apparently sound, and the gall-bladder full of yellow bile, which had pervaded its coats, and dyed the contiguous parts of a saffron hue, but this I did not look upon as a morbid appearance.

The stomach contained about a pint of blackish fluid, like that voided by stool, and which had the appearance of putrid bile.

On raising the sternum, two ounces or more of matter was lodged upon the mediastinum, and the thorax contained a small quantity of the same kind of whey-coloured fluid as that found in the abdomen: the lungs were apparently sound, only the left lobe adhered slightly to the pleura, at its posterior part.

Remarks.—The extravasation of purulent fluid in the abdomen, by hindering the free play of the diaphragm, will, in a great measure, account for the difficulty of breathing, particularly as the lungs were still further oppressed by the same kind of fluid in the cavity of the thorax.

As the blackish fluid found in the stomach resembled putrid bile, I mixed a small quantity of it with vinegar, but could not perceive any effervescence, neither did the vinegar change it green, but this perhaps might be owing to the natural properties of the bile being altered by putrefaction.

Hippocrates, in his Aphorisms, takes notice, that black excrements, resembling black blood, are to be looked upon as a bad omen; and that black bile, rejected either upwards or downwards at the beginning of a disease, is a mortal sign, which observation is verified by repeated experience in the advanced state of diseases, as well as at their beginning.[1]

The colour of the excrements passing through the alimentary tube principally depends upon the quantity and quality of the bile; thus, where there is a defect of it, the stools are pale and the body costive; and, on the contrary, when it abounds, they are yellow or greenish, and generally very frequent.

Black, fetid stools, such as were observed towards the end of the childbed fever, almost certainly denote an internal mortification, and therefore it is no wonder they were so often followed by a fatal conclusion; but such a mortification cannot affect the colour of the excrements, except by means of the bile, which, after an absorption of the corrupted fluids into the blood, will at last become putrid, black, and acrimonious.

There was something very singular in this woman's child, which was monstrous: it had no thumbs; the parietal bones were wanting,

[1] Hippocrat. Aphorism, Sect. quart. Aphor. 21, 22.

and not above two ounces of brain were found in the cavity of the skull. The upper part of the scalp adhered strongly to the internal surface of the placenta, so that when the child was extracted, this part was pulled along with it, though, luckily, it was not attended with any degree of flooding.

Elizabeth Pool, young, and of a healthy constitution, was delivered the 15th of May, and soon after affected with the symptoms of this fever, but in a degree less acute than usual; her case was much like that of Elizabeth Waters, for though she laboured under a slow lingering fever for a long time, her appetite remained.

She was deprived of the use of her limbs for several days, yet the severe pains of which she complained were not like those of the former, followed by abscesses in the muscular parts.

On the 16th of June she was sufficiently recovered to go out of the hospital.

About this time, as near as I can recollect, I was called to a gentlewoman at Clapham, who was seized with this fever, and notwithstanding she had been treated very properly by her apothecary, and took everything that could be devised for her safety, she died about the tenth day after the attack.

Case XII.—Mrs. P——, a lady in Holborn, aged 28, and of a delicate habit of body, was delivered by her midwife on Saturday morning, the 7th of July, 1770.

The birth was not attended with any dangerous or uncommon circumstance; she was easy after delivery, and rested well at night.

8th. Towards evening complained of the headache, but had several hours' sleep the following night.

9th. Waked in the morning with an acute pain in her right side, her headache was worse, and about three in the afternoon she had a violent shivering fit, with coldness of the extremities, and great internal heat across the breast and stomach. I found her pulse exceeding quick, her headache violent, her tongue white and dry, and the pain in her side extremely acute and deep-seated; she breathed laboriously, and had no perspiration, except on the breast and face.

I directed eight ounces of blood to be taken away, and one of the antimonial powders to be given soon after, which was to be repeated every two or three hours, if the first had no sensible effect. An emollient clyster was administered, and bladders of warm water were applied to the soles of her feet and her sides. She passed a restless night, without any abatement of the pain or difficulty of breathing.

Two of the powders were taken, the first of which created a nausea, but did not prove emetic, nor produce any considerable perspiration.

The blood was not so sizy as I expected.

10th. The pulse being full, hard, and frequent, her skin dry, and respiration difficult and painful, eight ounces more blood were drawn; the powders were repeated every four or five hours, and a blister was applied to the affected side in the evening. She drank plentifully of the common emulsion with nitre, to prevent the strangury, and to relieve her difficulty of making water, which had been troublesome to her from the beginning.

11th. Had no sleep the preceding night; and as both the pain in her head and difficulty in breathing still increased, she was again blooded in the night, to the quantity of six ounces, as I had previously directed, in case the symptoms became urgent.

She was much relieved soon after this last bleeding; the pain abated, and she could then breathe with much more freedom and ease; her pulse became more soft and less frequent, and a free and equal perspiration broke out all over her body.

At this time she began to be troubled with a cough, and was much oppressed with white viscid phlegm, which was expectorated with great difficulty. She had two stools, with a large discharge of fæces, which came away with the second clyster.

The last drawn blood was uncommonly sizy, and the gelatinous crust on its surface extremely thick and tenacious.

She had milk in her breasts, which were drawn twice a-day, and the lochial discharge was natural.

As she perspired freely, the powders were discontinued, and the saline draughts, with oxymel. scillit., were given every five or six hours.

The blister rose well, the emulsion was continued, and the emollient clyster was ordered to be repeated as before.

About nine at night all her feverish symptoms returned; her pulse was exceeding quick, her skin dry, her thirst intolerable, and the pain in her side and difficulty of breathing were so violent, that her apothecary was called up in the night, and took away six ounces more blood; one of the antimonial powders was also given, after which she again began to perspire, with an abatement of all the feverish symptoms, and had two or three hours' refreshing sleep.

12th. Something better; but in the evening was attacked with a deep-seated violent pain in the other side, between the breast and axilla, so as almost to prevent her from breathing; her cough was also troublesome, and she expectorated with much difficulty; four ounces more blood was drawn, and the following draught prescribed:

℞. Sal. volat. ammon., gr. xv.;
Succ. limon., ℥iij.;
Aq. alex. simp., ℥j.;
Aq. spt. cum. acet., ℥iij.;
Tinct. thebaic., gtt. xij.;
Syr. e mecon., ℥j.
Misce et fiat haustus vesperi exhibendus.

She drank plentifully of thin diluting liquors, with nitre; the

clyster was repeated as before, and, by intervals, she took the following mixture:

℞. Sperm. ceti. solut., ʒij.;
Lact. ammon., ℥vij.;
Elix. paregoric., ʒiij. Fiat mistura.

She had an exceedingly bad night, but slumbered a little between whiles.

13th. Apparently better, but complained of severe rheumatic pains about her back and loins; her cough was more and more troublesome, and greatly interrupted her rest, but was relieved by the mixture with gum ammoniacum, to which a small quantity of the oxymel. scillit. was now added.

White-wine whey was ordered to be given her in the night, to support her strength, and she took a decoct. of bread, with currant jelly, for nourishment.

14th. Had two or three hours' refreshing sleep the preceding night, and the feverish symptoms were somewhat abated; but, as there was not yet the least sediment or separation in the urine, which was high-coloured, I still deferred the use of the bark, and directed the anodyne draught at night as before, which always eased her cough and procured her sleep.

15th. Being Sunday, about two in the morning, her relations thought her in great danger, and particularly requested me to see her, which I did accordingly. Her pulse was quick and tremulous, her extremities cold, and her face and breast were bedewed with a clammy sweat. She breathed laboriously, with convulsive jerks, and, at the same time, complained of great weight and oppression across her breast; though perfectly sensible, she had a wild, eager countenance, a trembling hand, and, apparently, all the symptoms of instant death.

I gave her four spoonfuls of a strong cordial julep, ordered sinapisms to her feet; her extremities were rubbed with hot flannels, and cloths dipped in brandy were applied to her stomach.

A few hours after I was gone she revived, but grew restless and almost frantic, insisting upon cold water to drink, which was given her. The next day I was acquainted she was still alive; when I visited her, about one in the afternoon, she was perfectly sensible, but so weak and languid that she was scarcely able to speak.

I directed a cordial julep to be given when faint, and the following draught, with the bark, to be taken every two hours, or as often as her stomach would bear; but as she had several involuntary stools, I ordered five grains of the phil. e styrace to be instantly given, which restrained the looseness, and procured her some hours' sleep before the bark could be prepared.

℞. Decoct. Peruv. cort., ℥iss.;
Pulv. subtilis. ejusd., ʒss.;
Aq. cinn. spt., ʒiij.;
Syr. e mecon., ʒj. Fiat haustus alternis horis exhibendus.

By eleven o'clock at night she had taken four draughts, and had

very little return of the fever; but, as her skin was dry and her thirst intense, I allowed her to drink plentifully of toast and water, which she particularly desired, and swallowed with great eagerness, after which she gently perspired towards the morning, and, growing cooler, she began the draughts as before. The urine was amber-coloured, but without sediment or separation.

16th. Better in all respects, but very weak, and her rest much disturbed in the night by the cough; draughts continued as before, and, by intervals, wine and light nourishment were given often, and in small quantities.

17th. Continued free from fever, and able to sit up; she had three stools, was much disturbed by her cough, and complained of a sore throat.

Directed pil. e styrace three grains, and the draughts only to be given three times a-day.

There was no remarkable change till the 21st, at which time she was almost unable to swallow, her throat being much worse, and the tonsil glands slightly ulcerated; her cough was troublesome, and several miliary eruptions appeared in her body.

The following draught was given every four or five hours, and her throat was fumigated with the steams of hot vinegar poured on lavender flowers, which gave her great relief:

℞. Decoct. cort. Peruv., ℥iss.;
Extract. ejusd. moll., ℈j.;
Elix. vitriol. dulc., gtt. xx.;
Aq. cinn. spt., ℥iij.;
Confect. alkerm., ℥j. Misce et fiat haustus.

Her strength was supported by nourishment of easy digestion as often as her stomach would dispense with it, and a little spiced claret was given to her whenever she pleased.

23d. I desired she might be removed into the country (Clapham) for the benefit of air; and in a few days she was so much better, in all respects, as to leave off her medicines, and only took a tincture of the bark, and cardamoms as a stomachic, in a strong infusion of tansy.

Remarks.—This fever was complicated with the pleurisy in a high degree, a case of all others the most dangerous; and as pleuritic symptoms do sometimes accompany a morbid affection of the abdominal viscera in this disease, perhaps it might reasonably be asked, whether the diarrhœa and inflammation of the omentum, which so usually succeeded the rigor, were not here prevented by early and repeated bleeding?

From what may be observed in the foregoing history, it does not appear eligible to wait for a distinct intermission of this fever, lest a severe attack of the febrile paroxysm should, in the meantime, carry off the patient: I think a remission of the symptoms, especially if attended with any critical evacuation, is, in general, sufficient to justify the liberal and immediate use of the bark; but

where they are at first manifestly inflammatory, if bleeding and evacuations have not preceded, I have seen it given without any good effect.

Case XIII.—Sarah Evans, about 21 years of age, was delivered in the hospital on Monday the 19th of November, 1770; she had a natural labour, and was well the first two days after delivery, but on the third day was seized with a fever, which the matron believed was owing to a surprise, as the febrile symptoms appeared very soon after.

As this patient was of a very delicate irritable habit, and lax fibres, I did not think it proper to direct bleeding, particularly as her skin was moist and her pulse quick and weak.

She took a mixture with spt. mindereri and the tinct. thebaic; emollient clysters were also directed to be frequently administered. After the fever had gradually increased for a few days, she complained of a difficulty of breathing, and pain in the side of her belly, towards the navel. Warm flannels were applied to the part affected, and bladders of hot water to her feet.

She drank beef-water and weak pimento tea for common drink; and being extremely languid, was allowed a small quantity of white wine and light nourishment by turns.

On the 29th of November she was still weaker, the heart almost ceasing to do its office, and the circulation being at the lowest ebb. The next morning she calmly expired without any signs of pain, or the least convulsive struggle.

Dissection.—On opening the body, evident marks of inflammation appeared, particularly in the abdomen: a great part of the omentum was destroyed, and converted into matter, and what remained was become gangrenous; its diseased membranous expansions here and there overspread the intestines, and slightly adhered to their surfaces, which was also inflamed, particularly at their convolutions; those parts, from the additional effect of pressure, being, as it were, superficially soldered together: that portion of the omentum which is inserted round the great curvature of the stomach, was also considerably inflamed.

The uterus had a natural appearance, and was perfectly sound, as well as all the parts peculiar to it.

The liver was also unaffected, except its peritoneal coat, which being dissolved by the inflammation, lay on its surface in a tender, gelatinous state. The gall-bladder was turgid with bile.

The mediastinum was inflamed, but the lungs were perfectly sound, and free from adhesion to the pleura.

The whey-coloured, putrid fluid, contained in the cavity of the abdomen, was nearly the same in quantity and appearance as that in the former cases.

Where the pulse was extremely soft and weak, and the circulation languid, it is difficult to account for so sudden and high a degree

of inflammation as to produce a collection of matter, or any inflammatory affection of the abdominal viscera: but so it was; and therefore, in all such cases, where bleeding seems improper, it will be requisite immediately to apply sinapisms, or a blister to the umbilical region.

Case XIV.—Hannah Jeffreys, of a strong, healthy constitution, the fourth day after delivery, which was natural, was seized with a shivering fit, succeeded by headache and great sickness at her stomach, with six bilious stools; she was affected with universal languor and frequent sighings, with great dejection of spirits; was very restless and thirsty, and had a smart, quick pulse.

A clyster with beef-water was given, and she diluted plentifully with warm balm-tea, but could not perspire.

The next morning she had two purgative evacuations, and laboured under much anxiety and oppression at her breast: broad, purple-coloured spots, which rose a little above the surface of the skin, soon after appeared all over her body; they were very thick on her breast and face, but were not attended with any mitigation of the symptoms, except for an hour or two in the beginning.

She took one of the antimonial powders, which was repeated every three or four hours, without any sensible evacuation whatever: being no better in the evening, the eruption appearing livid, and her extremities being cold, a cordial julep was given her now and then; blisters were applied to the inside of her arms, and cataplasms to her feet; the emollient clyster was repeated, and she was allowed white-wine whey for common drink.

The two following days all the febrile symptoms increased, together with the difficulty of breathing, although the blisters, which had been applied, produced their proper effect; and thus, growing gradually worse and worse, she died at four in the morning, on the 5th of May, 1761, being the ninth day from that of her delivery.

A TREATISE

ON

PREGNANT AND LYING-IN WOMEN.

BY CHARLES WHITE, F.R.S.[1]

CHAPTER I.

OF THE CAUSES AND SYMPTOMS OF THE PUERPERAL OR CHILDBED FEVER.[2]

WOMEN, during the time of lying-in, are subject to this fever, which has evident symptoms of putrescency, and which, if not properly managed, has often fatal effects.

That childbed women should be so liable to putrid fevers[3] is not to be wondered at, if we consider every circumstance and every inconvenience they lie under, owing to bad fashions and customs; but to trace them up to their original source, we must look back as far as the early months of pregnancy. At this period the tightness of the stays and petticoat bindings, the weight of the pockets and of the petticoats, press the womb, already enlarged by the fœtus

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[1] [On Puerperal Fever. By Charles White, Esq., F.R.S., of Manchester. Extracted from his "Treatise on the Management of Pregnant and Lying-in Women," &c.]

[2] This disorder in the northern parts of this island is called the weed; and in the southern parts by some, improperly, the lochial fever.

[3] "Puerperæ ex male affecti corporis vitio tanquam auræ pestilentialis contagio tactæ febri putridæ, seu potius malignæ quam nimium obnoxiæ reperiuntur; hujusce vero morbi labem haud omnes ex æquo suscipiunt: etenim pauperes rusticæ, aliæque duris laboribus assuetæ, nec non viragines, et meretrices, quæ clandestina agunt puerperia, sine magna difficultate pariunt, et deinceps brevi a lecto excitatæ, ad solita redeunt opera; mulieres autem ditiores, tenellæ, et pulchræ, pleræque vitam sedentariam degentes, quasi maledicti divini graviori modo participes in dolore pariunt, indeque mox a partu difficiles et periculosos subeunt casus."—Willis de Febribus Puerperarum, Febres putridæ, Caput xvi.

Willis's account would not have been liable to any material objection, if he had not excepted the poor in general; for it is now well known that they are very liable to this fever, both in the hospitals and in their own houses, especially if they are situated in the middle of large manufacturing towns and cities; but there is this to be said in favour of the doctor, that it is above a century since he wrote this treatise on the Puerperal Fever, at a time when there was no hospital for lying-in women in the British dominions, our manufactories were then in their infancy, and the diet and mode of living amongst the poor people were totally different from what they are at this time.

and its membranes, so strongly against the lower intestines as to prevent the descent and exclusion of the excrements. These being retained, the thinner parts are absorbed by the lacteals, which cause, or at least greatly increase, that obstinate costiveness of which most women complain during the whole time of pregnancy, and which is also farther increased by a sedentary, inactive life, and improper diet. This excrementitious matter being absorbed into the circulation, undoubtedly occasions a great inclination to putridity; loss of appetite soon follows, and the stomach and duodenum being no longer distended with aliments, large quantities of bile are collected in the gall-bladder, the cystic and hepatic ducts, and by lodging there soon acquire a putrid or putrescent acrimony.

When the woman is in labour she is often attended by a number of her friends in a small room, with a large fire, which, together with her own pains, throw her into profuse sweats; by the heat[1] of the chamber, and the breath of so many people, the whole air is rendered foul and unfit for respiration;[2] this is the case in all confined places, hospitals, jails, and small houses, inhabited by many families, where putrid fevers are apt to be generated, and proportionally the most so where there is the greatest want of free air. Putrid fevers thus generated are infectious; witness the black assize, as it is usually called.

If the woman's pains are not strong enough, her friends are generally pouring into her large quantities of strong liquors, mixed with warm water, and if her pains are very strong, the same kind of remedy is made use of to support her. As soon as she is delivered, if she is a person in affluent circumstances, she is covered up close in bed with additional clothes, the curtains are drawn round the bed and pinned together, every crevice in the windows and door is stopped close, not excepting even the keyhole, the windows are guarded not only with shutters and curtains, but even with blankets, the more effectually to exclude the fresh air, and the good woman is not suffered to put her arm, or even her nose, out of bed, for fear of catching cold. She is constantly supplied out of the spout of a teapot with large quantities of warm liquors, to keep up perspiration and sweat, and her whole diet consists of them. She is confined to

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[1] Dr. Thomas Cooper, speaking of the lochial fever, says, "this fever is most common, and also more fatal, in the hotter months."—Compend. of Midwifery, p. 220; Lond., 1766.

[2] It has been found by Dr. Stephen Hales (Statical Essays, vol. ii., p. 324) that a person in health destroys two gallons of air in two minutes and a half, so as to render it unfit for respiration.

Dr. Percival informs me that a correspondent of his (a gentleman distinguished for his knowledge of natural and experimental philosophy) has lately discovered "that air which animals have breathed is, in all respects, the same with air in which animals have putrefied. The original quantity is equally diminished in both cases; which is found to be owing, in part at least, to the precipitation of the fixed air it contained: and they are restored by the same process. One use of the lungs, therefore, must be to carry off a putrid effluvium, without which a living body might perhaps putrefy, as well as a dead one.

a horizontal posture for many days together, whereby both the stools and the lochia are prevented from having a free exit. This happens not only from the posture of the patient, but also from the great relaxation brought on by warm liquors and the heat of the bed and room, which prevent the over-distended abdominal muscles from speedily recovering their tone, whereby they are rendered unable to expel the contents of the abdomen, which lodging in the intestines many days become quite putrid.

The lochia stagnating in the womb and in the folds of the vagina, soon grow putrid; for it is well known that the mildest humours in the human body, if suffered to stagnate, become so as soon as the air has access to them. These are, in part, absorbed by the lymphatics in the womb and vagina, and the effluvia from them help to make the air in the bed and in the room more putrid; this air in every act is inspiration is taken into the lungs, and is there again received into the circulation: add to this that women are generally of a lax, seldom of a rigid, fibre, owing, in some measure, to their periodical evacuations, to their sedentary, inactive, and domestic way of life, and likewise to their muscles being surrounded with a much larger quantity of cellular membrane than those of men; hence, also, they arrive at their acme sooner than men.

Amongst the poor people who live in cellars and upon clay ground floors, the air is still made worse by the dampness and closeness of their houses, and the want of clean linen, and cleanliness in general. Those who live in garrets are also in no better a situation, for the putrid miasmata of several families inhabiting the lower part of the house ascend to them, already suffering, perhaps, from the effluvia of a whole family in every single room, the putridity of which is farther increased by the heat of the sun piercing through the covering of the house; nor is it to be wondered at that they are still in a worse situation in hospitals,[1] where a number are crowded, not only in one

[1] "Il a régné pendant l'hiver de 1746 une maladie épidémique parmi les femmes en couche: M. de Jussieu a le premier observé cette maladie; elle commençoit par le dévoiement, ou par une disposition au dévoiement, qui continuoit pendant la couche: les eaux qui accompagnent ordinairement la naissance de l'enfant, sortoient pendant le travail de l'accouchement; mais après ce temps, la matrice devenoit sèche, dure et douloureuse, elle étoit enflée, et les vuidanges n'avoient pas leur cours ordinaire.

"Ensuite, ces femmes étoient prises de douleurs dans les entrailles, surtout dans les parties qu' occupent les ligamens larges de la matrice; le ventre étoit tendu, et tous ces accidens étoient accompagnés d'une douleur de tête, et quelquefois de la toux.

"Le troisième et le quatrième jour après l'accouchement, les mammelles se flétrissoient, au lieu qu'elles durcissent et se gonflent naturellement dans ce temps par le lait qui s'y filtre alors en plus grande quantité: enfin ces femmes mouroient entre le cinquième et le septième jour de l'accouchement.

"Cette maladie n'a attaqué que les pauvres femmes, et elle n'a pas été aussi violente, ni aussi commune parmi les pauvres femmes qui ont accouché chez elles, que parmi celles qui ont été accouchées a l'Hôtel-Dieu; on a remarqué que dans le mois de Fevrier, de vingt de ces femmes malades en couche a l'Hôtel-Dieu, à peine en échappoit-il une: cette maladie n'a pas été si meurtrière dans le reste de l'hiver. MM. Col. de Villars et Fontaine, médecins de cet hôpital, nous ont rapporté qu'à l'ouverture des cadavres de ces femmes, ils avoient vu du lait caillé et attaché à la surface externe des intestins, et qu'il y avoit une sérosité laiteuse épanchée dans le bas-

house, but in one ward, where the disease is conveyed from one to another by the putrid miasmata lodging in the curtains, bed-clothes, and furniture, and by the necessary-houses, which are either contiguous to or so near the hospital as to occasion a most disagreeable smell, and must, of course, convey that infection, which cannot be more effectually communicated than by the excrements.

The breasts, if drawn at all, are not drawn till several days after delivery, when they are so full as to be perfectly gorged, and as hard as stones. By this means the first milk, which for a very wise purpose is thick, purgative, and of a stimulating nature, is thrown back into the circulation.

This description may perhaps seem overcharged for a picture of that improved practice which is introduced by modern professors of the art; but, upon a close examination, I believe it will appear that many of the most important errors do in reality prevail, and this I impute in great measure to the large share which nurses have in directing the management of lying-in women, to whose interference practitioners must in some measure submit, though contrary to their better judgment.

Women have frequently many, and sometimes all, of these difficulties to struggle with, even after the most easy deliveries; but if there has been such violence used, either by instruments or by the hand, in the extraction of the child or the placenta as to bring on an inflammation of the womb, these difficulties will still be farther increased. The patient may likewise be put upon her labour too soon, by endeavouring to dilate the os internum, or be too frequently teased with unsuccessful attempts to deliver her; or after the head is born, the body of the child may be delivered too suddenly, and too forcibly, without waiting for another pain, or giving the shoulders time to accommodate themselves to the different dimensions of the pelvis, the bad effect of which I shall explain more at large hereafter.

In a few days after delivery, the patient is perhaps seized with a shivering fit, and the nurse is surprised, as she protests she has not had the least waft of cold; more clothes are heaped upon her; spirituous liquors and hot spices are given her, to throw off the cold fit, which most certainly increase the succeeding hot one. A warm

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ventre; ils ont même trouvé aussi de cette sérosité dans la poitrine de quelques-unes; et lorsqu'on en coupoit les poumons, ils degorgeoient une lymphe laiteuse et pourrie.

"L'estomac, les intestins et la matrice bien examinés, paroissoient avoir été enflammés, et il est sorti, suivant le rapport de ces deux médecins, des grumeaux de sang, à l'ouverture des canaux de la matrice.

"Dans plusieurs de ces femmes, les ovaires paroissoient avoir été en suppuration."—Hist. de l'Acad. Royale des Sciences, l'an 1746, 4to, p. 160.

"I am well informed that this fever and obstruction occur more frequently in the lying-in hospitals than in private practice. What can this arise from but from the different states of air? This, in my opinion, is the cause; for though very great care is taken in those hospitals, yet as the apartments and furniture will imbibe some of the morbid effluvia, arising from the patients, the air must always be more or less tainted."—Johnson's Midwifery, p. 253.

room, plenty of clothes, and warm drinks are continued to throw her into a sweat, but have frequently a contrary effect, by increasing and prolonging the burning fit, which at last terminates in a most profuse putrid sweat, continuing many nights and days without giving relief.

The cold fit sometimes, like the paroxysm of an ague, returns, but at uncertain periods, and at last ends in a continued fever; at other times no cold fit precedes the disease; it creeps on gradually, and first shows itself by putrid sweats, attended with a nausea, or by vomitings of porraceous matter, and a looseness. What the patient vomits is generally mixed with large quantities of bile of a dark colour. The stools are sometimes very copious and frequent, and so exceedingly putrid as to be offensive all over the house, and to convey infection to the whole family; at other times, the patient is racked with a constant tenesmus, and with frequent motions to make water, accompanied with swelling, pain, and soreness in the belly, and with pains in the head, back, breasts, sides, hips, and iliac region, with a cough and difficulty of breathing; there is commonly a wildness in the countenance, and the head seems hurried, and, in some cases, the face is flushed; the urine is generally very high coloured, and sometimes turbid, with a gelatinous, unequal sediment; but in others it is very pale, or appearing like foul cider with filaments in it.

The tongue at first is white and moist, and soon after is covered with a white fur; or else it is dry, hard, and brown, and afterwards covered with a brownish fur; a brown or blackish sordes, the consequence of putrid exhalations, adheres to the edges of the teeth. The patient usually nauseates all kinds of food and drink, except what is cold and acidulated. The pulse at the beginning of the disorder is very little altered, only something fuller and quicker; but as the disorder advances it grows quick, small, and creeping, and the patient complains of great anxiety, and oppression about the præcordia, attended with sighings, lowness of spirits, lassitude, and great debility. The quantity of the lochia is frequently not at all diminished, at other times it is very much lessened, what flow are very fetid; and, in some cases, this discharge is totally suppressed.

The breasts in some grow flaccid, the milk abates in quantity, and if the disorder is not soon removed, is entirely lost; but this is not always the case.

If the hot regimen be continued, with vinous spicy caudles, hot alexipharmic medicines, volatile alcalious salts and spirits, opiates, and a close room so as to keep the patient in a perpetual sweat, vibices[1] or petechiæ appear, or eruptions either of the white or red kind, or both, first upon the neck and breasts, afterwards extending

[1] Cooper, speaking of this fever about the fourth day, says: "Now, if not before, some violent pains come on, in the arms and thighs, succeeded by a discoloration of the skin, occasioned by the blood corroding and stagnating in the vessels."—Compend. of Midwifery, p. 218.

themselves all over the body, one crop succeeding another till the patient is worn out; but they give no relief, are not in any way critical, nor is there indeed any regular crisis in this disorder, except the looseness.

The patient is generally easier after every stool, and they seem to give relief. The stools at last are discharged, together with the urine, involuntarily; colliquative sweats, hiccuppings, convulsions, &c., come on; and death, which happens sometimes sooner, sometimes later, closes the scene. There are some who have died so early as within twenty-four hours after the first attack; but the eleventh from the first seizure is said to be the day on which the patient most commonly dies, though others have lived many days longer without recovery.

This disease was well known to Hippocrates,[1] and to numberless authors who have written since his time, and has been styled either epidemic,[2] malignant, putrid, or inflammatory, and by some a compound of all four. It is certainly at all times malignant and putrid, when suffered to run its course, and frequently at some seasons epidemic, and in some situations may properly be said to be endemic. Nay, if the womb has been lacerated, or has received any injury in labour, it is sometimes undoubtedly compounded of all five. Some have represented it as entirely owing to the milk, some to an inflammation of the womb[3], and many to a suppression of the lochia; some have ranked it amongst hysterical[4] disorders; and others have called

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[1] Hipp. de Morb. Mulierum, lib. i., sect. 5; on Epidemical Diseases, Cases 4 and 5.

[2] "During the prevalence of epidemic fevers the recovery of women in childbed is much more precarious than in healthy seasons. This is observable in every sphere of life, but for obvious reasons more remarkably in lying-in hospitals; it has been taken notice of by the industrious Dr. Sydenham, and by Tho. Bartholine, and must undoubtedly have happened invariably in all ages of the world, though it is now better understood in this country, since some of the most ingenious of our physicians have devoted their time chiefly to the study and practice of midwifery, and the management of those diseases with which it is more particularly connected."—Millar on the Prevailing Disorders of Great Britain, part III., sect. i., p. 332, of the Puerperal Fever.

"Nonnunquam post lochiorum suppressionem in febrem incidunt puerperæ, quæ vel in earum quæ tum grassantur epidemicarum castra transit, vel ab ea sola pendit origine."—Dissert. Epist. ad Gul. Cole, M.D., Syden. Op., p. 532.

[3] Tissot, in his "Avis au Peuple," Eng. edit. by Kirkpatrick, p. 371, seems to think that this disorder is an inflammation of the womb, and he mentions an extraordinary circumstance not taken notice of by other authors, viz., that the belly turns black. Sect. 370, he says, "The inflammation of the womb is discoverable by pains in all the lower parts of the belly; by a tension or tightness of the whole belly; by a sensible increase of pain on touching it—a kind of red stain or spot that mounts to the middle of the belly as high as the navel, which spot as the disease increases turns black, and then is always a mortal symptom; by a very extraordinary degree of weakness; an astonishing change of countenance; a light delirium or raving; a continual fever, with a weak and hard pulse; sometimes incessant vomitings; a frequent hiccup; a moderate discharge of a reddish, stinking, sharp water; frequent urgings to go stool; a burning kind of heat in the urine; and sometimes an entire suppression of it."

[4] "Femina xxx. annorum, temperamenti sanguineo-melancholici, hystericis passionibus in puerperio, et extra illud, sæpius obnoxia, tertium gravida, gestationis tempore nec venæ sectionem admisit, nec exquisite servavit præcepta diætetica. Primis post partum diebus non bene purgata est utero; sed de dolore lumborum, torminibus ventris, alvo adstricta, et somno per aliquot noctes inquieto conquerebatur. A practico,

it only a symptom; but all have agreed in its fatality,[1] and the uncertainty of every method of cure, both in the rich and in the poor, who all acquire this disorder from similar causes, though by means somewhat different. I am informed that the appearances after death are those of inflammation and gangrene in the intestines, or some of the abdominal viscera; sometimes in the uterus;[2] and, in some cases, when the disease has been of long continuance, it has extended to the lungs and all the neighbouring parts.

In the cavity of the abdomen is generally found an extravasated serum, mixed with purulent matter, and an exudation appears upon the surface of the intestines, gluing them to one another, and to the peritoneum. There is no wonder that these appearances should be observed, more particularly in the abdomen, as the very acrid, putrid stools voided in this disorder must naturally tend to inflame, and to give a putrescent disposition to the intestines, by transuding their coats, or being absorbed into their small vessels; and we may conclude, that the same causes which produce putrefaction in the abdomen of a dead body[3] sooner than in any other part, will also operate in the same manner in the living body, wheresoever there is a general putrefactive tendency; nor need we be surprised that the womb itself should be found in a gangrenous state, when we consider the great distension it has undergone, and that it has afterwards suddenly collapsed, and has been kept some time imbued with the stagnating putrid lochia.

It does not appear that this disorder can be ascribed to simple inflammation. The patients complain chiefly of a tension, soreness and tenderness of the belly, and are seldom affected with those ex-

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quem in consilium vocavit, validiores essentiæ ad pellenda lochia fuerunt datæ; et ad alvum aperiendam uncia dimidia salis amari Sedlicensis in aqua simplici soluta est oblata. Inde auctis torminibus, nec facta per alvum, nec per uterum excretione, conversо sanguinis versus superiora motu deliravit, et accedentibus convulsionibus extincta est."—Hoffman, tom. iii., sect. i., cap. v., Obs. 10, de Malo Hysterico.

[1] "As the disease, which is the subject of this essay, occasions the death of much the greater part of women who die in childbed," &c.—Denman on the Puerperal Fever, p. 1.

[2] Pouteau, in his "Melanges de Chirurgie," p. 182, upon opening two women who died of this fever in their lying-in at the hospital at Lyons, says: "En ouvrant ces matrices il ce présenta dans l'une et dans l'antre une circonstance qui mérite attention; la tunique interne de ce viscère étoit noire et molle; la matrice dans son épaisseur avoit une rougeur livide et vraiment gangréneuse."

[3] Sir John Pringle gives us the following note, which, he informs us, he had from Doctor Hunter: "That the abdominal viscera and muscles corrupt the soonest of all parts in the body after death, wherefore it is a rule with anatomists to begin their dissections and demonstrations with those parts which first become offensive. That the quick putrefaction here may reasonably be ascribed to the putrid streams of the fæces with which all those parts are more or less impregnated: hence, too, the cause of the speedy corruption of the psoas and iliacus internus in comparison of the muscles in the extremities. That next to the abdominal viscera and adjacent parts, the lungs are commonly soonest tainted, whether from the air stagnating in the vesiculæ bronchiales, or some remains of the perspirable matter that may act as a ferment and hasten to putrefaction; for whoever tries the experiment of compressing the thorax in a body that has been dead some time, will be sensible of the putrid state of the lungs by the offensiveness of the air that is forced out of them."—On the Diseases of the Army, Appendix, p. 84, 4to edit.

cruciating pains which generally attend common inflammations of the bowels; but it evidently manifests itself to be of the putrid kind, occasioned by human effluvia, by accumulations of acrid, putrid bile, and of a putrid colluvies through the whole intestinal canal and organs of generation, and is a malignant[1] fever of the same genus as the jail or hospital fever.

Scarce any two authors have described this fever alike, and yet I believe their descriptions have truly been from what they have seen; but these different appearances have been probably owing to a variety of management, and to a difference in the constitutions of the patients.

A true puerperal fever is originally caused by a putrid atmosphere, &c., not occasioned by either the heat of the air or any hot things taken internally; but notwithstanding this, it may be much aggravated by these, and many of the symptoms frequently attending it are entirely occasioned by hot air and a hot regimen. For instance, if a woman of a strong constitution, and of a plethoric habit of body, is seized with this fever, and spirituous liquors and hot spices are given her, she will have a strong, hard pulse, and the symptoms of inflammation will run so high as to indicate the necessity of copious bleeding; and when the fever is farther advanced, a delirium, subsultus tendinum, &c., will come on. But if the patient is of a more relaxed habit of body, and is kept sweating in bed in a warm room, by warm liquids, eruptions will appear upon the skin; and if a woman, subject to hysterical complaints, is seized with this fever, and has any large evacuations, either naturally or procured by art, a train of hysterical symptoms will succeed. And lastly, it must be observed, that though all the symptoms here enumerated have been seen in different patients, yet it must not be imagined that all of them ever occurred in the same subject.

CHAPTER VI.[2]

THE PREVENTION OF THE PUERPERAL, MILIARY, AND MILK FEVERS.

As soon after the woman is delivered as it can be conveniently done,

[1] Dr. Monro says, "Many authors have reckoned the malignant, petechial, and pestilential to be distinct species of fevers, and have treated each under a particular head. But Riverius has very justly observed that they all belong to the same pestilential tribe, and only differ from one another in the degree of infection and violence of the symptoms, and that they are cured by the same general treatment, and the same medicines."—On the Diseases of the Military Hospitals, p. 55.

And in a note he farther says, "The malignant or hospital fever, and petechial, seemed to me to be entirely the same disorder, and the petechial spots to be only a symptom which appeared sometimes, but not always."—Ibid., p. 56.

[2] [The previous chapters relating to miliary and milk fevers, &c., have been omitted, as being irrelevant to the object of this selection.—Ed.]

clean linen should be put about her; she should be left to the most perfect quiet of body and mind, that she may, if possible, get some sleep. The child should be removed into another room, and no visiters or other persons, except such as are absolutely necessary, should be allowed to enter the patient's chamber. A number of people, besides preventing repose, foul the air, and render a frequent supply necessary. From hence appears the disadvantage of a small apartment. Where the patient has it in her option, I would always recommend a large, lofty room upon the first chamber floor, and could wish it (if in summer) to have a northern aspect; but if that cannot be had, there should be window blinds placed on the outside of the windows, for when they are on the inside, they do not answer the purpose of keeping out the heat of the sun. In this room there ought to be no fire in summer, and little or none in winter, whilst the patient is in bed, unless she has been used to sleep constantly with one in her chamber; for though fires are undoubtedly of the greatest service in keeping up a circulation of air, yet, at the same time, a constant fire in a small room, when a person has not been accustomed to one, may overheat the patient. This I know will be objected to by the nurses, upon their own account, especially if they are to wake; but waking is what I do not approve, except on the first night, and then only if the delivery be late in the evening. It will disturb the patient much less if the nurse has a small bed in the room; but I would by no means suffer the child to remain there, if accommodations can possibly be had for it in any other part of the house. The patient should not be disturbed in the night, either upon pretence of giving her liquid or solid nourishment. If either be necessary, she will naturally of herself demand it.

Much mischief is often done by binding the belly too tight.[1] If there be any occasion for support, a thin napkin, pinned very slightly round the waist, is all that is absolutely necessary, and the sooner this is disused the better. But if there really was occasion for strong compression, the common methods would be extremely inadequate. The compression must necessarily be unequal, the large-hip bones of women effectually preventing such means as these from making an equal pressure upon every part of the uterus.

The thick fustian waistcoats and petticoats usually worn during the lying-in are much too warm. In the whole article of dress and bed-clothes, nothing should be added to what the patient has been accustomed to in perfect health.

In a few hours after delivery, as soon as the patient has had a little rest, she should sit up in bed, with a bed-gown thrown over her shoulders. If she proposes to suckle the child, it should now be laid

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[1] "This disease (the puerperal fever), it must be acknowledged, may follow a labour under the best circumstances; but endeavours to dilate the os internum, and too hasty a separation of the placenta, will produce it, and binding the abdomen tight after delivery."—Denman on the Puerperal Fever, p. 18.

to her breast, whether there be signs of milk or no. This should be repeated four or five times a-day; but in the night it is not necessary either that the breast should be administered, or that any kind of food should be given to the infant.

The patient should lie very high with her head and shoulders, and should sit up in bed when she takes her food, and as often as she suckles her child, and should kneel whenever she has occasion to make water, which should be often done.

This frequent upright posture is of the utmost consequence, and cannot be too much enforced. It prevents the lochia from stagnating, the stools and urine from being too long retained, and promotes the contraction of the uterus, together with that of the abdominal muscles.[1]

Large quantities of caudle, and thick gruel mixed with ale, wine, or brandy, are often very pernicious. They clog the stomach and pall the appetite. Strong liquors, as they are apt to heat, should not be given to the patient, unless she has been accustomed to them. Thin water-gruel, well boiled and strained, panada, sago, wort, salep, barley-water, to which a small quantity of lemon-juice has been added; teas of all kinds, but particularly those of bitter antiseptic herbs, such as chamomile or buckbean; coffee, cocoa, and chocolate, buttermilk alone or mixed with spring water, imperial, orange, or lemonade, or plain toast and water may be allowed, provided none of them have been found by experience to disagree with the patient. None of these liquors should be given hot, the cooler they are drank the better, and they may even be given perfectly cold. Toasted bread, sea biscuit, or something solid should be taken to prevent faintness, and as soon as the patient has an appetite, her food should consist of boiled bread-pudding, boiled fowls, lamb, or veal, vegetables, and ripe fruit. Too much animal food should not be allowed, and it should never be eaten oftener than once a-day, and then not without bread and greens, roots, or some kinds of vegetables The North American sago powder, dissolved in boiling water, forms a most agreeable, transparent, mucilaginous, vegetable jelly, which is demulcent, restorative, and nutritious; obtunding the acrimony of the fluids, and correcting putrefaction; of a more pleasant taste, in my opinion, than salep, and much cheaper than the foreign salep, though not so cheap as that produced in our own country, and prepared in the manner directed by Mr. Moult, in the "Philos. Trans.," vol. lix., p. 1.

Whatever water the patient drinks, either alone or in gruel, teas,

[1] [As a general rule, I have preferred that the theoretical and practical errors of each essay should be corrected by the increased information of the succeeding; but the directions in these three paragraphs are so pernicious and so purely theoretical, that I must enter my protest against them. Precisely the contrary is the practice of the present day: a careful preservation of the horizontal posture as much as possible for several days, both when nursing, taking food, and effecting the necessary evacuations, may be regarded as an axiom in the management of women in childbed.—Ed.]

&c., should not be such as is tainted with any putrid animal or vegetable substances, which is generally the case in all reservoirs of stagnant water, and in rivers adjoining to large towns.

Broths,[1] or soups made of flesh-meat, especially if given warm, are improper, as they are apt to throw the patient into a sweat, and promote putrefaction. If the patient cannot, or does not choose to suckle her child, she should be very abstemious in her diet; but if she suckles it, a much greater latitude may be allowed.

Fruits, vegetables, and all kinds of acid or acescent food have generally been denied to nurses, upon a supposition that they created acidities in the children's bowels. This in some constitutions they certainly do, but the rule is by no means general. I have known nurses abounding in acrid putrid bile indulge freely in these kinds of food with great advantage to themselves, and with no disadvantage to their infants, as plainly appeared by the children's never parting with green stools during the time of their being suckled.[2]

The heat of the room ought to be so tempered that the patient may neither be chilled with cold, nor yet suffer from sweat or burnings. She should be kept in that degree of heat that approaches nearest to the standard of health. Some have kept themselves in a constant gentle sweat, or diaphoresis, as it is called, in order to prevent a rigor, or cold shivering fit; but it is well known that no degree of heat, let it be ever so great, will prevent the rigor, either in a puerperal woman, or even in a common ague. There have been instances of persons having rigors in the hot sweating-room of a bagnio, and I have been informed that these have been the most dreadful; rigors, and even common agues, are frequent in the hottest climates. The patient's skin should be soft, but not so much as moist; her linen being damp with sweat will render her liable to catch cold; she will be sensible of every breath of air, and cannot rise or even turn herself in bed without danger. The apartment cannot be ventilated, nor even a curtain be undrawn; consequently she becomes weak, the fibres are relaxed, and thus a predisposing

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[1] "The French, and many other nations, give their patients meat soups in acute diseases, and after capital operations, and they allow them but little bread or other preparations of vegetable substances; but these soups, without bread, do not nourish the patient sufficiently, and tend too much to the putrescent; and this is one reason why more sick die in the French than in the British hospitals."—Monro on the Diseases of the British Military Hospitals, note to p. 373.

Dr. Lind, speaking of a marine hospital erected at Jamaica, upon a most unhealthy spot of ground, says: "The recovery of patients in that hospital was observed to be very tedious and uncertain; the least indiscretion or irregularity brought on a relapse. After a flux had been stopped some days, the eating of any sort of food which had a putrid tendency, such as even a mess of broth, would sometimes in a few hours bring on a return of the disease, accompanied with all its violent symptoms."—Essay on the Diseases of Europeans, p. 174.

[2] Are not the sour green stools of children oftener owing to weakness and relaxation in their digestive organs, and the inert quality of their bile, than to the acescency of the milk? And do we not often see them change for the worse, even though the nurse has made no alteration in her diet, nor has tasted any kind of acescent food?

cause is given of putrid fevers. Custom in this I know is much against me, as well as in many other particulars; but I have hundreds of evidences to prove, that sweating is not necessary even in the smallest degree.

Much mischief appears to have been done amongst ignorant people, by confounding the ideas of perspiration[1] and sweat. The difference between them has been remarked by so great a number of authors, that quotations would be endless; it is sufficient, for common use, to observe, that perspiration is that insensible discharge of vapour from the whole surface of the body and the lungs which is constantly going on in a healthy state, that it is always natural, and always salutary; that sweat, on the contrary, is an evacuation which never appears without some uncommon effort, or some disease in the system, that it weakens and relaxes, and, so far from coinciding with perspiration, obstructs and checks it.

With regard to sweating, in febrile disorders, many contrary opinions have prevailed. It was introduced with the notion of carrying off, by its means, the morbid matter which was supposed to be the occasion of all fevers. Later observation has, however, found it prejudicial in many cases, and some have gone so far as to deny its utility in any. I shall make quotations from some of these authors,[2] who have considered this matter the most clearly and particularly.

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[1] "Dr. Home has proved, by several experiments, that a free perspiration does not depend so much upon the heat as the dryness of the air; he says, "moisture stops perspiration, in a great degree. Dr. Hales has observed that moisture has the same effect on the perspiration of plants."—Med. Facts and Experiments, p. 245.

A little further he observes, that, "by these two experiments it appears that the perspiration is greater in frost than in open weather."—Ibid., p. 246.

[2] "Hippocrates relates the cases of some patients, whose fevers were terminated after the eruption of sweat, whether that sweat really put a period to the disease, or only appeared at its end, as it happened in the instances recorded, lib. 1, patient 6, 7, lib. 2, patient 7, 11, 12, in which patients the fever seems rather to be terminated by an eruption of blood than of sweat; for sweat, so far as I can perceive, is not by Hippocrates always proposed as an instrument by which the disease is cured, but only as a mark of sign by which its event or termination may, with the greatest certainty, be prognosticated. For this reason, in those books of his which are accounted genuine, he nowhere mentions sudorific medicines; and even in those works which are falsely ascribed to Hippocrates, there is only once mention made of a sweat procured or forced by medicines; for the author of his second book of Epidemics orders a sweat to be procured by carefully covering the patient with the bed-clothes, and exhibiting meal, mixed in rich and generous wine, nor does he even prescribe these measures as proper to be taken, except in those fevers which arise from lassitude, or some other similar cause, such as those commonly called diary-fevers."

"Internal medicines for producing sweats were so little in use among the ancients, that Celsus has not a single word upon this subject. If, therefore, sweats are of any advantage in fevers of this kind, they seem to derive their efficacy from nature alone. During those sweats, perhaps, the peccant matter might be easily dissipated, and carried through the skin, either on account of the temperance of the climate, or by the good constitutions of the patients, which were not yet corrupted by sloth and luxury. But, in the present condition of mankind, we in vain expect the solution of a disease by sweat, whether spontaneous and natural, or procured by art; and I believe I may justly venture to affirm, that in violent fevers the patients are rarely restored by sweats alone."—Friend on Fevers, Comment. 1.

"But whereas the hot regimen is still too much in use, it may not be amiss to ex-

From the whole we may conclude—1. That sweating in bed, in a confined atmosphere, must be very detrimental to a person in health, may bring on many disorders, but cannot prevent any.

2. That sweats are particularly detrimental to women in the puerperal state, as they render them costive, check the discharge of the lochia, relax and weaken the patients, and make them so susceptible of cold, that the air cannot be renewed, nor the common offices of life be performed without danger.

3. That sweats are very detrimental in the beginning of all low nervous, or putrid fevers, but particularly those of lying-in women, which, if not in the beginning, are always in their termination of one of those classes, if they continue any length of time.

4. That the rigor, in the paroxysm of an ague, is terminated by a sweat, but the continuance of that sweat will not prevent a fresh accession.

5. That when the morbific matter is thrown off by the skin, it must be an act of nature; and the most probable means of pro-

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amine, a little more narrowly, how it comes to pass that so many ill consequences flow from it."

"Nature, then, is scarce ever able to expel the febrile matter by sweat, before it has taken up a proper time for its maturition, except in the plague; so that sweats, which of their own accord flow largely in the beginning of a disease, do not carry off the fever, but prognosticate a long and dangerous disorder, and probably are the occasion of it. They likewise render the patient costive in the beginning, and, in putrid fevers, frequently cause a diarrhœa towards the crisis; whereas those persons generally escape, and most easily get free from a fever, to whom the very contrary of this happens."

"In these climates, there is no necessity that persons in perfect health should have a visible moisture on their skin, but, in very warm countries, in hot days, this seems to be of great service. In Egypt, during the second part of the summer, every one sweats profusely several times a-day, and at that season the inhabitants always enjoy the most perfect health."

"Such an error is never more frequently committed than in giving what they call cordial and sudorific medicines in the beginning of fevers, for this method promises an easy and pleasant cure, and is agreeable to the opinion of the vulgar. Custom has made it familiar, and the patient finds himself relieved when the sweats begin to flow, and if they stop he is abundantly hotter, more thirsty, and restless."

"But sweats which are very easily brought on in the beginning of a disease, will frequently quite disappear, as it advances toward the height, so as not to be recalled by the warmest medicines; and, though they should continue to flow, they will certainly bring along with them those bad symptoms which have been mentioned before. Although the ancients, the most studious of nature, never admitted this method of practice, and the moderns, more intimately instructed in the sacred mystery of physic, always rejected it, yet it is never to be expected that the old women, who have a license of slaying mankind with impunity, should ever suffer themselves to be taken off from their method of cure; but it is to be wished that physicians, who follow the guidance of reason, would throw aside their prejudices, and weigh the matter with that carefulness it deserves, and banish this pernicious method from that art which promises health to mankind."—Glass on Fevers, Comment. 10.

"Plerumque in principio morborum acutorum nocet (sudor); rectius tunc succedit, quando facta coctione materies morbi per cutem expelli parata est. Ipse tamen per seipsum neque petechias, neque miliarem morbum sanat, neque variolas, et periculose per calida medicamenta quæritur, ut ne calidus quidem potus nimis tutus sit, quem vidi, de mitissimis herbis decoctum, bis intra triduum in delirium atrox hominem miliari febre laborantem conjecisse: qui idem refrigeratione undique quæsita levatus, denique convaluit."—Haller, Elem. Physiol., tom. v., p. 51.

moting that end is to keep the patient in that kind of heat which nearest approaches the standard of health, at the same time promoting a free circulation of air, that those morbific particles, and the human effluvia, may not stagnate about the patient, but be carried off, and their absorption prevented by an effectual ventilation.

The chamber-door, and even the windows, if the weather be warm, should be opened every day. There should be no board or other contrivance to stop the chimney; on the contrary, it should be quite open, that it may act as a ventilator. The curtains should not be close drawn, that the effluvia may have the liberty of escaping. Carpets are very useful, as they render washing the room unnecessary, for moisture ought as carefully to be avoided as heat or cold, therefore it ought not to be washed, upon any account, as long as the patient stays in it. The room should be brushed, and the carpets taken out every day, to be cleaned and aired.

The lying-in chamber should, in every respect, be as sweet, as clean, and as free from any disagreeable smell, as any other part of the house. The patient should often be supplied with clean linen, for cleanliness, and free, pure, and, in some cases, cool air, are the greatest necessaries in this situation; and, upon the strictest examination, it appears evident to me, that there never was a miliary eruption produced without a sweat, nor a puerperal fever without foul air, except in cases where violence had been used, either in dilating the os internum, or in the delivery of the child or the placenta, or from some very great imprudence.

The sooner she gets out of bed the better; this should not be deferred beyond the second or third day, at the furthest, and then, if it be winter time, it will be necessary to have a fire.

Clean, well-aired sheets should now be laid upon the bed, but by no means such as have been lain in since their washing.

If the patient has not every day a stool, one ought daily to be procured. The best and safest way of effecting this (especially during the first week) is by clysters; for these will not only procure stools, but, by passing along the arch of the colon, act as fomentations to the whole abdomen, without any griping or other disagreeable commotions. For this purpose, warm water is generally sufficient; but if the fæces are too much hardened, milk, oil, and brown sugar, or the decoct. commun. pro clyst., with syrup of buckthorn, may be administered; nothing of a more stimulating nature should be used; it is better to repeat these clysters, in which case their end will certainly be answered. If the patient has an unconquerable aversion to these applications, or if a clyster cannot be administered, either upon account of lacerations in the sphincter ani, or from any other cause, it will then be necessary to give a little manna, lenitive electuary, rhubarb, or magnesia. The stools, urine, and foul linen, should not be permitted to remain in the apartment.

If the lochia do not flow so plentifully as may be expected, or if they entirely stop, no irritating, forcing medicines should be used.

They never do any good, and are often productive of much mischief.[1] If the patient is otherwise as well as can be wished, no regard needs to be paid to this circumstance. We not only find this evacuation very different in different women, but even in the same woman in different lyings-in, from which she recovers equally well. I have frequently known this discharge to stop the very first day, without the least bad consequence. If she has other complaints, the causes of those complaints must be inquired into, and the disorder remedied; if this be done, the stoppage of the lochia will be of little or no consequence, and, when the cause is taken away, they will sometimes flow again. It is not a primary disease; the effect is mistaken for the cause.

The patients recovery does not depend upon the quantity of the discharge, for the evacuation itself will not prevent either the puerperal or miliary fever. It is well known that the laborious, hard-working women (who using much exercise, seem to live in a state nearly approaching to that of nature) have not so large a quantity either of the menses or lochia as the more delicate part of their sex, yet they commonly enjoy a good state of health, and recover from their lyings-in much sooner than others. They are the very reverse of those whose fibres are relaxed by a sedentary inactive life; and I have frequently observed, that such as have the lochia in greatest abundance are most liable to putrid fevers. It must, however, be owned, that after these fevers are commenced, stoppages are not uncommon. All I would here inculcate is, that the danger does not arise from the smallness of the quantity of the discharge, but from its stagnation, whereby it becomes putrid, and in this state is again absorbed into the circulation. When the discharge is great, but does not weaken the patient, no remedy is necessary; when it does, an infusion of the external rind of oranges, with the bark,[2] and the acid elixir of vitriol may, during any period of the puerperal state, be given with safety and advantage. To these may be added a strengthening incrassating diet: blancmange, flummery, sago, salep, jellies of calf's feet, hartshorn or isinglass. When this disorder arises from irritations and spasms, occasioned, as is very often the case, by too great an acrimony of the fluids, opiates and the tincture of roses well acidulated are generally suc-

[1] "We have also been taught to endeavour strenuously to remove every obstacle to the regular procedure of the lochia. But it unfortunately happens, that almost all the medicines recommended as emmenagogues are improper in every inflammatory state of the blood, and experience proves that, in this case, all the symptoms are aggravated by their use."

"It may not be amiss to observe, that either a great or a little quantity of the lochia, unattended with other symptoms, is not to be looked upon as a disease, or meddled with."—Denman on the Puerperal Fever, p. 24.

[2] "The Peruvian bark has been given to a woman successfully in the quantity of a drachm every three hours, two days after her delivery, for twenty-four hours, without lessening the lochia; and it has frequently been given to others during their catamenia without the least interruption of them."—Med. Transact., vol. i., article 21, by Dr. W. Heberden.

cessful. If the evacuation should be excessive, provided the patient be kept cool, she may be indulged with rest in an horizontal position, and more powerful astringents must be used, such as alum posset, and the lixivium martis, given to the quantity of fifteen or twenty drops three or four times a-day. Linen cloths dipped in cold vinegar[1] may be frequently applied to the lower part of the abdomen.

If the patient faints[2] away, she must not be roused by volatiles, or anything else applied to her nose, nor by wine or other cordials given internally. I have frequently known fainting fits put an immediate stop to violent floodings, by giving the blood time to coagulate in the uterine veins, and large doses of nitre[3] have often afforded instant relief, which I suppose is owing to the power which

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[1] "Injecting cold water in the uterus is recommended by that celebrated professor of midwifery at Edinburgh, Dr. Young, but it is a remedy I have never tried. 'Verum arteriolas rubras constringendo ad hæmorrhagias sistendas optime accommodatum est frigus. Ad hoc efficiendum, applicatio topica, in partis affectæ vicinia, maxime con venit. In epistaxe, remedium apud omnes notissimum est aqua frigida, quæ ope lintei, fronti vel nuchæ imponitur: nec ullum quidem efficacius invenitur. Nec rarius, neque minore successu, in menorrhagia adhibetur: interdum enim, multis aliis incassum tentatis, aqua gelida dorso, modo supra dicto, applicata speratum auxilium præbet. In lochiorum profluvio immodico et periculoso eandem multum laudat Cl. professor noster Young: quam in uterum, per horæ quadrantem, continenter injicere jubet.'" —Tucker, Dissert. Med. Inaug., p. 21.

[2] "And upon this occasion I recollected a remark of Dr. Hunter's, which is, that the faintness which comes on after hemorrhages, instead of alarming the bystanders, and making them support the patient by stimulating medicines, as spirits of hartshorn and cordials, should be looked upon as salutary, as it seems to be the method nature takes to give the blood time to coagulate."—Hewson's Experimental Inquiry into the Properties of the Blood, p. 68.

"From this circumstance, that the disposition of the blood to coagulate is increased as the animal becomes weaker, we may draw an inference of some use with regard to the stopping of hemorrhages, viz., not to rouse the patient by stimulating medicines, nor by motion, but to let that languor or faintness continue since it is so favourable for that purpose; and also that the medicines likely to be of service in those cases, are such as cool the body, lessen the force of the circulation, and increase that languor or faintness. For in proportion as these effects are produced, the divided arteries become more capable of contracting, and the blood more readily coagulates: two circumstances that seem to concur in closing the bleeding orifices."

"Besides giving stimulants and cordials to counteract the fainting, it is a common practice, in many parts of England, to give women who are flooding considerable quantities of port wine, on a supposition that it will do them service by its astringency. But surely, from its increasing the force of the circulation, it must be prejudicial in those cases. Perhaps many of the remedies called styptics might be objected to for the same reason."—Ibid, p. 71.

[3] "It therefore shows how much languor and faintness should be encouraged in hemorrhages, and how carefully we should avoid giving anything that can stimulate or rouse the patient; that the medicines that are likely to be of service are nitre and the acids, or such as cool the body, or have the property of diminishing the force of the circulation, or of increasing that languor or faintness; that all anxiety and agitation of mind should, as much as possible, be prevented, lest they increase the circulation; that all muscular motion should be avoided for the same reason."—Hewson's Experimental Inquiry, p. 100.

Dr. Dickson, in the "Med. Obs. and Inq.," vol. iv., art. 16, p. 220, speaking of nitre given in the form of an electuary with conserve of roses, says, "I have found nitre, too, administered in this manner, of singular service in uterine hemorrhages, but only so far, if my observation is correct, when there was a feverishness and hardness of pulse; for in other cases the elix. vitriol. acid., given in small quantities, and very frequently repeated, was attended with much greater benefit."

Mr. Alexander justly ascribes to it, of almost instantly retarding the velocity of the circulation, and of surprisingly diminishing the number of pulsations; but it should be given immediately after being dissolved, as the same gentleman has observed, that it then possesses that power in a greater degree. In constitutions that are subject to acrid putrid bile, nitre is improper, as it generally disagrees with the stomach.

If the discharge of the lochia be moderate, the patient should not only sit up often, but should every day get out of bed, staying up as long as she can without fatigue, and continuing it a little longer every day than she had done the day before. A very convenient easy chair has been invented, to which a foot-board is adapted, not only preserving the legs and feet from cold, but, by the means of two straps, so contrived that the back of the chair may be depressed, and the footboard raised at pleasure. By means of this contrivance, if the patient is faint or fatigued with sitting up, she may be greatly relieved, and her posture made as easy as possible. As the chair runs upon castors, it may be readily moved, and by its assistance the patient may be enabled to continue a long time out of bed without inconvenience.

The breasts generally require great attention, especially during the patient's first lying-in. If she proposes to suckle her child it ought to be laid to them early before the milk can have stagnated in them, or they can have acquired any great degree of hardness. It will be beneficial both to the mother and child if this be done in a few hours after delivery, and this is most consistent with the operations of unassisted nature.

If the patient has not suckled any former child, the infant will probably meet with difficulties in fastening on the nipples. In this case the breasts must be drawn by a skilful person, and if her art should fail, cupping-glasses[1] of a proper form and size should be applied. Where the patient will submit to this, and it is done with judgment (except the breasts have met with accidents), the success is almost certain.

To prevent the stagnation of the milk, the breasts should be thoroughly emptied four or five times a-day.

If the patient's own child cannot do this, some other infant should be applied, or we should have recourse to an able person well accustomed to draw breasts.

I am well acquainted with a family so dexterous in this art, that

[1] "Papillæ, ex media convexitate mammarum eminentes, multum variant crassitudine, et longitudine in diversis mulieribus. Sæpius contingit, ut a loricis, quas pessimo more gestare coguntur puellæ, sic deprimantur papillæ ut vix emineant; imo aliquoties vidi, subsedisse penitus, ita ut loco eminentis papillæ appareret foveola in mamma in qua delitesceret. Impossibilis tunc est lactatio, nisi educi posset papillæ; quod sæpe feliciter obtinetur, si graviditatis tempore sæpius applicetur parva cucurbitula, ex qua antliæ pneumaticæ ope educitur aer, tunc enim depressa papilla exsurgit, et dum sæpius hoc tentatur incipit imminere magis magisque."—Van Swiet. Comment., sect. 1338.

an indurated gland or gathered breast were scarce ever known under their management. Their mode of operation is so very easy as to afford rather a pleasing than a painful sensation; and I have been informed by those who have experienced it, that they could easily fall asleep under the operation. The method of these practitioners has been kept a secret, and as yet has only been transmitted from the mother to the daughter. Having considered this matter fully from comparing what I have seen of their practice with that of others, and from the conversation I have had with those who have not only been under their care, but under that too of less skilful persons, I am very certain the whole art consists in nothing more than this: the whole breast and nipple being stretched out, so that the breast may assume a conical form, the tubes become perfectly straight and open; in this situation a hand being applied to each side of the breast, the milk is forced out at the same time that the person's mouth is applied to the nipple. By this method a very moderate suction only is required; and that violent degree of it upon which the generality of operators place their dependence, by which the nipple is frequently excoriated, and great pain given to the patient without her breast being completely emptied, becomes totally unnecessary.

If the breasts grow hard and knotty they should be well rubbed with a soft hand moistened with oil, and this operation should be repeated two or three times a-day. In these cases I have also applied Goulard's vegeto-mineral water with advantage.[1]

Thick rings, made of beeswax, and fitted very exactly to the nipples, are often preventive of fissures, by keeping the nipples elongated, and denying them a liberty of shrivelling up into corrugations. If there is too much milk, these rings are useful in causing it to run out; but they should be made like real rings, and not like caps, as is frequently done by persons ignorant of the reasons for which they are used, and who imagine there is some specific virtue in the wax itself, whereas they only act mechanically. They should be applied immediately after the child has finished its suction, and be put on so that the ends of the nipples may protrude themselves through them. These rings, however, ought not to be used when the milk runs out in too great quantities.

If fissures are formed, and are attended with a sharp acrimonious humour, the acrimony may be greatly blunted, and the parts healed by the application of a mucilage composed of gum arabic and a decoction of cooling seeds.

If the patient does not suckle her child, it is better to have her breasts drawn, that her milk may gradually decrease, than to repel it suddenly. But should she be persuaded to consent, it would be better for her to let the infant suck a month, than to have her milk dried up sooner, and this I am sure would in no case hurt even the tenderest constitution.

[1] Vid. Aikin's Observations on the External use of Preparations of Lead, Part II.

Where the patient does not choose to have her breasts drawn, or when it cannot be done on account of cicatrices formed by accidents, such as burns, scalds, &c., during infancy (for such cases I have known), so that plasters or repellent lotions are obliged to be made use of, she should live very abstemiously, little or no animal food, no strong liquors should be allowed her, and the intestinal canal should be kept thoroughly open. I have seen a sudden metastasis, or translation of the milk from the breast to the pelvis, thighs, and legs, which proved a very troublesome and painful complaint, owing to the breasts not being properly drawn. This change of place in the milk has been fully treated of by Van Swieten in his Commentaries, sect. 1329, and by Levret, "L'Art d'Accouch.," p. 168.

Let the directions I have given be strictly observed, and I will venture to assert that there will be neither puerperal nor miliary fever, nor will the milk fever be worth notice, except it be her first lying-in. This may be said to be a bold assertion. I am well aware of the uncertainty of the medical art, and of the difficulty of ascertaining facts, especially by those who, neglecting nature as their guide, seem rather to take pleasure in obstructing her in her operations. I know, likewise, the difficulty there is in bringing patients to conform to proper directions, and the still greater one in inducing nurses, and other attendants, to follow the rules which are prescribed them.

I am not now amusing the public with idle theories and speculative reasonings; I am treating on an affair of consequence, not only to the female sex, but to mankind in general. I speak from facts, from facts which cannot deceive me, founded upon my father's experience of more than fifty years, and upon my own of above half that period. I appeal to the inhabitants of this town and neighbourhood, where, if I be guilty of misrepresentation, I must meet the imputation I deserve.

It would be easy to produce a long list of successful cases; successful cases avail nothing, where the unsuccessful are concealed. It is evident, that by much the greater part of the sex will do well, even under the worst of treatment. The practitioner, therefore, can only judge from the result of general practice; and here, for the sake of the most important argument I can use, I am obliged to refer to a fact, which otherwise could scarcely be mentioned without a show of ostentation, which I despise. Out of the whole number of lying-in patients whom I have delivered (and I may safely call it a great one), I have never lost one, nor, to the best of my recollection, has one been greatly endangered, by the puerperal, miliary, low nervous, putrid malignant, or milk fever; nor have any of these fevers ended in madness,[1] or any other disagreeable complaint.

[1] It is not only in lying-in cases that madness is sometimes a consequence of the neglect or ill treatment of this fever, for in other persons it too often terminates in that manner. It is, therefore, well worth observing, since experience confirms the fact, that this sort of madness, which follows this low fever, will by no means yield

Some few, indeed, have had the puerperal fever, but this has evidently arisen from non-observance of the rules above laid down. Some few too have had miliary eruptions, proceeding from the same cause, though not one, unless my memory greatly fails me, ever had what properly might be called a miliary fever. Where feverish symptoms have appeared before delivery, they have been happily extinguished. The reader may perhaps imagine that by a different treatment disorders may take different forms, and appear under different denominations. That I may not seem to shelter myself under so poor a subterfuge, I am necessitated to make a further declaration. I never lost a patient either during her month, or at any other time, where there was the least reason to imagine her death was the consequence of her lying-in. It must, however, be remembered, that in this last declaration I speak only of natural parturitions. I would by no means be understood to include in this account preternatural cases, or such laborious ones as have required the use of instruments; those of floodings, or convulsions, or those in which consumptions have taken rise before the patient's time of delivery. I only mean, likewise, those patients whom I have myself attended during the time of delivery. After fevers have been created, I have been unsuccessfully called in to those delivered by others. I have, however, the pleasure to observe that those fevers, in this neighbourhood at least, have of late years greatly decreased. This must chiefly be attributed to a system of management lately introduced, much to the honour of our present practitioners, and of those nurses who seem sensible of the advantages arising from it; and I must here do my brethren the justice to assert, that I do not know a place where midwifery is more successfully practised. Perhaps some general causes may contribute to this success amongst the poor in this town, viz., their eating very little animal food, and living chiefly upon vegetables. Potatoes are a principal part of their diet, on account of their goodness and cheapness in this country. We have butter-milk, likewise, in the greatest perfection, and it is drank by the common people both in sickness and in health. This liquor, when properly managed, has a pleasant acidity, and very happily contributes to prevent and cure any disorders arising from putridity. In many parts of this kingdom it is so ill prepared that the poor people will not drink it, and it is either thrown away or given to the swine. We are likewise well supplied with coals, which is an article of consequence, as fires prevent moisture, and keep up a circulation of air, and there is little danger of the poor people keeping such large fires as to be overheated by them. Does not the pump water[1]

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to the common methods for the cure of madness, because great evacuations, as purging, vomiting, and especially bleeding, always heighten the disease, and soon either destroy the patient or bring on an incurable foolishness."—Etherington on Fevers, p. 41.

[1] Vid. Dr. Percival on the Pump-water of Manchester, Essays Med. and Exp., p. 288.

of this place, by being impregnated with selenitical and aluminous salts, contribute in some degree to prevent putridity, whatever bad effects it may have in promoting disorders arising from glandular obstructions? It may be worthy of observation that dysenteries are almost unknown in this town.

Is it not one cause of the frequency and fatality of the puerperal, jail, hospital, and other putrid fevers, in London, that so many of the inhabitants drink, and use for most culinary purposes, the New River water, which is frequently replete with putrid vegetable and animal substances, or the Thames water,[1] which is full of all kinds of putrid matter.

It may seem strange, but it is nevertheless true, that the puerperal and miliary fevers are more common and more fatal in London than in the country; and yet it must be acknowledged that, in general, the ablest men in every branch of the profession resort to the metropolis: but our wonder will cease when we reflect, that not only the general causes in large populous towns will operate, but likewise that the articles of air, diet, dress, &c., are left to the management of the nurses in that city, who claim it as a kind of prerogative, and it is next to sacrilege to encroach upon their privileges. Whether this circumstance has been considered in the important light it deserves, or whether the success of a reformation has been despaired of, I will not pretend to determine. The nurses in London are a numerous and powerful body, and an attempt to reform their ancient customs might be looked upon as an open attack upon them, a violation of their rights, and an actual declaration of war. A young man just coming into business might justly think it too daring an attempt to encounter them; he would, in all probability, be unequal to the task, and his future progress would be stopped, by making such

[1] "Most pump-water is as incapable of changing and of being spoiled by keeping as distilled water; for though it be loaded with various foreign particles, yet it seldom has any, or at most but a small proportion, of a vegetable or animal nature, and, therefore, it will always remain the same. This property of water is not so much attended to as it ought to be by sailors, who usually supply their ships with river-water taken up near great cities, and then keep it in wooden casks; the necessary consequence is, that it soon putrefies, and most probably contributes very much to the occasioning of those putrid distempers with which sailors are so apt to be afflicted. Pump or spring-water would be greatly preferable, and if they could keep this in glass or stone bottles, or earthen jars, they would find it, after being carried round the world, just the same as when they set out."—Med. Trans., vol. i., p. 19; by Dr. W. Heberden.

"The great tendency in the Thames water first to ferment, and then to become pure, in long voyages, is well known, and it is probable that this quality is owing to the extraordinary quantity of putrid matter with which it is impregnated at the place where it is taken up, viz., a little below London Bridge."—Pringle's Appendix, p. 67.

Sir John Pringle, in his Observations on the Dysentery, says, "Having observed in my private practice that some were better for drinking Bristol water, not only at the spring, but at a distance, I desired one of my patients (who had come from the Havannah) to observe whether he found any difference between drinking the river-water and the pump-water in this city; and after some trials he assured me that he was less liable to a return of his flux when he used the latter."—Obs. on the Diseases of the Army, p. 285.

powerful enemies. The man in full and established business could not perhaps spare so much time as would be necessary, for it would require a very frequent and constant attendance upon his patients to see that the nurses did their duty; and by such an attempt he might lose much, and gain little, except trouble and opposition.

But the fatality of these fevers is not confined to the metropolis. There are several country towns where puerperal fevers are very fatal, particularly the town of Northampton, a place otherwise remarkable for its healthfulness, and situated in an open, champaign country; and I am acquainted with two gentlemen in another town, where the whole business in that branch is divided betwixt them, and it is very remarkable that one of them loses several patients every year of the puerperal fever, and the other never so much as meets with the disorder: but their methods of treating their patients, as I am informed, are very different.

From what has been above remarked, I imagine it will appear that where a due observance is paid to nature, not only during labour, but for some time afterwards, there is not the least danger to be apprehended from natural parturitions; that most, if not all of those disorders which are usually supposed to be peculiarly incident to the puerperal state, are either the effects of mismanagement in the accoucheur or nurses, or else arise from the patient's own imprudence; that they may, in general, be truly said to be fabricated, and may always, except in lying-in hospitals, be avoided.

In hospitals, indeed, where numbers are crowded together not only in the same house, but in the same ward, the puerperal fever[1] cannot so easily be prevented, though the miliary fever undoubtedly may.

A gentleman whose veracity I can depend on, informs me that he attended a small private lying-in hospital in London, in the latter end of May, June, and the beginning of July, 1761, during which time the puerperal fever was very fatal there, that to the best of his recollection they lost about twenty patients in the month of June; that during this month he himself delivered six women in a short time in the hospital of natural births, and they all died: he was so shocked with the loss, that he desired the gentleman who had the

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[1] Van Swieten, in his Commentaries upon Boerhaave's Aphorisms, sect. 1331, gives the following quotation from Peu: "Observata fidelia confirmaverunt, putrida hæc miasmata nocuisse puerperis, dum in nosocomiis decumbebant: magnus enim illarum numerus peribat; et suspicari ceperant nosocomii præfecti, ignorantiam aut negligentiam obstetricantium in causa esse. Plura secabantur cadavera defunctarum, et corporis interiora abscessibus plena fuerunt inventa. Sapiens medicus, omnia attente examinans, hanc causam invenit, quod sub conclavi puerperarum decumberent vulnerati. Confirmabatur ejus sententia inde imprimis, quod aucto vulneratorum decumbentium numero cresceret puerperarum strages, minuto pariter decresceret. Aer humidus, tam calidus, quam frigidus nocebat; siccus autem proderat: notum enim est, humidum aerem putredini favere, præcipue si simul calidus fuerit. Dum autem puerperæ locabantur in conclavi inferiori, non observabatur amplius hæc strages; aer enim, putridis exhalationibus imbutus, levior est, unde superiora petit."—Peu, le Pratiq. des Accouch., p. 268.

care of the hospital to deliver some of those who should next be in labour, which he did, but they met with no better fate. They buried two women in one coffin, to conceal their bad success. Several gentleman of the faculty were invited to the hospital to inquire into the cause of this great fatality, but I could not learn that they were able to account for it in a satisfactory manner.

Buildings might be raised on purpose for the reception of lying-in women, and so contrived that the air might be kept in constant circulation, in such a manner that there would be no danger either of the creation or communication of this disorder. The expense of such edifices would be rather greater than usual. The rooms must be lofty, open galleries with unglazed windows should run through the whole buildings. The wards should be all upon the centre floors, and they should have no doors except into the galleries, and those doors should be opposite to the windows in the wards, that there may be a thorough ventilation of air when the windows are opened. In the upper part of the doors should be several holes to let out the foul air.

The ground plans should serve for offices, and the upper stories be converted into lodging-rooms for nurses and servants. An entire apartment should be allotted to every patient, or else if large wards were constructed, the windows should be placed very high, with the uppermost sashes made to let down. Large apertures should be made as high as possible in the partition wall which divides the wards from the gallery, after the manner of the Leicester infirmary; and in the upper part of some of the windows the farthest from the fire should be fixed a few leaden lattices to admit fresh air, or, what is still better, circular; or, as they are called by some, Æolian ventilators. I do not suppose that the superior advantages of these ventilators over a leaden lattice, consists in admitting more fresh, or extracting more foul air; but by their circulatory motion they they prevent the air from rushing directly upon the persons in the room, and thereby giving them cold. These should be kept open night and day, that a constant circulation of air may be maintained; for it will not be sufficient if a door, or even a window is opened a little in the middle of the day only, of which whoever will take the trouble to go into a ward of an hospital early in a morning will thoroughly be convinced, the air having been rendered so foul and disagreeable by a number of people breathing in it the whole night, as to make the atmosphere very unwholesome, not only to lying-in women, but to any other persons.

Several air-pipes made of wood, of about six inches diameter, fixed in every ward, and passing through the ceiling and roof, have been found very useful in the Manchester Infirmary. I have been in a great number of hospitals, but I do not know any so free from foul air as that infirmary, which may, I think, be easily accounted for. It is situated upon the highest point of ground about the town; the building is long and narrow, having no inner courts; the principal

wards are fifteen feet high, and the largest of them do not contain more than thirteen beds. A large gallery runs through the whole length of the house, and that is intersected by the chapel and the great staircase, which lie open to it; in these are windows, east, west, north, and south, which are set open every day as often as the weather permits. In the galleries, and in many of the wards, lead lattices are fixed in the windows. Holes are cut in the upper part of the doors, and the doors are generally open in the daytime. In the largest wards are openings in the wall, likewise, to admit fresh air.

As a proof of the advantages of an hospital well-ventilated, it may not be amiss to compare the success attending it, with that of a small crowded house, hired for the reception of patients at the first institution of this charity, before a proper building could be got ready.

In the small house, 403 patients were admitted in the space of three years; out of that number twenty-two died in the house, which is about the proportion of one in eighteen and one-third. In the present infirmary, between the 24th of June, 1755, and the 24th of June, 1771, 6459 in-patients were admitted; out of that number 263 died in the house, which is nearly one in twenty-four and a half. This difference of success must, I think, be principally owing to the plenty of room and free ventilation, for the persons concerned when this charity was in its infancy, were more careful both in regard to the admission and discharge of patients than they have since been, lest a long list of deaths should have brought the infant charity into disrepute. Possibly it may be urged as an objection to these calculations, that many of these in-patients were discharged, or made out-patients at a time when there were little expectations of their recovery, which is certainly very true; but in answer to this, it must be remembered likewise, that as all accidents are admitted without reserve, many are taken into the house in a dying condition, and several have died before any means could be used for their relief; and the calculations of those who died in the former, and in the present infirmary, were made by the same rule, therefore the objection, if it be one, lies equally against both.

Besides air-pipes carried through the roof, others may be let into the chimney of the ward above, as has been practised in St. George's Hospital.[1]

Moisture[2] is more to be guarded against than cold. Dr. Lind ob-

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[1] "In wards which are close it has been found that one or two square holes, of about six or eight inches diameter, cut in the ceiling, and a tube made of wood fitted to it, and carried up into the chimney of the ward above, so as to enter above the grate, is one of the best contrivances for procuring a free circulation of air, as the foul air, which is lightest and occupies the highest part of the ward, finds a free exit by these tubes. We have such tubes now fixed at St. George's Hospital. A hole cut above the door of the ward, or in the upper part of the windows, and one of what are called chamber ventilators fixed in it, will answer where holes cannot be conveniently cut in the ceiling."—Monro on the Diseases of Military Hospitals, p. 368.

[2] "Heat and moisture become, when joined, the parents of putrefaction; to which,

served that new ships were more unhealthy than old ones, owing to the moist exhalations from the wood.

I am afraid no methods will be effectual where several lying-in women are in one ward. It will be impossible to keep the air pure, dry, and sweet, and at the same time to accommodate the heat of the ward to their different constitutions and symptoms. If separate apartments cannot be allowed to every patient, at least as soon as the fever has seized one she ought immediately to be moved into another room, not only for her immediate safety, but for that of the other patients. Or it would be still better if every woman was delivered in a separate ward, and was to remain there for a week or ten days, till all danger of this fever was over.

I am not ignorant of the use of Hales's and Pringle's ventilators, which are exceedingly proper, and should, together with every other assistance for clearing the wards of foul air, be made use of; but the best of them alone is not to be depended upon. I have frequently been in an hospital, in which, notwithstanding there is an extremely good ventilator, the air is foul and disagreeable, and the house is scarcely ever free from the hospital fever. In this hospital, compound fractures and fractures of the skull, though under the care of the ablest surgeons, are seldom successfully treated.

In lying-in hospitals (and I may add in every hospital), the bedstocks should be of iron.

Whenever a patient has recovered from this fever and is removed into another room, the bedding and curtains should be washed, the floor and woodwork should be cleansed with vinegar, and it would still add to the salubrity of the apartments if it was stoved with brimstone, or, what is much more effectual, if explosions of small quantities of gunpowder were made in it after the manner described by Doctor Lind, which driving out the foul air, a fresh current immediately rushes in to fill up the void space occasioned by the explosion. The Doctor seems to think that the good effects of it in purifying ships or other infected places, is owing to the antiseptic vapour arising from it; but is it not more probably owing to the explosion? He says he has found this method effectual in purifying the air, and that it is inoffensive to the lungs. The steams of warm vinegar applied to the patient's nostrils are very refreshing, but fumigating the wards with it, as has been advised by many authors, has not, I believe, proved so antiseptic as was at first imagined, which may be owing probably to the following cause:

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if we add imprisoned animal steams, we perhaps form no imperfect idea of the efficient cause of that sickness which generally prevails in large new-built ships; and, however simple the investigation may be, the analogy it bears (the aggravating circumstance of diseased perspiration excepted) to all experienced sickly climates, seems abundantly to confirm the solution. Those who have seen the effects of unseasoned timber on board, will not think the quantity of vapour arising from the sappy wood trifling or innoxious. Thus, especially during the night, we, as it were, realize the baneful dews of the torrid and other indisposing climates, and create that very constitution of air whose consequent diseases prove so often fatal to our fleets."—Lind on the Health of Seamen, p. 77.

In distilling vinegar it is very well known that what comes over at first is mostly water, to the amount of a third or fourth of the whole quantity; this is generally thrown away as useless, and the very acid parts which are supposed to be productive of the greatest good, are not to be raised without a very considerable degree of heat. So much watery steam, therefore, being diffused all over the room, may tend to increase those complaints it was designed to remedy; for it is universally allowed that heat and moisture, when joined, are the parents of putrefaction.

I have my doubts in regard to the utility of dry or moist fumes,[1] or sprinklings, in general, such as camphorated vinegar, tobacco, nitre, pitch, tar, resinous or aromatic gums, sulphur, or frankincense, during the patient's stay in the room. Without the free admission of air, I am apprehensive they will operate to no good purpose. If a sufficient quantity of free air be admitted they will seldom be necessary; and if by their means the air is either heated or moistened, they will certainly be prejudicial; but all these methods may be used with advantage if there be no patient in the room.

If the lungs are inflamed, or the patient has any difficulty in breathing, the receiving such acrid steams or fumes into the lungs would certainly be of bad consequence.

In puerperal women, perfumes[2] have been known to bring on dangerous symptoms, and I am afraid that all these methods can only tend to deceive, by concealing instead of correcting the vitiated air.

Heat, moisture, stagnated air, and human effluvia, such as sweat

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[1] Dossie, speaking of the murrain, says, "But these fumigations frequently repeated, as they were, for this purpose, in close places where the beasts were confined, were not only ineffectual to that purpose, but noxious in a considerable degree, as being very conducive to the prevalence of the contagion; for being, in general, made with bodies that afforded an acrid steam, such as sulphur, vinegar, tobacco, or terebinthinate substances, they injured the respiration of the beasts, and thence diminishing the animal strength, rendered them more disposed to be affected by the contagion. A multiplicity of facts confirm the truth of this remark, as it appears from nearly all the accounts given that the greater number of beasts have been lost where means of this kind have been most employed. The medicating the cattle externally, by rubbing them with sulphur, gunpowder, tobacco-water, and other substances, do less harm than the fumigations, but not more good, as experience has largely evinced.

"A free respiration of undepraved air is essentially necessary to the strength of the beasts in order to their resisting the effects of the contagion. It has appeared from a number of observations which are recorded by the writers on this subject, that the cattle which have been kept out in the air, when the weather was not inclement through too much cold or moisture, have been less subject to take this infection, and recovered in greater numbers when seized with it, than those which were housed. In Denmark, during the terrible visitation mentioned above of this disease, in the year 1759, many of the Boors attempted to preserve their cattle from the infection by the fumes of tobacco, which they continually smoked in the cow-house, even sitting up the whole night in turns for that purpose in the midst of them. But it was remarked that scarcely any of the cattle so treated avoided the contagion and death in consequence of it."—Memoirs of Agriculture, p. 389.

[2] "Fragrantes odores, quibus multi adeo abuti solent, ut etiam mutatis vestibus tota cutis illis imbuta maneat, turbant sæpe adeo puerperas ut mox sequantur enormes capitis dolores, deliria, lochiorum suppressio."—Van Swieten, Comment., sect. 1331.

and the perspiratory matter from the lungs and the skin, &c., are the grand promoters of putrefaction; without these obstacles can be removed, every attempt to correct the vitiated air will not, I am afraid, avail. A probable method is proposed by Mr. Alexander,[1] of placing large quantities of fermenting antiseptic mixtures in different parts of the room. In putrid fevers, and in the putrid sore throat, I have frequently advised patients to breathe the fixed air arising from effervescent mixtures. In several, the use of it was attended with manifest advantages, nor did the least inconvenience accrue to any, though some of them were very tender people, and had weak lungs, and one in particular was a young lady who had a putrid sore throat, and had been subject to a cough and spitting of blood, and no other remedy was made use of, except gentle vomits, salt of wormwood and juice of lemons taken into the stomach during the act of effervescence, and antiseptic gargles. I have, likewise, used it with advantage externally in putrid ulcers, by receiving the fixed air arising from such effervescing mixtures upon the affected part. I am confirmed in this opinion by a very curious case, which has been transmitted to Dr. Percival, by a gentleman of eminence in his profession at Leeds, of which the doctor has communicated to me the following abridged account. It is hoped the case will be published at large by the ingenious author himself.

January 8th, 1772, Mr. L——, a young gentleman, was seized

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[1] Alexander, speaking of putrid distempers, says: "As the breathing of cool fresh air seems, above all other things, a *sine qua non*, directions to supply the patient plentifully with it can never be too frequently or too strongly inculcated; where this is impossible to be done, as in jails, the holds of ships, &c., every method we are capable of mentioning should be tried to correct and destroy the virulence of these putrid particles, which cannot possibly be dislodged. Authors have, from time to time, contrived a variety of things for this valuable purpose; such as burning aromatics in or sprinkling the room with them, washing the room with vinegar, with spirits, &c. It does not appear, however, upon the strictest inquiry, that these methods have been attended with any remarkable, nor indeed with any visible success. Their intention, indeed, is certainly a very rational one, viz., to impregnate the whole air of a room with antiseptic matter, in such a manner that the patient may draw a good deal of it into his lungs at every inspiration. But as their having hitherto done so little good gives ground for a suspicion that they have either in this way not been intimately enough blended with the air, or not blended with it in a sufficient quantity, I think other methods ought to have a fair trial also, especially as there seem to be others better calculated for rendering any antiseptic matter more light and supportable by, and more diffusible through the air of a room.

"It was observed before towards the beginning of this essay, that Dr. Macbride had sweetened several pieces of putrid meat by suspending them in the steams arising from fermenting antiseptics; and this, methinks, furnishes us with a hint how to endeavour to correct the air of a confined place, and render it antiseptic, where patients with putrid diseases are, which is by placing large quantities of fermenting antiseptic mixtures in different parts of it. If this expedient should not be found to answer, a still farther trial may be made. Let a large quantity of a decoction of bark, chamomile flowers, &c., when in the act of fermentation (into which it may be easily brought), be put by the patient's bedside, and his head supported over it, so as to breathe the steam as often and as long at a time as can be done. Should this method produce any good effect, it might very easily be improved by means of a machine contrived to convey the greatest part of the steam, arising from such a mixture, into the patient's lungs."—Experimental Essays, p. 66.

with a fever, which, after continuing about ten days, began to be attended with those symptoms which indicate a putrescent state of the fluids.

18th. His tongue was black, he dozed much, his pulse was low, and beat 110 strokes in a minute, and his belly was loose.

20th. His stupor increased, and he sometimes voided his urine and fæces without giving notice to his attendants. His skin was dry and harsh, but without petechiæ; and his stools were hot, watery, black, and very fetid.

22d. The preceding symptoms continued with increased violence, and a subsultus tendinum came on, notwithstanding the use of the Peruvian bark, tormentil root, elixir of vitriol, tincture of roses, and every means which the skill or experience of his physician could suggest. A different method of cure was, therefore, proposed and carried into execution. The patient was directed to drink freely of orange wine, which retained its sweetness, and was in brisk fermentation. The tincture of bark was continued, and the water which was mixed with it was impregnated with mephitic air from a large vat of fermenting wort. Instead of astringent clysters, air, set free from an effervescing mixture of chalk and acid of vitriol, was injected by means of the instrument which is used for conveying the fumes of tobacco into the intestines.

23d. His stools were less frequent, their heat and fetor were, likewise, considerably diminished; his stupor was much abated, and the subsultus tendinum had left him.

24th. He was much better, and there seemed to be no necessity for repeating the clysters. The other means were continued.

25th. All the symptoms of putrescency had left him; his tongue and teeth were clean; there remained no unnatural blackness or fetor in his stools, and the disagreeable odour of his breath and perspiration was no longer perceived. He began to take nourishment, and soon recovered his usual health and strength.

Notwithstanding what I have advanced for the necessity of free air and the cool regimen, yet I must caution the young practitioner against exposing his patients too suddeuly to the cold air, after being much heated, which would be apt to cause obstructions and fevers; and although great advantages have accrued from the use of acids, acescent liquors, and fruits, yet it must be observed that they ought not to be used where the bile is deficient, either in quantity or quality, when an acid acrimony abounds in the primæ viæ, or where the patients have found, by experience, that they disagree.[1]

[1] I must refer those who would choose to see the affair of hospitals further discussed to a very sensible pamphlet, lately published by my worthy friend, Mr. Aikin, entitled "Thoughts on Hospitals."

CHAPTER VII.

OF THE CURE OF THE PUERPERAL FEVER.

WHENEVER a lying-in woman is seized with a rigor or cold shivering, succeeded by a hot, burning fit, and terminating in a sweat, we should be very attentive to her, as much depends upon the management of the patient during the continuance of these symptoms; for by a proper treatment the disorder may frequently be stopped in its first stage, and further mischief prevented. I do not apprehend the cold fit to be of the dangerous consequence usually imagined. I never knew it fatal,[1] and those authors who have mentioned it as such have not, I believe, spoken from facts falling under their own inspection. If it has ever proved so, it must have been under very extraordinary circumstances. We need not particularly guard against this symptom by too warm a regimen, much less need we do anything, when it is actually existing, that may be of pernicious consequence in the future progress of the fever; and though the patient, according to her own sensations, be colder than in health, yet she is seldom in reality so; for by several experiments made by Dr. Home[2] in the cold and even shivering fit of an intermittent, it appeared that the heat of the patient by Fahrenheit's thermometer was 104 degrees, whereas that of a person in health seldom exceeds 98.[3] In some agues, the thermometer applied to the patient's body sinks below the standard, as was found in the Edinburgh infirmary; but this happens in very violent cases only.

In the advanced stage of most fevers, patients are often very good judges of their own heat, and will frequently call out for cold air, which they find very refreshing. But as this is not always the case at the very beginning of a fever, they ought to have some person to feel their bodies many times in a day, in order to regulate the heat of the room, and the quantity of clothes they are to have upon them. During these symptoms the patient should be allowed no spirituous liquors, ale, wine, or wine-whey, no broths or animal food, no cordials, volatile salts, or stimulating aromatic spices; and, indeed, the less food she takes the better, either liquid or solid, during the

[1] I never saw a person die in a cold fit (speaking of the ague), but have known several carried off in the hot one, by strong convulsions, or delirium and other symptoms. I am clearly of opinion that it is the hot fit, or fever, which not only often endangers the patient's life, but also, in the most common cases of intermitting fevers, by its continuance, weakens and impairs his whole habit of body."—Lind's Advice to Europeans, Appendix, p. 313.

[2] Med. Facts, p. 221.

[3] "During the cold fit of an ague, the heat is considerably increased. Swenke, in his Hæmatologia, says that the heat in the cold fit is less than the natural heat. But his experiments, perhaps, were made at the first approaches of the cold fit, when the obstructions in the capillaries are considerable, and the increase of circulation inconsiderable."—Ibid, p. 227.

continuance of the cold fit. At the beginning of the fit, if she be really colder than in health, warm flannels, bags filled with toasted grains, bottles with hot water, or hot bricks, may be applied to the patient's feet; but what is of more consequence, her limbs should be gently rubbed with a warm hand, or with flannel, to prevent the blood from stagnating in the capillaries, and some additional clothes should be laid upon the bed, particularly upon the legs and feet. It must, however, be remembered, that these clothes should be taken away as soon as ever the hot fit comes on, at which time an emollient clyster should be injected, and great care taken to supply her with plenty of small liquors, such as teas of all sorts, thin water-gruel, buttermilk, tamarind, verjuice, or two-milk whey, barley-water, or decoct. pectoral, very little warmed, or even entirely cold.[1] The room should now be supplied not only with plenty of fresh, but of cold air. The bed-curtains should be undrawn, that the bed as well as the room may be frequently ventilated. To ascertain the degree of cold necessary is impossible. The patient's situation, the violence of the fit, and the mildness or severity of the season, must determine it. It will, however, in general, be good to reduce the degree of the patient's heat as near as possible to the standard of perfect health. The sooner this is done, and the nearer her heat is brought to this standard, the milder will the succeeding symptoms be, and the sooner will the sweating fit[2] come on, which,

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[1] In the case of Gorgia's wife, in Larissa, which Hippocrates has given us, who had a fever for the first three days of her lying-in, attended with great thirst and loss of appetite, he says, "the coldest water was of service to her, but wine by no means."—On Epidemics, Book 5, Case 11.

Dr. Kirkland relates the case of a woman in the seventh month of her pregnancy, who was seized with a pleuro-peripneumony, attended with many alarming symptoms, when bleeding, blistering, and other proper remedies, were employed to advantage; but she received great relief from keeping out of bed several hours every day, in a large room, filled with cold air, by the windows and doors being set open; and when she was supported by pillows upon the bed, for she could not lie down, she had but little more than a sheet to cover her. At first she drank cold water with a toast, in moderate quantities, but afterwards, when the violent heat abated, and she began to expectorate, the liquids she drank were very properly ordered to be made rather warm.—Reply to Maxwell, p. 86.

[2] Mr. Alexander, of Edinburgh, in his Experimental Essays, has given us several experiments on sudorifics. He says: "These experiments seem clearly to prove that there is a certain degree of heat (which may be called the sweating point) always absolutely necessary to produce that evacuation, and that the farther the heat of any person is advanced above, or reduced below this standard, the farther he is removed from any possibility of sweating. But although there is a standard degree of heat, at which, and perhaps at no other, a sweat can be produced, yet we may reasonably conclude that this degree is not the same in all persons, nor in the same person at all times, but that it rather differs according to the difference of constitutional heat, and other circumstances."—Experimental Essays, p. 166.

"That profuse sweating is more destructive to the natural heat and strength than even pretty large blooding, is a truth which seems never to have been sufficiently attended to in practice; and it is no very uncommon thing to see a person thrown into large and continued sweat, without any apprehension of danger, when, at the same time, were he to lose a single ounce of blood, it would be reckoned highly imprudent, as detracting from that strength which ought to have supported him in the disease. How far this is reconcilable to common observation, and the feelings of

if it be spontaneous, and not forced by hot air, too many clothes, hot liquors, or hot medicines, will, in all probability, terminate the disorder. But, though liquors given perfectly cold are proper during the hot, burning fit, yet they must not be given during the sweating fit. The heat of new milk will be the most proper temperature. If nature is not interrupted, she usually discharges the morbific matter of this paroxysm by sweat, and this sweating, which commonly ends in a few hours, may, in some measure, be called critical. If it lasts longer, it weakens and relaxes the patient, quickens the pulse, diminishes the momentum of the blood, creates thirst and costiveness, lessens the milk and lochia, brings on or increases putridity, and frequently introduces eruptions of the white or red kind, and not uncommonly of both.

If the patient is troubled with pains in her head, back, or loins, attended with a swelling, pain, and tenseness of the abdomen, a

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every one who has been in these circumstances, I shall leave to the judicious to determine.

"Dr. Huxham, that careful observer of nature, is the only author I have met with who seems to have been fully aware of the fatal consequences of large sweating in low putrid distempers, and accordingly exclaims against it in the keenest and most nervous manner, as having a very direct tendency towards the destruction of the patient. But I carry the matter still further, and affirm that in all distempers whatever, profuse sweating, too long continued, may have the same effect, and that it seldom or never can be useful, as all the purposes of it may be fully answered by a gentle mador on the skin, which may be much longer continued, with less hurt to the strength of the patient."—Experimental Essays, pp. 174–5.

"And we see, from the above experiment, that towards the end of a large and long-continued sweat, a quick, weak, tremulous pulse comes on. Whenever we meet with one of this kind, we ought to consider it as a strong indication of the weakness of nature, and, therefore, in my opinion, to be nearly as cautious of sweating as of blooding."—Ibid., p. 177.

"The following corollaries, drawn from experiments and observation, may, perhaps, throw some light upon this subject:

"Coroll. 1. When the velocity of the blood is too great, and its momentum too little in proportion, sweating will generally increase the velocity, and diminish the momentum.

"Coroll. 2. When the velocity of the blood is too little, and its momentum too great in proportion, sweating will generally diminish the velocity, and increase the momentum.

"Coroll. 3. When the velocity and momentum of the blood are both too great, sweating will weaken both, but if it is continued long enough to exhaust the natural strength, it will then again increase the velocity, but not the momentum.

"From these corollaries we may form a sort of general plan, when sweating is useful and when not. Laying it down, therefore, as a postulatum, that the strength of nature depends more upon the momentum than upon the velocity of the blood, whenever we find a sweat increasing the velocity and diminishing its momentum, we are sure that it is weakening the patient, and, therefore, must endeavour to stop it. Again, when we find a sweat increasing the momentum and diminishing the velocity of the blood, we may be sure that it is then emptying the overloaded vessels, or opening some obstructions, and, in one of these ways, adding to the natural strength. Farther, when we find a sweat diminishing the velocity and momentum of the blood, when they are both too great, we have reason to believe it is then carrying off some morbific matter, which was the cause of this augmentation, and, therefore, may go on with the sweat almost as long as we find the momentum and velocity diminish in an equal proportion to each other; for we may be assured that, while they do this, nature is never weak; as very few, if any, instances ever happen where great weakness is not attended with a very quick pulse."—Alexander's Experimental Essays, pp. 207–9.

nausea, vomiting, diarrhœa, tenesmus, frequent motions to make water, a quick pulse, thirst, and a white or brown tongue, or with any of these symptoms, it is necessary to give her a gentle emetic, consisting either of ipecacuanha in substance, or of some antimonial preparation, emetic tartar, for instance, essence of antimony, or James's powder. The dose should be repeated once or twice a-day, or as often as is found necessary, to cleanse the stomach of phlegm, bile, gastric or pancreatic juice, with all of which it is generally overloaded during the disorder. Whichsoever of these medicines is made use of, it should be given at first in a small quantity, and if no visible effect ensues, if it neither affects the patient by stool or vomit, the succeeding doses should be increased till their quantities are such as will answer their intentions. Frequent vomits are very useful in all putrid fevers, for the saliva[1] which is swallowed into the stomach, and the other juices that are found there and in the duodenum, contain very little or no fixed air, and, therefore, of course absorb the putrid miasmata, which cannot too often be evacuated. But if the patient has very violent pains in the abdomen, purgatives are to be preferred to emetics, as the action of vomiting might increase those pains.

If the patient is costive, or has a tenesmus, emollient clysters, which not only help to carry off the morbific matter, but are extremely useful as fomentations to the whole abdomen, should be frequently injected; but especial care should be taken that they are not administered too warm; and if these are not sufficient, gentle purgatives must be administered in small doses, and frequently repeated, as cream of tartar, Glauber's, Rochelle, or Epsom salts, rhubarb, or castor oil; if these should fail still stronger must be made use of.

So soon as the stomach and bowels have discharged their morbific contents, spiritus mindereri, or the salt of wormwood neutralized with the juice of lemons, may be given in draughts. This last medicine should be taken during the act of effervescence; or it may be more agreeable to the patient if the salt of wormwood be administered in draughts of a scruple each, and each draught washed down with a spoonful of lemon-juice; and probably the taking it in this

[1] The absorbent quality of the saliva, moreover, shows how apt it must be to lay hold of infectious miasmata, which oftentimes are in reality putrid vapours, or fixed air, detached from bodies during putrefaction; and confirms what hath been frequently recommended, namely, to shake off infection, and prevent the miasmata from getting into the mass of fluids by immediate vomiting; and we may likewise see, that the cautions given by authors concerning the swallowing of the saliva, while in the places abounding with infectious vapours, are founded in reason."—Macbride's Exper. Essays, p. 268.

By the precautions taken by Dr. Lind, and by immediate vomitings, only five persons died from among more than a hundred, who were severally, and some of them constantly employed, during eighteen months, in various offices about the sick in Haslar Hospital, where there constantly was a great number of people ill of fevers that were highly infectious.—See his "Discourse on Fevers and Infections," Paper 2, p. 74.

manner may be fully as effectual, as they will effervesce in the stomach. These doses should be repeated every two hours, or oftener; they will correct and sweeten the acrid, putrid bile, and will allay the feverish symptoms. Dr. Lind, who has prescribed them frequently upon the accession of cold fits, tells us that they generally shorten the fits, and occasion profuse sweatings. It may be necessary, perhaps, to remind the reader, that though sweatings are, in general, very pernicious in this fever, yet they are indispensably necessary at the termination of a rigor, and may, in some measure, be said to be critical in respect to that paroxysm, though there is not a perfect crisis: that the best method of procuring these sweats is to moderate and shorten the burning fit, for Mr. Alexander has proved that a person may be too hot to sweat, and that there is a sweating point, in any degree of heat above or below which a person cannot sweat. Therefore, if the patient is too hot to sweat, that heat must be lowered by cold air and cold water. By these means the burning fit will be moderated and shortened, and sweats will naturally succeed, and will only continue a proper time, if they are not encouraged by warm liquors, a warm room, and many clothes; hence the velocity and momentum of the blood, which before were too great, will now be lessened, whilst the morbific matter is carrying off, which was the cause of the augmentation.

Riverius[1] gave salt of wormwood and juice of lemons in obstinate vomitings attendant upon putrid malignant fevers. Sydenham administered a scruple of salt of wormwood in a spoonful of lemon-juice, during the iliac passion which succeeded the depuratory fever, and in an intermittent fever attended with almost continual vomitings, he gave the same quantity six or eight times in the space of two hours. I have prescribed this medicine in the act of effervescence for many years, during every stage of the putrid malignant fever, both in pregnant and puerperal women, with very apparent advantage. This practice has been recommended by Whytt, Barry, both the Linds, Pringle, and Macbride, who agree that the virtues of this medicine depend upon the emission of the fixed air; but they differ in regard to the mode of its action. Some are of opinion that it is owing to its brisk and unusual stimulus[2] on the very sensible

[1] "Salis absinthii, ℥j., cum succi limonum cochleari mixtus, remedium est præstantissimum, præsertim in vomitu, qui febribus malignis solet contingere."—Lib. ix., cap. vii., de Nausea et Vomitu.

[2] "The draughts of salt of wormwood and juice of lemons are observed, in a great measure, to lose their power of stopping a vomiting when they are not swallowed in the act of effervescence; and is not their superior antiemetic power in this state owing to their making a much stronger impression upon the nerves of the stomach, while they continue to emit this fixed air, and when all their parts are in violent motion, than after saturation, when they can act only by their saline quality? For while the nerves of the stomach are affected with this brisk and unusual stimulus, that disagreeable sensation which produced the vomiting must be lessened or destroyed; and is not the effect which those draughts sometimes have in preventing the attack of intermittent fevers to be ascribed solely to their action on the very sensible nerves of the stomach, and not to any sudden change which they may be supposed to produce

nerves of the stomach; others to its antiseptic powers, by sweetening and destroying the putrefactive acrimony. But whichever of these is the case, it certainly moderates the cold, the hot, and the sweating fit; it allays thirst, vomiting, and the febrile heat; it keeps the intestinal canal open, and it raises the spirits without heating the patient. I have never known the least bad consequence attend the taking of it, except it has in some cases caused an uneasiness at the stomach, owing to its sudden distension, from the quantity of fixed air set at liberty. This effect may be moderated by suffering so much of the effervescence to subside before taking it as may be judged necessary; it is never more than a temporary inconvenience. If the vapour be imbibed into the lungs it will sweeten the breath, which, in its purest state, and in health, is septic, but in putrid fevers most remarkably so.

Notwithstanding the ingenious Dr. Macbride's experiment with the sparrow, and the general opinion that fixed air arising from the union of the mildest alkaline salts, and even the purest vegetable acids, such as salt of wormwood and juice of lemons, cannot, without immediate danger of life, be admitted into the lungs, I am convinced, from a number of trials I have made upon living human subjects of all ages, that it may be admitted into the lungs with the greatest safety, not only when they are in a sound, but even in a diseased state. I have, likewise, used in the same manner chalk, as well as the alkaline salts with the vitriolic acids, and never found any inconvenience, except the fixed air was thrown into the lungs in too large quantities, and then only a temporary giddiness; but for internal use, vegetable acids seem to claim the preference.[1]

If, notwithstanding the use of these medicines, and the repetition of the emetics, the nausea and vomiting continue, so that there is reason still to suspect a redundancy of vitiated bile, a scruple or half a drachm of the powder of columbo root or its extract, or a few spoonfuls of the infusion of it, may be given three or four times a-day. If the patient's looseness is too violent, this medicine will agree better than the neutral mixtures, which generally promote that discharge; but if the intestinal canal is not sufficiently open, either the neutral mixtures must be continued, or some neutral salts, such as vitriolated tartar, to the quantity of half a drachm, be added to each dose of columbo. Small doses of rhubarb may be administered at proper intervals, and if there are great signs of irritation (provided there is no delirium), opiates, especially if a grain of ipecacuanha be added to each dose, may be given with safety and advantage. If a cough and difficulty of breathing come one, a few grains of ipecacuanha, or as much as will occasion a gentle puking, will

in the nature of the humours contained in the primæ viæ?"—Whytt's Works, 4to edit., p. 698.

[1] For a further account of the medicinal application of fixable air I must refer my readers to some useful Experiments and Observations on Mephitic Air, published by my ingenious friend Dr. Percival.

sometimes relieve the patient. If pains of the side or any part of the thorax attack her, I have known the Senegal rattlesnake root, taken to the quantity of half a drachm three or four times a-day, remove them.

If the diarrhœa is immoderate and sinks the patient, she must be properly supported: for this purpose she should have salep, with a little wine or brandy in it, common sago, or the jelly of the North American sago powder, an infusion of well-toasted bread, strong coffee, boiled milk and flour, a strong decoction of horse-beans, with a little spirituous cinnamon-water; and if the fever is abated, she may have cordial juleps, consisting of columbo, confect. cardiac., confect. damocrat., gum. rubr. astring., draughts composed of the jelly of English starch, made with simple cinnamon-water, adding to each draught half an ounce of tinct. stypt.; and starch clysters may be injected, to which may be added opiates, if necessary. In this state of the disease I have experienced the good effects of small doses of ipecacuanha, given as an alterative.

When this disorder is in its decline, the bark, and the acid elixir of vitriol, with Pyrmont and Seltzer water, are proper to brace and strengthen the patient; and if there are any signs of the fever remaining, the Seltzer water, as it is less heating, is to be preferred to that of Pyrmont.

Whatever signs of inflammation may appear at the beginning of this disorder, it is agreed, by all authors, that they do not continue long. The disease soon puts on the form of putridity. Foul, stagnated air,[1] human effluvia, heat, moisture, and animal food, the great promoters of putrefaction, should, therefore, studiously be avoided. Free, and even cold air,[2] an upright posture, cleanliness, fruit, fresh or preserved, a vegetable diet, and the use of cold, acidulated liquors, should be strictly enjoined, such as imperial, orange, or lemonade, &c. The vegetable acids[3] are to be preferred to the mineral; they

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[1] "Animals, even the most tenacious of life, and those whose existence is found to depend the least on air, sooner expire in air made foul than in vacuo. Plants sooner suffer and droop beneath the influence of noxious steams than in a want of this all-vivifying fluid."—Lind on the Health of Seamen, p. 81.

"More danger is, doubtless, to be apprehended to the sick from breathing in air polluted with their own, and the effluvia of others, than from any degree of cold which can well be admitted by fresh air."—Ibid., p. 86.

[2] "When the hospital fever in the late war was brought from England into the hospital at Mahon, the house being found insufficient for the reception of so great a number of patients, tents were reared up in the fields for many of the men. These poor fellows were thought to be badly accommodated, but it was very observable that most of those who lay in the cold tents recovered; when the mortality in the house was so great, that in some wards not one in three escaped."—Ibid., p. 106.

[3] "From these experiments may be deduced the great utility of acids in all diseases which either proceed from, or are accompanied by, a redundance and depravation of the bile. And this seems to be the case with most autumnal fevers, and, in general, with the epidemics of all hot countries, especially where heat and moisture are conjoined; for the former promotes the generation, and the latter the putrefaction of the bile."—Percival's Experiments on Astringents, p. 155.

"The difference between the action of mineral and vegetable acids on putrid gall, as evidenced in the preceding trials, is deserving of particular notice. From the

not only correct but sweeten the putrid bile, and are mildly aperient; and, above all, we must remember to keep the alvine tube open.

Every method recommended in the preceding chapter as preventive of this disorder should now be enforced in a higher degree, in order to its cure; particularly, the patient should have clean linen every day, and her hands, face, and teeth should be daily washed in cold water,[1] except she be in a sweat; she should also sit up in bed as often as she can bear it.

If these directions be timely made use of, I have no doubt but they will generally prove successful. I have always found them so, except in cases wherein the womb has suffered damage at the time of parturition; but I must inform the reader that I never attended a woman in a lying-in hospital. A diaphoresis, or gentle sweat, is recommended by many authors, who yet allow that a diarrhœa is critical; that it is the way which nature takes to disburthen herself of the morbific matter, and that it ought by no means to be checked. It is an axiom in physic, that the increase of one evacuation lessens all the rest; why, then, should an evacuation be encouraged which relaxes and weakens the patient, increases the velocity, and decreases

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ignorance of this distinction, or want of attention to it, I believe the elixir of vitriol is often exhibited when vinegar or the sour juice of vegetables would be much more serviceable. For though it is the common property of all acids to correct the putrid acrimony, yet the power of sweetening it seems to be peculiar to those of the vegetable class. And as they are mildly aperient, at the same time they will not only neutralize the septic colluvies, which, in some diseases, lodges in the stomach and flexure of the duodenum, but will also tend to evacuate it: an advantage not to be expected from the mineral acids."—Ibid., p. 158.

"Acids correct the bitterness and acrimony of the bile; and volatile alkalies and bitters correct the acidity and tenacity of the phlegm. If vinegar be mixed with strong decoctions in water, of wormwood, gentian root, chamomile flowers, centaury tops, and buckbean, the mixtures will have neither bitterness nor acidity, if they be mixed in just proportions. Hence, acids and bitters correct each other when either happens to abound too much in the body. If bile abounds, as it commonly does in summer, and hot countries, acids and cooling acidulated liquors will be proper to correct it; and if phlegm abounds, as it does in winter and cold countries, volatile alcalious spirits, and warming fermented liquors, will be proper correctors."—Robinson on the Virtues and Operations of Medicines, p. 168.

"Ex aceti partibus quatuor, et bilis recentis partibus quinque, mistura facta, neutrius saporem præbebat, sed medium quendam, manifeste dulcem."—Robertus Ramsay, Dissert. Med. Inaug. de Bile., exper. xviii.

"Mistura aceti et bilis, ut in exper. xviii. facta, lacti recenti affusa, coagulum hujus non induxit, etsi eadem aceti copia, per se affusa plus quam sufficiens ad coagulum inducendum fuisset."—Ibid., exper. xix.

[1] "Frigus, quatenus corporis calorem et cerebri vel nervorum energiam minuit, sedans est. Si calor nimius sit, frigus ad eundem compescendum utile est. In plerisque morbis febrilibus, caloris stimulus morbum exacerbat, adeoque frigus ad gratam sensationem fere semper necessarium est. Si nec inflammationis topicæ, nec diathesis phlogisticæ periculum sit, aer et potus frigidi, libere concessi, multum juvant. In ephemera puerperarum aquæ frigidæ haustum vel manus immersionem ut remedium eximium laudat Professor noster Young, et, sæpe omnibus aliis anteponendum, censet."—Dissert. Med. Inaug. T. T. Tucker, p. 45.

For a more particular account of the great advantages, and even necessity, of cold air in suppressing and extinguishing fevers, I must beg leave to refer the reader to two very sensible pamphlets, published by Dr. Kirkland, the one entitled "An Essay on the Cure of Diseases causing Fevers;" the other, "A Reply to Maxwell."

the momentum of the blood, creates thirst, lessens the milk and lochia, promotes putrefaction, and checks that looseness which certainly should not be removed, except by taking away its cause; I mean, by the admission of free air instead of foul, by the prevention of heat and moisture, by abstaining from such foods as have a putrescent tendency, by frequently cleansing the stomach and bowels of the corrupted colluvies, and by correcting and sweetening its putrescent acrimony?

I do not deny that many persons have recovered who have been kept in gentle sweats; but instances of the recovery of patients may be adduced under almost every kind of erroneous practice. That many have recovered without sweating, or where the sweat has only come on at the termination of the paroxysm of a rigor, I myself can testify. Excepting at this period, I am equally confident that the patient's recovery, without sweating in the smallest degree, is not only more expeditious, but attended with greater certainty; and though we often see a gentle diaphoresis upon the skin when the fever goes off, yet we ought not to consider it as the cause, but the consequence, of the amendment; and I believe I may venture to say, that in those few cases where sweating has proved serviceable, the sweats have come on spontaneously, and were not the effect of art.

Nitre[1] is a very improper medicine in this fever, and in all diseases where putrid bile abounds.

In regard to phlebotomy, especially at the beginning of this disorder, authors are much divided, some of them obstinately insisting upon its efficacy, and others as warmly rejecting it.

That some women may be subject to such inflammatory disorders during their lyings-in as may require bleeding, cannot be denied; but cases of this kind are not very common in the present age, especially amongst those who inhabit large towns. In the puerperal fever, however, which always, sooner or later, affords striking symptoms of putrescency, we should be extremely cautious how we do anything to debilitate the vis vitæ, to weaken the circulating powers by unnecessary evacuations, or waste the strength which may be wanted to support the patient under looseness and vomitings. It has been lately observed by Dr. Denman, "that those who have recovered have seemed generally to owe their safety to a happy strength of constitution, able to withstand the continuance of a long looseness, by which the disease appeared to be gradually wore off, or to a spontaneous vomiting."[2]

[1] Sir John Pringle, in making some experiments upon gall to preserve it from putrefaction, says: "Only nitre failed, which, though four times stronger than sea-salt in preserving flesh, is inferior to it in preserving gall, and much weaker than sal ammoniacus; which, again, is somewhat less powerful than nitre in keeping flesh sweet. The nitre was soon opened by the gall, and emitted much air, which arose as from a fermenting liquor, and when this happened the gall began to putrefy. But the saline mixture generated no air, and opposed the putrefaction of the gall more than it did that of the flesh. Perhaps this may be the reason why, as far as I have observed, nitre disagrees with the stomach in putrid bilious cases."—Appendix to Diseases of the Army, p. 27.

[2] Essay on the Puerperal Fever, p. 13.

Such is the rapid progress of this acute disorder, that if the patient has suffered any unnecessary evacuations in the first period of it, by bleeding or sweating, there is seldom sufficient time to recruit her strength, and a trifling error may be productive of the most fatal consequences.

Cases have certainly happened wherein women have been relieved from feverish indispositions by small, but repeated, critical discharges of blood from the uterus; but it does not, from hence, follow that the loss of blood from other parts, and that too procured by art, will have the same effects.

It is allowed that these fevers sometimes arise even after large uterine effusions; ought we, then, to expect to cure a disorder by bleeding which bleeding would not prevent? It is a maxim in physic, that whatever remedy will cure will prevent a disorder. The return of the lochia is sometimes one of the first symptoms of the recovery; but this return must be understood rather as the effect than the cause. This matter has been set in a very clear light by Doctors Denman, Johnson, Millar, and Manning, and I shall only add, that I never found bleeding necessary except when inflammations of the womb have been brought on by violence used in the extraction of the child or of the secundines. In cases of this kind it should be used very early, as soon as there is any sign of inflammation, and (as puerperal women are in a state much inclined to putrescence) should not be repeated without the greatest circumspection. Fomentations and vapour-baths are very improper, as they heat, moisten, and relax, and are, therefore, great encouragers of putrefaction.

Blisters[1] are generally disapproved by all writers upon this subject.

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[1] "Si qui puerperio morbi supervenerint, in his omnibus adhibita vesicatoria inter tres primos dies periculum semper, sæpe mortem afferunt."—Manningham, Aph. Med., p. 153.

Baglivi relates the history of a puerperal fever unsucceesfully treated, where blisters were attended with a manifest 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 cæpit 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; derepente tamen supervenientibus gravissima spirandi difficultate ex genere convulsivarum, et interdum in delirium se commutante, nec non alvi fluxu flavo, et fœtido, qui per octo dies continuavit, demum decima septima die morbi, obiit patiens," &c.—Baglivi Oper., p. 590.

Etherington, speaking of the low, nervous, and hysteric fevers, says: "For although blisters, in general, are very serviceable where this disorder happens, yet to lying-in women they prove of the worst consequence, by inflaming the womb, and sometimes bringing on mortifications and death. For which reason we cannot too earnestly forbid the use of blisters in all disorders of puerperal women in the early days of their lying-in, while the vessels are so full, and the parts from whence the placenta was separated so very tender and liable to be injured by the caustic salts of the cantha-

The stimulus they occasion in the bladder and uterus, and the bad effect they sometimes have in putrid and bilious fevers when applied too early, are sufficient reasons to condemn their application in the beginning of this fever, especially if soon after delivery.

The whole class of stimulating medicines called emmenagogues, which are said to promote a discharge of the lochia, are equally to be avoided. They irritate the womb, increase the fever, and do not answer the end for which they are administered.

In the last stage of this disorder, when the patient seems to sink under it, we must endeavor to support her by strong infusions and tinctures of the Peruvian bark, by wine and other cordials, and to stimulate and rouse her by volatile salts and blisters.

APPENDIX.

ON THE PUERPERAL FEVER AND POSITION AFTER DELIVERY.

THE presence or absence of the puerperal fever being, as I conceive, very nearly connected with the maintenance of a horizontal or an upright position after delivery, I shall under this head comprise what I have to add concerning both these subjects.

Writers are still much divided in their opinions of the cause, and even of the nature, of the puerperal fever; some ranking it under the class of inflammatory, some of putrid, diseases; some calling it a mixture of both, and some a fever *sui generis*. The very attempt to class it has been attended with some disadvantages, by rendering the difference of opinion concerning it greater, and, what is worse, by influencing practice. Dissections themselves have not assisted much in clearing up this matter, as the appearances have not been always similar, and different conclusions have been drawn from the same appearances.[1] It is obvious that till some greater certainty be

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rides. Many fatal incidents attending the application of blisters at this time have been observed."—General Cautions in the Cure of Fevers, p. 41.

"I do not know any worse practice than blistering in the beginning of fevers, particularly the putrid and bilious; blisters increase the inflammation, and greatly exasperate the acrimony of the morbid matter; in the early part of the bilious constitution they promote the propensity to symptomatic sweats, and hinder the excretion by the bowels."—Grant on Fevers, p. 344.

"Neither do blisters seem to be always of service in fevers; for some of the putrid kind dissolve the blood and turn it into a dark corrupted sanies."—Glass's Com., p. 275.

[1] The following observations of my worthy friend Mr. J. Hunter, may not, perhaps, be here improperly introduced.

"An accurate knowledge of the appearances in animal bodies that die of a violent death, that is, in perfect health or in a sound state, ought to be considered as a necessary foundation for judging of the state of the body in those that are diseased.

"But as an animal body undergoes changes after death, or when dead, it has never

obtained with regard to the cause and nature of this disease, all attempts towards a rational method of prevention or cure will be vain.

There are, however, some particular symptoms attending it, which, if accurately investigated, may greatly assist our inquiries. The most distinguishing and inseparable symptom of all others is the quickness of the pulse,[1] whatever other quality be joined to it, which constantly occurs whenever this fever exists in any alarming degree; and from which the degree of danger may be estimated more certainly than from all the other symptoms put together. This immoderate quick pulse is not the constant attendant of inflammatory, putrid, nervous, or eruptive fevers; but every surgeon conversant with business knows that it never fails to attend absorption of matter from abscesses or ulcers, whatever be the other concomitant symptoms or the quality of the matter. The physician also knows that it is constantly present in ulcers of the lungs, and other internal parts of the body.

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been sufficiently considered what those changes are; and till this be done, it is impossible we should judge accurately of the appearances in dead bodies. The diseases which the living body undergoes (mortification excepted) are always connected with the living principle, and are not in the least similar to what may be called diseases or changes in the dead body: without this knowledge, our judgment of the appearances in dead bodies must often be very imperfect, or very erroneous; we may see appearances which are natural, and may suppose them to have arisen from disease; we may see diseased parts, and suppose them in a natural state; and we may suppose a circumstance to have existed before death, which was really a consequence of it; or we may imagine it to be a natural change after death, when it was truly a disease of the living body. It is easy to see, therefore, how a man in this state of ignorance must blunder, when he comes to connect the appearances in a dead body with the symptoms that were observed in life; and, indeed, all the usefulness of opening dead bodies depends upon the judgment and sagacity with which this sort of comparison is made."—Phil. Trans., vol. lxii., pp. 447–8.

[1] "The pulse has almost an invariable and unusual quickness from the beginning."—Denman.

"In the cold fit the pulse was quick and small, and the pulsation so feeble and indistinct that sometimes I was hardly able to number them exactly. When the hot fit came on, though it was then more full and distinct, it still remained quick, but was seldom hard or strong, except in a few instances where the patient was young and plethoric. In general, it would beat from ninety to one hundred and thirty-seven strokes in a minute."—Leake on the Childbed Fever, &c., pp. 45–6.

"As they become more and more exhausted, and within a few hours of death, the pulse, which was exceedingly quick and almost imperceptibly weak, at last was insensibly lost in a tremulous flutter."—Ibid., p. 50.

"The pulse, in general, is quick and weak, though sometimes it will resist the finger pretty strongly. At the beginning of the disease it seldom beats less than a hundred strokes in the space of a minute; and from this number I have found it run on to one hundred and sixty."—Hulme on the Puerperal Fever, p. 5.

"Nay, so infallible is the beat of the pulse with respect to number, that though all the other symptoms should abate, and the disease seem to be gone off, yet if the pulsations do not decrease in proportion, a relapse or some other disorder is to be feared.

"A diarrhœa coming on at the beginning, if followed by a slower pulse, prognosticates safety. But if after 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."—Ibid., pp. 31–2.

"They are commonly taken as with an ague fit; there is a strong shivering with a great heat, which is succeeded by a pain in the limbs and back, and a violent hurrying pulse."—Hunter's MS. Lectures.

In lumbar abscesses, and those of the larger joints, it is no uncommon thing for the patient to remain in a state of perfect health till the abscess be opened either by art or nature, and the air gets admission. But in a few days after this, pain, soreness, and tenderness of the neighboring parts, or perhaps of the whole body, are perceived; a fever supervenes, sometimes preceded by cold shiverings, and succeeded by burning and sweating; at other times creeping on insensibly, but always accompanied with an immoderately quick pulse; a diarrhœa and pains in the abdomen frequently follow; and the progress of the disease is so rapid, that sometimes in ten or twelve days, notwithstanding the use of every remedy, death closes the scene. In crowded hospitals these symptoms occur with much greater violence than in private practice. If the diseased part be so situated as to be removable by amputation, and this operation be performed before absorption has taken place, or has proceeded too far, all this train of symptoms may be either entirely obviated or removed by it; and I have seen many cases in which, after the patient, from too great delay, had been brought to the brink of the grave, the application of sponge to the stump, according to the method described by Dr. Kirkland, has occasioned a perfect recovery; the quickness of the pulse being immediately abated, and all the other symptoms alleviated, as soon as the sponge, by imbibing the acrid or putrid matter, had prevented its absorption.

Let us now inquire what further circumstances there are, besides that of the quick pulse, to make it probable that the puerperal fever is occasioned by absorption. Notwithstanding the several writers whose attention has been of late so much excited by this fever have differed considerably concerning the cause of the disease, and the method of cure, they have certainly observed its appearances with great accuracy, and described them with equal minuteness and fidelity. Their observations may, therefore, be referred to as sufficient authority, and the following are of much weight in the opinion I mean to establish.

Dr. Denman[1] says: "She also feels great pains in the back, hips, and groins, and sometimes in one or both legs, which swell, appear inflamed, and are exquisitely painful." A little further he says: "In some there will be a translation of the disease to the extremities, where the part affected will become inflamed, and a large abscess be formed."—In another place he says: "Should abscesses be formed in the breasts, they are always much lamented; but there is great reason to conclude that they prevent more grievous and dangerous complaints."

Dr. Leake[2] says: "Some of those who survived recovered very slowly, and were affected with wandering pains and a paralytic numb-

[1] Essay on the Puerperal Fever, second edit., p. 9.
[2] Practical Observations on the Childbed Fever, second edit., p. 59.

ness of the limbs, like that of the chronic rheumatism. Some had critical abscesses in the muscular parts of the body, which were a long time in coming to suppuration, and when broke, discharged a sanious ichor."

Again: "Those who were seized with this fever were not subject to abscesses of the breasts, and of those who happened to have such abscesses, I have never known one die; neither are they subject to a diarrhœa, or much symptomatic fever, although the pain attending a suppuration of the breast is often very acute."

If to these considerations we add, that as the puerperal fever is more fatal in large cities and crowded hospitals than in places where the air is more open and pure, so is the fever occasioned by absorption of matter—that as the former is more fatal in some peculiar constitutions of the air than in others, so is the latter—that as the puerperal fever does not appear till after delivery,[1] so neither does absorption of matter from an abscess till it be opened and the air have access—we may, I think, with a good degree of certainty, conclude that the absorption of matter is the immediate cause of the puerperal fever, as well as of that consequent upon abscesses and ulcers. This matter is either carried off by some of the emunctories, as by stool, which is the most frequent, by a fresh flow of the lochia, or by sweat; or else it is deposited upon some part of the body. If in the cavity of the abdomen, upon the lungs,[2] the liver,[3] or upon

[1] "Till such a change is produced, women are not subject to this fever; for I have observed that those with child, who assisted the nurses in attending the sick, were perfectly free from it, even when it was most rife; but being delivered, several of them sickened soon after, and were affected with the same symptoms as the rest."—Leake, p. 88.

Some are of opinion that there are not wanting instances of the puerperal fever being formed before delivery; but may not these suggestions arise from sometimes observing cold shiverings before and during the time of labour? and if a puerperal fever come on soon after delivery, might they not conclude that those cold shiverings were symptoms of that fever? But these I have so frequently seen without the puerperal fever supervening, or the least bad consequence ensuing, that I am certain they are not to be depended on. Women, however, before delivery, are not exempt from other fevers; and after delivery, those fevers may change their type and degenerate into the puerperal; nay, I even think it more than probable that if there be a fever of any kind at the time of delivery, it may occasion an absorption after delivery, and so bring on one of the puerperal kind.

[2] A cough, shortness of breathing, together with pleuritic and peripneumonic symptoms, frequently occur in this disease, and morbid appearances in the chest have been found upon dissection.

"It is almost needless to remark that this fever must, of course, be complicated with any disorder that the patient might happen to labour under at the time of childbirth. The chief that I have met with in this way, of any consequence, hath been the phthisis pulmonalis. If any disease hath taken its immediate origin, as it were, out of the puerperal fever, and been combined with it, it hath been the peripneumony. I have met with several instances of this kind."—Hulme, p. 15.

"Both lobes of the lungs were inflamed, and somewhat black, particularly in their most dependent part."—Ibid., p. 41.

. . . . "adhesions of the lungs to the pleura; a collection of putrid serum in the thorax, and matter under the sternum, as in the case of Harriet Trueman . . . . on inquiry of the patient's friends, I could not find that she had ever been in the least subject to any complaint in the breast."—Leake, p. 93.

[3] "In una, quantum comperi, jecur erat mollis, enormis, et postquam perscissum

any of the viscera, it generally proves fatal: if upon the breasts, the limbs, or any of the external parts, the patient always recovers.

Let us next inquire what is the source of the matter thus absorbed. That the increased bulk of the uterus in the latter months of pregnancy should, by its pressure on the intestines, obstruct the free discharge of the excrements, may readily be conceived, and is known by every practitioner frequently to happen. Dr. Denman[1] has a very just observation relative to this. Speaking of the stools in the puerperal fever, he says: "They are very fetid, of a green or dark brown colour, and working like yeast; and it is remarkable that after the long continuance of the looseness, when the patient has taken little nourishment, large and hard lumps of excrement will be sometimes discharged, which one might suspect to have been lying in the bowels a long time before delivery." He is so particular in this observation, that he repeats it in another place.

The horizontal position to which women are so frequently confined after delivery, greatly favours an absorption of the lochia. As this matter seems but imperfectly understood, no proper distinction having been made between the absorption and obstruction of the lochia, I shall beg the reader's patience while I attempt to give my ideas of it somewhat at large.

Writers agree that the puerperal fever attacks indifferently persons who have had a small or a large discharge of the lochia. This is a well-founded fact; but from hence they have concluded that the lochia can have no share in producing the disease—a conclusion to which I cannot assent. In other cases, it is constantly found that matter will be absorbed, whether the discharge be small or great; and, what may seem extraordinary, it is frequently seen that where the discharge is in the largest quantity, the absorption is most considerable. But absorption may, in all cases, be increased, and in some entirely caused, by such an unfavourable position as may occasion the matter to lodge in a wound, where growing acrid, it will produce inflammation and fever by its irritation. By the application of sponge, an incision in the most depending part, or mere alteration of position, these symptoms frequently soon disappear; the matter becomes more laudable, and is even diminished in quantity. We shall presently see how these observations apply in the puerperal fever.

That accurate anatomist, Dr. Hunter, has discovered the false or spongy chorion, called by him the *caduca*, or *membrana decidua*, to be a lamella or efflorescence of the womb, which peels off from it like a slough at each successive birth. It is an opaque membrane, thicker than the true chorion, and exceedingly tender in its texture,

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est, abscessum continere repertum."—Diss. Med. Inaug. de Febre Puerper. Patr. Keary, Edin., 1774, p. 8.

Dr. Hulme (p. 43) says, "the liver was of an extraordinary magnitude; in the right lobe was found a very extensive abscess."

[1] Essay on the Puerperal Fever, p. 13.

being hardly firmer than curd of milk or coagulated blood. It is, however, vascular, having vessels which carry red blood from the uterus. It is not to be injected by injecting the placenta, being not a fœtal, but an uterine part. After delivery, the greatest part of this membrane is left behind, grows putrid, gradually dissolves, and comes away in a fluid state along with the cleansings. It frequently, however, is so long in separating, that on dissection[1] of several who have died of the puerperal fever, the inside of the uterus has been found lined with it; and it has been of so black a colour, that the womb itself has been supposed to be mortified, till the mistake was discovered by wiping off this substance. Thus, we have a matter entirely fitted for absorption; and as the communication between the mother and child is carried on not by continuity of vessels between the placenta and uterus, but a reciprocal absorption of blood by means of patulous orifices, we may conclude that the womb is an organ of all others the most favourably formed to absorb.

That patients in this fever should generally complain of pain and soreness at the lower part of the belly; and that the omentum, peritoneum, and intestines should frequently be first and principally affected, and on dissection be found inflamed, suppurated, or gangrened, might naturally be expected from their contiguity to the source of the absorbed matter. These are the common consequences of the deposition of acrid matter upon a tender part. But the inflammation excited in this manner in a relaxed habit, and happening frequently after a considerable loss of blood, is very different from one occasioned by obstructed perspiration in a plethoric habit, where no considerable evacuation has preceded. Dr. Leake relates the case of Sarah Evans (p. 224), who was of a very delicate, irritable habit, and lax fibres; she was seized with this fever on the third day after delivery, when her skin was moist, and her pulse quick and weak; she died on the twelfth day. On opening the body, evident marks of inflammation appeared, particularly in the abdomen; a great part of the omentum was destroyed and converted into matter, and what remained was become gangrenous, &c. The Doctor makes the following remark: "Where the pulse was extremely soft and weak, and the circulation languid, it is difficult to account for so sudden and high a degree of inflammation as to produce a collection of matter, or any inflammatory affection of the abdominal viscera, but so it was."

In another place he says: "Considering the languid state of the patient, and the weakness of the pulse, even in the beginning of this fever, I was surprised to find that the inflammation had sometimes run so high, and made so rapid a progress as to produce matter in the abdomen so early as the fourth or fifth day after the first attack, as will appear in the case of Harriet Trueman."[2]

He also observes, "that in the winter months, when the childbed

[1] See Leake, pp. 75, 179.

[2] Ibid, p. 106.

fever began, the weather was observed to be remarkably mild and moist, with a warmer temperature of the air than was natural to the season."[1] But it is well known that true inflammatory disorders prevail most in cold, dry, easterly winds.

In regard to the prevention and cure of this fever, there is not, I believe, a man of eminence in the profession who is not thoroughly convinced of the necessity of pure, free, and even cool air; though perhaps their directions on this head are seldom so strictly put in execution as might be wished. But there is another point of practice which is by no means hitherto settled; this is the position of the patient for some time after delivery. Several of the first accoucheurs and principal nurses in London keep their patients in bed for five or six days or more, without every permitting them to get out of it, and what perhaps is worse, without suffering them to sit up in bed, or even raise their heads from the pillow. And one gentleman, deservedly of high character in the profession, in a late publication, has declared, "that in his own practice he has seen more frequent instances of the puerperal fever from early sitting up than from all other accidental causes united." Were this, however, the real cause of puerperal fevers, it would be astonishing that any of my patients should escape them, as I constantly direct them to sit up in an hour or two after delivery, and to repeat it as frequently as possible, and even to get out of bed in less than twenty-four hours;[2] and it is seldom that they exceed this period. One lady, indeed, whom I attended in two lyings-in, lay in bed five days each time, and in one of them was, for the most part, confined to a horizontal posture: and in that she had a puerperal fever; whereas this disease has very rarely occurred among others whom I have delivered, and has never once proved fatal. Perhaps in London it may be thought early to sit up in one day after delivery, or to get out of bed in two or three. Now, if a horizontal position has been constantly maintained for that time, and the seeds of the puerperal fever have been thereby sown, the sudden change of posture and of clothing may perhaps make it show itself somewhat sooner than it would otherwise have done; and this I think I have seen.

I have taken some pains to inquire both of the gentlemen of the faculty and the most intelligent nurses, whether they had other reasons besides that already mentioned for keeping their patients so long in a horizontal posture; and as far as I can learn, early sitting up occasioned, as they imagined, a prolapsus of the vagina, or bearing down, as it is commonly termed. But I have already declared my

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[1] Leake., p. 37.

[2] [Although I do not think my readers in much danger of adopting this plan of Mr. White's, it would be wrong, I think, not to enter my earnest protest against such a rash and dangerous practice. My own experience has abundantly confirmed the remark of the physician quoted above by Mr. White. For one patient injured by incautious diet, ten are in jeopardy from rising too soon.—Ed.]

opinion, that this complaint is generally owing to a quite different cause,—the forcible extraction of the shoulders of the child; and I can affirm, in the most positive manner, that early sitting up has never produced it, in the slightest degree, in those whom I have delivered.

That a horizontal position should promote that absorption of matter which I consider as, in a great measure, the cause of puerperal fevers, will appear probable from various considerations. The weight of the uterus in this posture carries it close to the vertebræ, and causes its sides to approach each other, so as to render its figure flatter, by which means its contraction must be impeded, and consequently the expulsion of its contents retarded. The discharge of the lochia, too, is not in this case assisted by gravitation; hence, they will be apt to lodge and stagnate in the transverse rugæ of the vagina; whereas an upright position produces effects the contrary to these. The uterus pressing forwards upon the soft parietes of the abdomen, will meet with no obstacle to its contraction; and the lochial discharges, finding a ready exit by a depending orifice, will drain off as soon as they have acquired sufficient fluidity.

An observation from a natural history may be adduced in confirmation of this idea of the different effects of an upright and a horizontal posture. No quadrupeds are found to menstruate, except some of the monkey tribe; and of these, according to that eminent naturalist, Mr. Buffon,[1] only such as either habitually or occasionally use an erect posture in sitting or walking, are subject to this periodical discharge.

By the mode of practice which it has been the purpose of the foregoing treatise to inculcate, I have hitherto been able either to prevent, or, if called in time, to cure the puerperal fever; but when it exists in that malignant endemic form in which it sometimes appears in a lying-in hospital, I fear no method as yet proposed will be sufficient to stop its ravages. Under these deplorable circumstances, one remedy, which has not, I believe, been mentioned by any writer on the subject, might be tried without the imputation of rashness. This is a bath of such a degree of temperature as only to give a gentle shock. Warm bathing has been used without success. Dr. Leake[2] says: "One would have imagined that the warm bath bid fairer to answer this intention than anything else, as it acts like a universal fomentation applied to the surface of the body; and the rather since it has been found to procure almost instant ease in other disorders of the bowels; but to the confusion of all theory, in those cases where it was tried it by no means answered my expecta-

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[1] "Le Gibbon, le Magot, &c. Les femelles sont, comme les femmes, sujettes à un écoulement périodique de sang."—Tom. xiv.

"Le Coaita, l'Exquime, &c. Les femelles ne sont pas sujettes à l'écoulement périodique."—Tom. xv.

"Simia . . . . Femina menstruat."—Linnæi Syst. Nat., vol. i., p. 25.

[2] Leake, p. 117.

tion, and from what I could learn, succeeded no better with others; for the greatest part of those died for whom it was directed." That a temperate bath might prove efficacious in preventing the diseases to which lying-in women, from too delicate treatment, are liable, we have some reason to conclude, from the practice which, both in ancient and modern times, has prevailed in many parts of the world, of bathing immediately after, and in some before, delivery in water of the common temperature. Some examples, which might easily have been multiplied, of the prevalence of this custom, are inserted in the notes.[1] Whether, while the puerperal fever is actually present,

[1] With respect to ancient testimonies of this practice, we have the following passage in the Andrian of Terence, act iii., sc. 2:

"LESBIA.

"Adhuc Archillis quæ adsolent, quæque oportet
Signa ad salutem esse, omnia huic esse video.
Nunc primum fac, isthæc ut lavet; post deinde,
Quod jussi ei ante bibere, et quantum imperavi,
Date: mox ego huc revertor."

Madame Dacier's remark upon these lines is much to our purpose. 3. "Nunc primum fac, isthæc ut lavet. La premier chose que vous deves faire c'est de la baigner. C'étoit la coûtume en Grèce, dès qu'une femme étoit accouchée on la mettoit au bain. Il y a sur cela un passage remarquable dans Callimaque, et un autre dans Lucien."

The passage in Callimachus here referred to, proves that women bathed in a running stream immediately after delivery.

Ενθά σ' ὑπὸ μήτηρ μεγάλαν ἀπεθήκατο κόλπαν,
Αὐτίκα δίζητο ῥόον ὑδατος, ὥ κε τόκοιο
Αὐματα χυτλώσαιτο, τεὸν δ' ἐνὶ χρωτα λείσαι.

"Hic te postquam mater magno deposuit ex utero,
Statim quærebat rivum aquæ, quo partus sui
Sordes abluerat, tuumque corpus purgaret."

Some of the most particular and best-attested modern accounts of this custom are the following:

"The Americans that inhabit the Isthmus of Darien make no difficulty of plunging into cold water when they are in a sweat to cool themselves; likewise the mothers with their children bathe in cold water immediately after they are brought to bed. This is certain, that they never receive any damage from this custom; whereas, on the contrary, many women suffer greatly in these parts from too delicate a regimen."—Brooke's Nat. Hist., vol. i., p. 175.

The following quotation is taken from Wafer's "New Voyage and Description of the Isthmus of America," printed 1704, now added to Dampier's Voyage, vol. iii., p. 360:

"When a woman is delivered of a child, another woman takes it in her arms within half an hour or less after it is born, and takes the lying-in woman upon her back, and goes with both of them into the river and washes them there."—Wafer, p. 360.

"The Brazilian women are extremely fruitful, have very easy labours, and rarely miscarry; for no sooner is a woman delivered, but up she gets to the next river, and without any further help washes herself there."—Newhoff's Voyages, p. 151.

"The Tapoyar women cut the navel-string with a shell, and wash themselves and their children every morning and evening after delivery."—Ibid., p. 154.

The Brazilian women are very fruitful, have easy labours, retire to the woods, where they bring forth alone, and return after washing themselves and their child; the husbands lying in bed the first twenty-four hours, and being treated as if they had endured the pains.—Confirmed by Woods Rogers, p. 57.

"The Californians had adopted that absurdity, which is so much laughed at in the

this practice might with safety or probability of success be employed, I shall not venture to determine. In an obstinate constipation of the bowels, attended with extreme pain, considerable fever, and immediate danger, Dr. Stevenson informs us that a cure was obtained chiefly by dashing cold water upon the lower extremities up as high as the pubes, and plunging the feet into cold water, after the warm bath had failed. (Edin. Med. Ess., vol. vi., p. 393.) What analogy this case may have to the puerperal fever I leave my readers to judge.

Since the publication of the former edition of my treatise, I have received a letter from that excellent professor of midwifery, Dr. Young, of Edinburgh, containing an account, well worthy the attention of the faculty, of the appearance of the puerperal fever in the lying-in ward of the infirmary of that city. The letter is dated 21st of November, 1774, and the following is an extract from it:

"We had the puerperal fever in the infirmary last winter. It began about the end of February, when almost every woman, as soon as she was delivered, or perhaps about twenty-four hours after, was seized with it; and all of them died, though every method was tried to cure the disorder. What was singular, the women were in good health before they were brought to bed, though some of them had been long in the hospital before delivery. One woman had been dismissed the ward before she was brought to bed; came into it some days after with her labour upon her; was easily delivered, and remained perfectly well for twenty-four hours, when she was seized with a shivering and the other symptoms of the fever. I caused her to be removed to another ward; yet, notwithstanding all the care that was taken of her, she died in the same manner as the others. I must inform you, at the same time, that the disease did not exist in the town. To account for this distemper in the lying-in ward, I must acquaint you that it has been a general observation that the patients in the infirmary who had undergone any considerable operations, were more subject to erysipelatous swellings than

accounts of Brazil, that the women after delivery used immediately to go to some water and wash themselves and the child; and in other particulars to observe no manner of caution, going to the forest for wood and food, and performing every other service the husband wanted."—Nat. and Civil Hist. of California, translated from the original Spanish of Miguel Venegas, a Mexican Jesuit; published in 1758, translated 1759, pp. 81–2. N.B. The northern point of California is in lat. 46.

—Long, Esq., one of the judges of the Admirality, in his "History of Jamaica," published in 1774, vol. ii., book iii., chap. i., p. 380, speaking of the negroes on that part of the African continent called Guinea, or Negro Land, says: "Their women are delivered with little or no labour; they have, therefore, no more occasion for midwives than the female orang-outang, or any other wild animal. A woman brings forth her child in a quarter of an hour, goes the same day to the sea and washes herself. Some have been known to bring forth twins without a shriek or a scream, and it is seldom they are confined above two, or at most three days. Immediately before her labour she is conducted to the sea-side or a river, followed by a number of little children, who throw all manner of ordure or excrement at her in the way, after which she is washed with great care. Without this cleanly ceremony, the negroes are persuaded that either the mother, the child, or one of the parents, will die during the period of lying-in."

formerly. I found that the women in the lying-in ward last year did not recover as well as formerly, but scarcely any of them died. It was these appearances which made me think there was a local infection, and determined me to shut up the ward till it could be removed. This I did after losing six women. I then washed and painted the ward, caused all the bedding to be removed, and fired gunpowder at different times in the ward. I had a number of chaffers filled with cinders, which burnt all night; and all the windows were opened through the day. This operation lasted about a fortnight, when I furnished the ward with new bedding, put no curtains to the beds, and by this put an entire stop to the disease. The ward was open to receive patients in a fortnight from the time it was first shut up. The bodies of all the women were opened, and we found exactly the same appearances as are mentioned by those who have wrote upon that disorder. Though the omentum was often found suppurated, yet in none of them was there any appearance of a gangrene."

Several facts of importance in the history of the puerperal fever are contained in this account; particularly that none of the women were seized with it before delivery, though some of them had been long in the house—that although the disease was so fatal in the infirmary, it did not exist in the town—and that an entire stop was put to it by thoroughly cleansing and new furnishing the ward, so that in a fortnight after it was opened again with safety for the reception of patients.

Possibly it may be urged as an argument against absorption, that "almost every woman, as soon as she was delivered, or perhaps about twenty-four hours after, was seized with this fever." But I believe this objection will not be found of any force, if we consider that it will not be an easy matter to determine whether the heat, shiverings, or accelerated pulse, which happen in some hours after delivery, are the symptoms of a puerperal fever, or merely the effects of the labour, especially in an irritable habit of body, as these are symptoms which are frequently seen soon after delivery, when no fever has supervened; and an absorption may take place in a very few hours.

Mr. Eli Cope, an ingenious surgeon of Leek, in Staffordshire, who formerly lived in my house a considerable time as a pupil, and whose veracity may be depended on, has favoured me with a remarkable confirmation, from his own practice, of the safety and advantage of the method of treatment which I have inculcated. From an exact account of every woman he has delivered since he left me, amounting to 593, with the circumstances of their cases, he assures me that he has not lost one from the puerperal fever, nor from any other cause where he alone was concerned. Many preternatural, laborious, and flooding cases had occurred among this number; yet they were all managed according to the plan above recommended; and, parti-

cularly, not a single patient had lain in bed twenty-four hours together after delivery. One instance that he relates of the good effects of suffering the shoulders to make their proper turns, in preventing after-pains, is so remarkable, that I shall give it at length in his own words.

"A farmer's wife in our neighbourhood applied to me in February, 1773, desiring me to attend her in her labour, which she expected in a few weeks. She told me she had had six children, and had very easy labours; but that she had suffered so much with after-pains for a fortnight, that it rendered her unable to leave her room at the end of six weeks. I attended her in a natural good labour. As soon as the head of the child was born, I observed the shoulders to make their turn, having my left hand under the child's chin, and the right hand on the occiput. In this position I was determined to wait till a pain came, which was seventeen minutes: this forced the child as far as the hips. The next pain, which was in about two minutes, totally expelled the child.

"I have since attended her, and only waited fourteen minutes after the head was born. She never after had a single after-pain, but was about her business in three weeks."

My worthy friend Mr. Aikin, whose character and abilities are well known to the public, and others of my pupils, as well as many other practitioners, have also favoured me with their testimony to the success of the several points of practice recommended in the foregoing treatise.

CASES.

Case I.—Mrs. ——— was delivered upon the 21st of April, 1770, of her third child. Her habit of body was delicate. She was very subject to nervous disorders, had been accustomed to warmth, and had all her life been treated with the greatest tenderness. She had a good natural labour, and the placenta came away without difficulty. Several days elapsed before she made any complaints; but I observed when I visited her that she was always in a sweat. There was a large fire in the room, which made it very hot, and there was a disagreeable smell in it. Her lochia were in proper quantity, but very offensive.

I repeatedly desired that she might be kept cool, that a little fresh air might be frequently admitted, and ordered her to be got up every day; but none of these directions were complied with.

On the fifth day, she had several loose stools, with slight pains in the abdomen; her tongue was whitish, her pulse rather too quick, was troubled with the heartburn, and had sour eructations, and she

continued sweating. As her complaints were trifling, I only prescribed four large spoonfuls of the chalk julep to be taken every four hours, and ordered her the white decoction for common drink. In the evening the diarrhœa and pains in her belly increased; she seemed easier, however, after every stool, and was directed to take three spoonfuls of Fracastorius's decoction every three hours.

Day the sixth. Her looseness was abated, and she seemed better.

On the seventh. Her sweats continued, the diarrhœa increased, and her pains returned. Her stools were so very frequent, that I thought it necessary to check them by a clyster of the chalk julep, in which two grains of opium had been dissolved. In the evening her pains and looseness were much worse, and she complained of a cough. She was ordered an oily draught, with twenty drops of liquid laudanum, and a mixture made with the jelly of starch, of which she was directed to take three large spoonfuls after every loose stool.

On the eighth. Her pulse beat 120 times in a minute; her tongue had a white fur upon it, her milk decreased, her lochia stopped, and she had eighteen or twenty stools. Her sweat and stools were so extremely putrid as to be offensive not only to those in the room, but to the whole house. No arguments could prevail upon her attendants to admit fresh air. A clyster was administered, composed of the jelly of starch and half an ounce of diascordium. Draughts, consisting of jelly of starch, a scruple of the cordial confection, and a drachm of the syrup of poppies, were given her every four hours. In the evening she took a draught, with ten grains of rhubarb in it.

On the ninth, continued much the same. On the tenth, her tongue had contracted a thick fur; her pulse beat 120 times in a minute, her milk was much decreased, her sweats and looseness continued. My worthy and learned friend Dr. Brown was joined in consultation with me. We ordered her two grains of ipecacuanha in a little mint-water, which procured her one gentle puke. Draughts, containing ten grains of the compound powder of bole, a scruple of the cordial confection, and five grains of nitre, were given her every six hours. In the evening the pains in her abdomen were so great, that she was obliged to take a grain of the Theban extract.

Day eleventh. She remained much the same. The draughts were continued.

Day twelfth. Very little alteration. The draughts continued.

On the fourteenth. The diarrhœa, sweats, quick pulse, and white tongue, as in the four preceeding days. The pains in her belly as bad as ever. The nitre was omitted, and forty drops of the paregoric elixir were added to each draught. There was little alteration either in her symptoms or her medicines till the nineteenth day, when she seemed to be worse than ever, and complained much of a weight and oppression about her breast and stomach.

Being both alarmed and surprised at the obstinacy of her case, we talked with her husband about it. He informed us that her mother and another lady, with the nurse and child, had constantly lain in the same room with her since her delivery; that our directions in regard to air and ventilation had never been complied with, for if we had opened a door, it was shut immediately after our leaving the house. That a large fire had been kept in the room day and night; that the curtains had been always drawn close round her bed, and that she had not been permitted to breathe any air but what had been polluted by her sweat and excrements, and the effluvia arising from the breath of so many persons. That several of those who were most with her had got the same kind of putrid diarrhœa; but that he had himself escaped it, most probably because he had avoided, as much as possible, going into the room, upon account of the excessive heat and offensive smell which it afforded. He said he was now sensible both of the danger she was in, and of the absurdity of the practice of those about her, and that he was, therefore, determined to see our directions strictly complied with. The fire was taken out of the room, which was gradually cooled, and thoroughly ventilated by frequently opening the door and window. Eight grains of rhubarb were given her in a solution of spermaceti.

The next morning she was considerably better; her pulse, which for many days had never beat less than 120, beat now no more than 100 times in a minute, and her urine deposited a sediment. The ipecacuanha was repeated.

On the twenty-first the lochia returned, and her looseness was more moderate; she was directed to take two spoonfuls of Huxham's tincture of bark every eight hours. The room was sprinkled with vinegar, and the ipecacuanha repeated.

The twenty-second. The ipecacuanha having puked her gently, relieved her breast and stomach, and was therefore repeated. She was considerably better, was removed into another room, and our directions were punctually complied with.

The twenty-third. Her milk was entirely gone, her looseness very moderate, and the ipecacuanha was repeated.

The twenty-fourth and twenty-fifth. The ipecacuanha repeated.

The twenty-sixth. She was very cool.

On the twenty-seventh, she took a draught, containing ten grains of the powder of rhubarb and the same quantity of compound powder of bole; her pulse was reduced so as only to beat 80 times in a minute, and she had no complaint but that of want of strength, for which she was ordered a decoction of the bark, with Huxham's tincture and the compound powder of bole. In a little while she perfectly recovered her strength, and has had another child since. During her last lying-in she strictly observed the directions I gave, and had no fever or other bad symptoms.

Case II.—Mrs. ——, a strong, lusty, healthy woman, was deliv-

ered on the 4th of May, 1770, of a fine large child. She had a natural labour, and the secundines came away very easily. This was her fourth lying-in.

Her room was close and small, and a large fire, which had been kept in it constantly, rendered it very warm. Every time I visited her I found her in sweats. I frequently desired that the room might be kept cooler, and more air admitted into it, but this was not complied with.

The lochia were in proper quantity, but so offensive as to affect the whole room.

She made no particular complaints till the fifth day, in the morning (reckoning from the day of her delivery), when she was seized with violent pains, attended with a soreness, swelling, and tension of the abdomen, accompanied with a tenesmus, the motions of which, though frequent and very painful, occasioned her to void very little except mucus. Her pulse was quick, her tongue white, and burning heats now came on, succeeded by sweatings. She complained of pains in her head, back, and loins. I directed emollient clysters to be administered every half hour, which procured her ease and copious stools. She laboured, likewise, under nausea, retchings, and vomitings. The apothecary was directed to give her a vomit of a scruple of ipecacuanha in a draught, and to work it off with an infusion of chamomile, and I desired her to sit up often in bed, and to get out of it once every day. On the sixth day, she had several discharges by stool, and after every stool seemed something easier. In other respects she was no better. Her lochia stopped and her milk abated in quantity. I ordered the fire to be taken out, the door to be thrown back, and a window in an adjoining room to be kept constantly open, and I visited her frequently, and saw that this was really done. She was taken out of bed whilst clean sheets were laid on, and five grains of the calx of antimony and half a grain of emetic tartar were given her three times a-day.

On the seventh day, the window and door were continued open, and a free circulation of the air was brought on by opening the window of the room in which she lay. The calx of antimony and emetic tartar were continued. She had plenty of stools, was much cooler, her sweatings were abated, and her pains something better. On the eighth day, all her complaints were gone; her milk and lochia returned, and she removed into another room.

Case III.—January 12, 1771. At two o'clock in the morning Mrs. —— was delivered of a fine child without any assistance; the navel-string was torn off close to the placenta, and did not bleed. I saw her about half an hour after the child was born, the placenta was expelled from the womb by her natural pains only, and I had nothing to do but to take it from her. After the child had been born about an hour, I cut the navel-string about four inches from the child's body, and it did not bleed. Her labour being much quicker

this time than it had been of her former children, she was unprepared for it. The night was exceedingly cold, being a very severe frost, the fire was almost out, she was just got out of bed with only half her clothes on, when the waters broke, and the child was born; the nurse did not get to her till some time after I was there, so that she had sat about an hour in a very cold wet condition; add to this, that she had at that time a very bad cold upon her. After she was put to bed she did not get warm in several hours, though a large fire was made, great quantities of clothes were heaped upon her, warm liquors were given her to drink, and her feet were wrapped in warm flannel. I saw her in the evening following, and found her much too warm, sweating, with a quick pulse, and complaining of pains in her belly. I desired the fire might be lessened, and some of the clothes taken off, but it was not complied with. I saw her the next day, and repeated the same advice, but with no better effect. I saw her upon the third day, when she was still too hot, and sweating, and her pulse too quick: she got up in the evening, and had a costive stool; she had currants given in her gruel, and eat some stewed prunes. She now complained of cold chills running over her. Upon the fourth day she complained of slight cold shiverings succeeded by heats, and had a costive stool. On the fifth day the cold shiverings were more severe; she complained of a pain in her back, and had two loose stools, with griping pains in her bowels; the stools were very hot and sharp. I ordered her half a grain of emetic tartar to be taken twice a-day, which did not puke her. The looseness increased very much on the sixth day; she had a stool every five minutes. I ordered her twenty-five grains of ipecacuanha, which vomited her, and brought up a large quantity of phlegm and bile. My directions were now pretty strictly complied with; several clothes were taken off the bed, the fire was lessened, the room was kept more cool, and the door often opened to renew the air, and she got out of bed every day. The lochia were very pale, and the milk did not flow into her breasts in proper quantities, though the child was laid to them often in the day. I ordered the decoct. alb. for common drink, and by her own desire she eat some boiled horse-beans (which remedy had formerly been of service to her in a looseness); she also drank some of the water in which the beans had been boiled. She had a very good night, without any stool, but on the seventh, in the morning, had a dozen stools; she was now perfectly cool, and the pulse quite calm. As she complained of being faint and weak, I ordered her the julep é creta, with a drachm of confect. cardiac., to be taken as often as she found it necessary, and now and then a little brandy and water. On the eighth day she made two or three stools, but made no other complaint except that of weakness; her milk began to be more plentiful, and she had a very good night. On the ninth day about noon I visited her, and found her perfectly well, having had no stool either in the night or that morning, and her milk now flowed in a proper quantity.

Case IV.—Mary Lord, of Manchester, a poor woman, aged 31, was delivered on the 25th of May, 1772, in the morning, by a midwife in the neighborhood. She had an easy labour, and the secundines came away without difficulty; this was her third lying-in. She had a shivering fit that evening, and another the next day, and on the third day she was seized with a severe vomiting and looseness, together with pains in her head, loins, hips, and lower part of her belly, which was a little swelled, and so exceedingly tender that she could not bear it to be touched. These symptoms continued, and she gradually grew worse till I first saw her, which was on the fourth day, in the evening. I found her hot and thirsty, with a white tongue and a quick pulse; her milk was much diminished, and the lochia stopped. The whole family lived in the same room in which she lay, being the only one they had; it was very warm, having a large fire in it, and smelt very disagreeably. I desired the fire might be lessened, and more air let into the room; accordingly, the window was set open, and remained open all night. She had scarcely sat up in bed since her delivery, but had lain in a horizontal position all the time. I advised her to sit up frequently in bed, and to get out of it once every day, to put on clean linen, and never to suckle her child or take any food in an horizontal posture; to abstain from strong liquors, broths, and all kinds of animal food, and to drink buttermilk or buttermilk whey; and I directed her to take half a grain of emetic tartar, with five grains of calx of antimony, every four hours. On the fifth day the room was much cooler, and did not smell so disagreeably. She had complied strictly with my directions, and was much better in every respect. On the sixth day all her complaints were vanished.

Case V.—On the 3d of April, 1772, I was sent for to Mrs. —— of W— H—, a few miles from hence. She had been delivered of a fine child, as she sat upon the knee of an assistant, by a young surgeon about five hours before I saw her, and this was her second lying-in.

The placenta still remained behind. She flooded much, and had several fainting fits, which came on in such very quick succession as to threaten immediate danger. I was desirous of getting the placenta away, as the most effectual method of putting a stop to the flooding. To effect this I pulled gently at the navel-string, desiring the other gentleman to make, at the same time, a compression upon her belly, and directing her to assist herself by forcing and encouraging what little pains she had. These means were ineffectual, as she had lost much blood. As she still continued bleeding, and was reduced very low, I did not think it prudent to wait any longer; I therefore introduced my hand into the uterus, and easily brought away the secundines. The flooding immediately ceased, and I left her to the care of the gentleman who had delivered her, but who likewise lived at some distance.

I heard no more of her till the afternoon of the ninth day, when her friends sent for me to come over with all expedition, as they then thought she was dying. They informed me that upon the third day after her delivery, she had had a cold shivering fit, followed by a hot one terminating in a sweat; that she had, likewise, a second upon the sixth day, and that she laboured under a nausea, attended with vomiting, thirst, and total loss of appetite. Her pulse was quick and small, her tongue was very white upon its sides, and had a brown dry streak of about the breadth of half an inch down its middle. She gave suck to her child, had very little milk, and complained of great pain in her belly, which was so extremely tender that she could not bear me to touch it. Her lochia were sufficient in quantity, but very putrid. She had not had a stool since her delivery, though a clyster had been given her upon the fifth day; nor had she ever got out of bed during the first week. To these circumstances I must add, that since that time she had drank no less than seven bottles of made wine (each bottle containing about a quart) in gruel, whey, &c. The house she was in was an old country hall, was situated in low marshy ground, and was moated about with a large piece of water.

I directed emollient clysters to be injected every half hour, half an ounce of Glauber salts to be taken immediately, and the dose to be repeated a few hours after, salt of wormwood and juice of lemons to be taken in the act of effervescence every two hours; and as I apprehended I had very little time to lose, I ordered her a pill containing three grains of calomel, to be taken early in the morning, if she had not a plentiful evacuation by stool before that time. In the night she had several stools, and as I found her much better in the morning the calomel was omitted. I now directed her to take half a grain of emetic tartar twice a-day, to continue the salt of wormwood and juice of lemons as before, to repeat the Glauber salts occasionally, to sit up often in bed, and once a day to get out of it.

By these means the intestinal canal was kept sufficiently open, her fever disappeared, and the pains in her belly soon left her. She, however, continued very weak, and her legs and thighs swelled much, owing, no doubt, to the great loss of blood sustained before the placenta could be got away, to remedy which I prescribed the bark and rhubarb, with eight or ten drops of the elixir of vitriol, to be taken twice a-day; but her stomach could not bear that, or scarce any other medicine, except the tincture of columbo, which agreed with her perfectly well: by this medicine, together with a solid diet and gentle exercise, she gradually recovered strength.

Case VI.—Mary Wrigley, of Collyhurst, near Manchester, aged 28, was delivered by a country midwife, upon the 20th of May, 1772, as she sat upon the knee of an assistant. This was the fourth lying-in. Her delivery was natural, and the placenta came away without difficulty. On the third day she was seized with a rigor, grew after-

wards hot, and then fell into a cold clammy sweat, which was of a long duration; she had violent pains in her head, back, loins, hips, and the lower part of her abdomen, which was so exceedingly tender that she could not bear to have it touched. She had frequent vomitings, the pain and soreness in her belly made her breathing quick and short, and she had a cough, which added to the pain and soreness. In her stools she had been tolerably regular. She had been three or four times taken up whilst her bed was made, but could not bear to continue out of it. This was the account her friends gave me when I was first called in, which was upon the ninth day, early in the morning. I found her in a copious sweat, which had continued a day or two, but all her symptoms were evidently growing worse. Her face was flushed, her pulse was quick; her tongue had a white dry fur upon it, and the middle of it was red and dry. She was much troubled with thirst. Her urine was high coloured. Her lochia, which for some time were few and very offensive, had entirely ceased. She gave suck to her child, but her milk was almost gone. She lay with her head and shoulders lower than the rest of her body, and she informed me that she had never sat up in bed since her delivery, but had taken all her food in that disagreeable posture. This I apprehended to be one cause of her disorder. She had a constant fire in the room, and the door had never been set open to give fresh air admittance. I opened the door, advised her to cool herself gradually, to let the sweat abate by degrees, and as soon as it was abated to sit up in bed. I also directed her to sit up whenever she either took nourishment or suckled her child, and when she lay down, ordered her head and shoulders to be raised by bolsters.

I prescribed for her a scruple of the calx of antimony and two grains of emetic tartar, to be divided into four papers, one of which I directed to be taken every three hours. She was ordered to use water-posset (by some nurses called two-milk whey) for her constant drink, to abstain from strong liquor, broths, and animal food, and I directed an emollient clyster to be injected. I saw her again in the evening. I found her much cooler, but she still complained of pain and soreness in the lower part of the belly; her complaints, in general, continued, but upon the whole she thought herself something better. She had taken the four doses of antimonial powder, and they had brought up a great deal of bile; the clyster too had been given her, but as it had not procured a stool, I ordered a second to be administered. I now prescribed a scruple of salt of wormwood to be taken in a large spoonful of lemon-juice during the act of effervescence. This I ordered to be mixed under her mouth, that she might breathe the fixed air arising from it, and this mixture I directed to be repeated every three hours. In an adjoining room I set a window open. When I visited her next morning I found her much better. In the night she had had two large stools, exclusive of what had come away with the clyster. The pain, swelling, and soreness of her belly were almost gone, and she said she was in a manner well. The door of

her bedchamber and the window of an adjoining room had been kept open all night, and there had been no fire in her chamber. She sat up frequently in bed, and in the evening got out of it, and was able to walk with a little assistance.

On the eleventh day she was considerably better, the lochia returned without any offensive smell, the milk increased in quantity, and her urine was of a more natural colour. The door of her chamber and the window in the next room were kept open night and day, and the same medicines and regimen were continued. Her fever and the pains in her belly, &c., had left her, and she seemed quite well, except that her tongue remained white and furred, but she was not the least thirsty. She continued to recover, and when I saw her upon the fifteenth day, her tongue was of a natural colour, and she seemed perfectly well, having no complaints except a little pain and weakness in her groins when she walked, which she was not able to do without assistance.

Upon the eighteenth day she had a return of her complaints, which gradually grew worse, but her friends did not send to acquaint me immediately, and when they did I was abroad, therefore did not see her again till the morning of the twenty-second. She had lain in bed for the greatest part of several days, and was very costive. She complained of great pain in her loins, hips, and lower part of her belly, particularly about the symphysis of the os pubis, which was so extremely tender that she could not bear to have it touched. She had frequent motions to make water, attended with considerable pain, and could not make a spoonful at a time, which was very high coloured: her pulse beat 120 strokes in a minute. Tongue dry and parched; breathing quick, short, and difficult, which she said was occasioned by the pain in her belly. Her lochia stopped, her milk diminished, she sweated profusely, and her face was flushed. I ordered the antimonial powders to be repeated every four hours, and an emollient clyster to be injected, to raise her up frequently in bed, and to keep open the doors and windows. The powders puked her a little, but she had no stool. In the evening I ordered her another clyster, and the salt of wormwood and juice of lemons to be taken every three hours during the act of effervescence, and she returned to the same kind of diet and regimen which had been at first prescribed.

She had a loose, black, fetid stool in the night; and on the twenty-third day, in the morning, she made water rather more easily, and there was a small appearance of the lochia, but, in other respects, was much the same. In the afternoon she was very hot, and so delirious that they could scarcely hold her in bed; this, I must observe, was a very hot day, and the room she lay in faced the south, which certainly contributed to increase her complaints. In the evening she grew cooler and more calm, and in the night made with ease a tolerable quantity of clay-coloured urine, which deposited a copious sediment. Windows and doors kept open.

24th. In the morning she had a small, quick pulse, which beat 116 strokes in a minute, but intermitted after every fifth or sixth stroke; her pains were something easier. This was, likewise, a very hot day; I therefore advised her friends to move her into another room, but she was so ill they thought she could not bear it, and it was omitted. In the afternoon her delirium returned, but not with so much violence. The effervescing mixture was given every two hours. In the evening she had a large, black, fetid stool.

25th. In the morning her pulse was slower and stronger, and more regular, beating ninety-six strokes in a minute, but she complained of very great pain in the hypogastric region. I directed her to take half an ounce of Glauber salts immediately, and the same quantity in an hour or two after, and to have the clyster repeated, but they did not procure a stool. Early in the afternoon, when the room was the hottest, her delirium returned, but went off again as the heat of the day abated; but her pain continued with such violence as to make her quite impatient. I ordered another clyster to be injected, and a pill to be given immediately, containing three grains of calomel and half a grain of emetic tartar. These procured her several very loose, offensive stools in the night, and with them great ease.

26th. I found her much better, the pain, soreness, and fever having almost left her; pulse calm and regular, beating only eighty-eight strokes in a minute. Effervescing mixture continued. This day was rather cooler than the three preceding ones: she had no delirium, but her pulse was quicker in the afternoon, beating one hundred in a minute.

27th. Had not slept much in the night, but was cool this morning; pulse eighty-eight; did not complain of pain except when she moved, but the soreness of the lower part of the belly still continued. I prescribed her the bark with a little rhubarb, to keep her gently open. She was removed into another room which faced the north, and in the afternoon her pulse was reduced to eighty-two strokes in a minute.

The bark and rhubarb procured her several stools in the evening, which were of a more natural colour, and not so offensive. She had a good night.

28th. In the afternoon her heats returned a little, and her chief complaint was pain in making water. Bark and rhubarb, and the effervescing mixture, were still continued, and I desired her to take a teaspoonful of the sweet spirit of nitre, and to drink plentifully of milk and small liquors.

29th. After a very good night, had no complaints remaining.

AN ESSAY

ON

CHILDBED FEVERS, ETC.

BY DR. KIRKLAND.[1]

PREFACE.

ASCERTAINING WHAT IS PROPERLY A PUERPERAL FEVER.

EVERY fever, which arises from any disease, in consequence of pregnancy or delivery, and happens during the time of lying-in, may properly be called a puerperal fever; though some writers use this name by way of eminence, to distinguish a particular kind of fever from the milk fever, or any other incident to women after delivery; because, as they tell us, the puerperal is the most dangerous of all childbed fevers.

However, if by this general name they had particularized any one disease incident to lying-in women, it might have answered a good purpose; but the fever arising from an inflammation of the uterus, or from the absorption of putrid blood from this part, is of the same kind, and as violent and dangerous as a fever which happens to childbed women from an inflammation of the abdominal viscera, or from an absorption of putrid effluvia *ab extra*. Most of the symptoms accompanying it are common to all those disorders; even the continual pain and soreness of the belly, which are said by some to be the characteristics of the puerperal fever, are common to various diseases in childbed.

But some deny that corrupted milk, obstructed lochia, or an inflammation of the uterus, can bring on the puerperal fever; being of opinion that it is always immediately caused by a noxious constitution of the air, or an epidemic season. There can be no doubt, as will hereafter appear, that women in childbed are very liable to be seized with the prevailing distempers of the season. Yet, after all, how can the alteration that the solids and fluids undergo, from a morbid state of the air, be called, with any sort of propriety, a

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1 [A Treatise on Childbed Fevers, and the Methods of Preventing them, &c. By Charles Kirkland, M.D. 1774.]

childbed disorder, an alteration which neither happens in consequence of pregnancy nor delivery, though it brings on the fever usual to women in this condition? Could the childbed women, hereafter to be mentioned,[1] who were seized with the plague at Constantinople, be said to die of any other disorder than the plague? Could the women spoken of by Peu,[2] who died in childbed, be said to die of any other disease than a putrid hospital fever? Or if the small-pox happens to a woman in childbed, can that disease, though it is sure to bring on the symptoms usual to the situation of the patient, be called the puerperal fever? Why are we, therefore, to call any other epidemical disease, which bring on a fever, by this name, especially as such an appellation may do great harm? Sydenham has justly observed, "that different constitution of years has a tendency to produce some peculiar epidemic." Under the name of the puerperal fever, therefore, our modern writers may comprehend a thousand disorders.

The same may be said of taking cold, and many other diseases which are not peculiar to puerpery; notwithstanding the particular state of the abdomen, the uterine discharge, the coming of the milk, and the very irritable state of the nerves, &c., will always give rise to a particular set of symptoms, which will appear, in most fevers, immediately succeeding delivery, whatever may be the cause. Whence, it is evident that we ought always to make a distinction betwixt the fever and the disease, which may readily be done, by the practice of joining an epithet expressive of the nature of the disorder, instead of the situation of the patient. We are to remember, when we are talking of a fever, that we are only talking of a symptom, or a combination of symptoms, which may afford us no more insight in regard to the original cause of the disorder than we should have of the original cause of an inflamed leg, if we were only to know that the leg was hot and painful, and that the patient had a fever and a quick pulse; and perhaps there is no fever more equivocal than that of which we are going to treat.

Nor will even dissection, without taking to our assistance other observations, afford us perfect light in this matter. For suppose we find the abdominal viscera inflamed, or the omentum dissolved into whey-like matter; the next question is, from whence did this mischief arise? The answer will be, that it may arise from a variety of causes, which we are to discover, not by reasoning and conjecture, but by certain facts which happened previous to it, or at the onset of the patient's illness. Suppose we find the uterus free from mortification, or the appearance of a diseased state, it does not follow that it has not been concerned in bringing on the appearances we meet with in opening the dead body. Are not suppurations in the chest and in the abdomen often the consequence of the inflammation following amputated limbs, in habits previously diseased? Yet after

[1] See Chap. I. [2] Ibid.

death, there having been a discharge, the sore looks pale, and has not the least appearance of having been instrumental to so much injury. If the lochia has been diseased or obstructed during the patient's illness, it is not a sign that the uterus was affected, notwithstanding its sound appearance after death? But though it may sometimes appear sound, it is a certain fact, that after childbed fevers it is often found, upon dissection, to be putrid and extremely offensive. All these differences in appearance must, therefore, be owing to different causes; and by considering these causes separately, we may, perhaps, investigate the nature of the fevers which happen to women after delivery.

CHAPTER I.

ON CHILDBED FEVERS.

In order to have a clear idea of the nature of puerperal fevers, it seems necessary that we should first examine the pregnant and puerperal state, as much depends upon a thorough acquaintance with the change that women suffer after conception. The face, the index to the state of the body, soon points out that some alteration has taken place; and can there be any doubt that the chief part of the symptoms attending pregnancy arise from increased irritability? The nausea, vomiting, swelling of the glands of the breasts, hysteric symptoms, ptyalism, and being surprised by any slight accidents, are symptoms surely owing to increased irritability, and take their rise from the uterus, the situation of the first cause. Indeed, as the nerves of the uterus become more habituated to distension, as the uterus becomes more at liberty by rising above the brim of the pelvis, and as the fœtus grows in size, and takes off the accumulated blood to nourish it, the nausea and vomiting often cease; yet there always remain more or less of the other symptoms, which shows that women are attended with increased irritability of the spasmodic kind during pregnancy, and which may be necessary to promote the delivery of the fœtus. Are not the spurious pains and diarrhœa, which so frequently precede labour, and the convulsions which accompany it, owing to an irritable state of the nerves, and to an impression made upon the nerves in the uterus? How else comes it to pass that opium affords such certain relief when signs of inflammation do not appear? And is there not reason to believe that, in general, this irritability of the nerves is more or less increased during the time of labour, since the mouth of the womb frequently in parturition becomes more sensible, and a vomiting, from the nerves of the stomach becoming more irritable, attends the labour? To which is

not only added a weakness of the contents and of the muscles of the abdomen, from pressure of the gravid uterus, but those parts are also more or less injured by spasms during the time of parturition: in all probability, many of the small vessels are for a time rendered incapable of acting upon their contents, and obstructions are thus formed. But in a week, more or less, after delivery, when everything goes on well, all these temporary inconveniences are removed, and the woman is restored to the estate she enjoyed previous to conception, by sweating, by the coming of her milk, and a proper discharge of the lochia.

Indeed it cannot be doubted by those who have had opportunities of informing themselves, that in the pregnant state the uterus is more irritable than usual: and that this irritability is more or less increased during labour is not less evident; nor is uterine irritability, we see, confined to the uterus only, but extended to every part of the body. Consequently (as all fevers are owing to inflammatory irritability or nervous irritation), people in this situation will be readily and violently affected by any cause that increases this preternatural irritability of the nerves: accordingly, it has been observed from the days of Hippocrates, that women in childbed are very liable to epidemic diseases; and it might be from this cause that, in one of the plagues at Constantinople, most of the women in childbed died. Experience has taught that inoculation, under a state of dentition, is often dangerous; probably because the whole nervous system is already under a state of preternatural irritability, from a tension of the nerves about the teeth; and by still increasing this irritability by the insertion of acrid matter, we multiply the disease and endanger the patient. Just so it seems to be with those in childbed, who take cold, are kept too hot, or suffer from any cause that may bring on a fever; nor is it any wonder that the muscles and the contents of the abdomen, which are in the same state as parts which are bruised, should be so greatly affected, as upon dissection they are found to be.

Case I.—Scythe-grinders are subject to a disease of the lungs, from particles of sand mixed with iron dust, which among themselves they call the grinder's rot. One of these men, who had been seized with a peripneumony, and afterward with a troublesome cough, which lasted some time, came to me a year at least after he was recovered, on account of a sinus in his foot: he gave me, however, no account of his former illness, nor had I any reason to suspect a complaint in his lungs, because he played me several tunes on the French horn.

I opened the sinus, which was about three inches long. A moderate fever accompanied the succeeding inflammation, a peripneumony came on, and he died of suppurated lungs. Now, if so small a cause could produce such an effect, in a part where the disease had disappeared for some time, what may we not expect from the effects of a

more violent fever, in a part recently effected? I believe it is a certain fact, whatever may be the cause of a puerperal fever, that within a limited time the whole abdomen is more or less inflamed; because the belly always turns green and putrid, in a very short time after death, in the same manner as we find it happen to those who have died of an inflammation of the bowels. Accordingly, upon opening the bodies of many of the women Peu mentions to have died in childbed of an hospital fever, abscesses were found in the abdominal viscera.[1] "A woman in childbed having the lochia suppressed, complained of a pain, swelling, and hardness in the region of the uterus, accompanied with fever, headache, and cough; her breasts became flaccid on the fourth day, and on the fifth she died."

"Upon dissection, the uterus and ovaria were found inflamed; the intestines were covered with matter resembling milk; the same kind of matter appeared in the lungs, and there was a great deal of whitish serum, both in the thorax and abdomen."[2]

But before we proceed, I will illustrate what has been said by observations made from cases,[3] with which, upon reflection, every man who practises midwifery will be well acquainted, as they are common, and such as must have happened within the notice of those who have been engaged in a considerable share of practice.

Many are the cases upon record where uterine irritability has risen so high, as to bring on convulsions during labour, from the child's pressing against the os uteri; and the object of our present inquiry is concerning uterine irritability, accompanied with inflammation: because this produces a fever, which partakes so evidently both of spasmodic and inflammatory irritability, that Sydenham was induced to call it an hysteric disorder.

Case II. *A fever from an inflammation of the uterus during pregnancy.*—A young woman, in the eighth month of her first preg-

[1] La Pratique des Accouch., lib. ii., cap. i., sec. iii., p. 268; or, Baron Swiet., Com., 1334.

[2] Lieutaud, Anat. Med., vol. i., p. 318.

[3] Dr. Whatts, in a little pamphlet on Slow and Painful Labours, has lately published some cases of this kind; there, also, are two cases of the same sort at the end of Dr. Denman's essay on Puerperal Fevers; and the following case was given me by my friend Mr. Fisher.

Case IX.—A woman at her full time had her labour accompanied with convulsions, and she soon became perfectly insensible; as the progress of nature in promoting delivery was interrupted, the gentleman attending her being justly apprehensive of danger, called in Mr. Fisher to his assistance, who finding the os uteri dilated, and imagining these symptoms took their rise from pressure upon this part, advised immediate delivery, which he easily effected by extracting the fœtus by the feet. He left the woman perfectly insensible that night, but without any fever, and found her recovering next morning, not having the least remembrance of his having given her any assistance, or of her being delivered of a child.

Now, in this case, the irritability was simply of the spasmodic kind, and the patient recovered upon the irritating cause being removed; whereas, had inflammatory irritability been joined, a fever and death might have been the consequence. (See Cases iii. and iv.)

nancy, was seized with spurious pains, resembling the colic, such as often precede labour; after ordering a clyster, and giving opium, the accoucheur who attended waited the event for some time; but instead of labour-pains coming on, or the colic giving way, it became more troublesome, and the patient growing more feverish, my advice was desired.

I found her colic-like pains accompanied with a quicker pulse, and a greater degree of heat than was natural; the os tincæ was become so very irritable, that the slightest touch gave considerable pain and disturbed the whole body; and a particular wildness in her looks, and other symptoms, convinced me that a mania was coming on. As spasmodic irritability never produces a fever, the increased heat and quick pulse evinced that the irritability of the uterus was degenerated into the inflammatory kind; wherefore I ordered bleeding, purging, with small doses of Glauber salts, and that nitre should be taken: upon which, in four or five days, all the symptoms, except the mania, left her, which remained till she was brought to bed at her full time. But after having a safe and easy delivery she perfectly recovered, without any accident; and she has since had two more children, without any remarkable inconvenience from an irritable state.[1]

Case III. *Childbed fever from an inflammation of the uterus.*—A young, married lady, of a healthful and vigorous constitution, but naturally of a very irritable habit, was seized with spurious pains in the night-time, in the beginning of her labour, which in the morning were quieted by opium; and about noon, still lingering, but more regular, pains came on as the birth advanced. She now became very restless, and when the child's head began to pass the os tincæ, which was found to be very irritable, she became delirious during each pain; but instantly became sensible again upon the pain going off.

Under these circumstances the labour advanced till one or two o'clock next morning, when the hind part of the head was so very low, that it was expected every pain would bring matters to a crisis, but they were insufficient to bring the head any farther; and as she grew more restless, the pains more irregular, and the delirium of longer continuance, at about six o'clock the forceps were applied with perfect success. Nature soon after completed the delivery, except that some assistance was given to the coming away of the placenta, after it was forced into the vagina by pulling gently at the cord.

Her spirits were afterward very good, and she seemed to be tolerably well, considering her circumstances, except that the same kind of pain which accompanied her labour still continued; and as

[1] As a mania was here the consequence of an inflamed uterus, is it not reasonable to suppose that it sometimes arises from the same cause, when it happens in a puerperal fever?

it did not decrease in the afternoon, I gave her a dose of laudanum. I was then obliged to leave her, and being engaged all the next day, I did not see her again till the third day from her delivery.

I found the natural discharge was mostly come away in large clots; she had little or no sleep; the pain and spasms in the hypogastric region had been very troublesome; her pulse was excessive quick, and rather weak, and she was costive; but having no remarkable heat, she seemed to be so little diseased, that her attendants thought she had only been troubled with after-pains.

Next morning a diarrhæa with curdled stools came on; her fever increased, and there was a soreness all over the abdomen. Instead of that turgidity of the breasts which shows the coming of the milk, the glands seem to be in an indolent state, the breasts were becoming flaccid, and an ichorous discharge from the uterus was excessively fetid. In short she had all the symptoms of what is called the puerperal fever; and she died on the ninth day after her delivery. It was easy to discover soon after she was dead that the uterus was quite sunk into the pelvis; but the abdomen swelled soon afterward, and became very green.

Case IV.—Equally unfortunate was the sister of this lady when she fell in labour of her first child, as I was informed by the physician who attended. She was immediately seized with convulsions, which rendered her insensible; and, though she was delivered as soon as proper assistance could be got, yet she died in a few hours afterward. In the one, uterine irritability ended in death, by degenerating into inflammation; and, in the other, by an extreme degree of spasmodic irritability.

Case V.—I was called to a young woman of her first child, who had a very good time, nature soon delivering to my care her own work, which she best performs when no impediment is in the way. But the same kind of pains immediately followed which she had during her labour, and they were so very pressing that I was apprehensive an excrescence of some kind or other might be the cause; but a cautious inquiry discovered that they were owing to the uterus being extremely irritable.

The next day she had a very quick, weak pulse, and a fever; her belly became sore and tender, and the lochia were not discharged in so large quantities as they ought to be.

The next day after, the lochia were ichorous and very fetid; she became delirious; a diarrhœa with curdled stools came on; an eruption appeared all over the body; her eyes were convulsed inward; her breasts were flaccid; and she died the day following. The abdomen soon afterward turned green.

Now, can there be any doubt, in these cases, that the whole mischief was owing to an inflammation of the uterus, added to uterine irritability? Or, to make this matter clearer, let us compare the

effects of uterine inflammation in the puerperal state, brought on by violence done to the uterus.

Case VI.—My assistance was desired many years ago to a woman, where the midwife could not deliver the placenta; and when I came into the room, she had just brought part of it away in pieces. Upon introducing my hand, I discovered several small pieces of the placenta still adhering to the fundus uteri, which seemed to be lacerated; and I therefore chose to commit the whole to nature, rather than to offer any farther violence.

Next morning I found she had not slept; her weak pulse was very quick; and I was informed she had been troubled with after-pains, otherwise there did not appear any unpromising symptoms. However, in the evening a nausea came on, she frequently threw up whatever she had taken, and in the morning of the third day I found her heat increased; she complained of a soreness about the os pubis; the lochia were very fetid, ichorous, and in small quantity; a diarrhœa came on; her belly became more sore, and was rather swelled; instead of milk coming, the breasts grew flaccid; her fever still increased, and a delirium and death closed the scene about a week after she was brought to bed.

Case VII.—I saw another woman lately, where part of the after-birth had been brought away by force, and part left behind; but from the account given me it did not appear that her attendant, or those about her, were apprehensive of anything being amiss till four or five days after, when they were disappointed in the coming of her milk; and though a quick pulse and fever were discovered, yet, as she was able to get up and take notice of her child, danger was not thought of till near a week after, when my assistance was desired. I found her dying, with flaccid breasts, a sore, tender belly, after having been troubled with what they called after-pains, and all the symptoms, except a looseness, which usually attend puerperal fevers. The abdomen turned green very soon after death.

From all which cases it is evident that an inflammation of the uterus, and a consequent absorption of putrid matter from this part, will bring on what is now called the puerperal fever; and that the inflammation of the abdomen, &c., is frequently the consequence of the fever thus brought on.

Some, because the breasts are flaccid, have supposed this fever to arise from a non-secretion of the milk; but it is not likely that the fluids, which constitute milk, should produce any inconvenience by being detained in the habit; if so, a milk diet would be dangerous; and we are to remember that that part of the blood, which afterward becomes milk, is not a distinct fluid while it circulates in the bloodvessels: it is, therefore, as impossible that a fever, or extravasations,[1] should, in this case, arise from milk, as that a jaundice

[1] Baron Swieten has taken a good deal of pains to show that, in puerperal fevers,

should come on without the bile being first secreted. We very well know the influence the uterus has upon the breasts, and I look upon the flaccidity of the breasts to be, in this instance, entirely owing to a disease of the uterus, which renders the nerves that belong to the glands of the breasts incapable of exerting the least effort toward secreting milk; nor are the curdled stools any proof to the contrary, as these happen, most probably, from the ichor which is absorbed from the uterus, &c., as the same circumstance happens wherever a sharp ichor is absorbed from wounds.

Milk, therefore, cannot possibly bring on a fever till after it has been secreted, or till it begins to distend the nerves in the breasts; yet I believe an inflammation of the contents of the abdomen is sometimes the cause of a childbed fever. Dr. Hulme thinks that an inflammation of the omentum and intestines is always the cause of the puerperal fever, to which they are predisposed by the pressure of the gravid uterus. But if this was always the case, would not the disorder be more frequent than it is, because this predisposing cause "is common to pregnant women, at all times, and in all climates?" Of course, the effects would be more commonly the same in all places; whereas, in private practice, under proper management, puerperal fevers of the mortal kind are rather rare than common.

The only instances in which I have had reason to suspect an inflammation of the abdomen to be the cause of the fever, has been in very quick labours, where the quantity of water was large, and the uterus suddenly emptied by a hasty delivery as soon as the membranes broke, without care being taken to make an immediate pressure upon the belly, whence the blood may rush into and stagnate in a great part of the vessels of the abdominal viscera; which, not having had time to recover themselves, will be incapable of acting upon their contents. Hence, an inflammation may be produced; but, notwithstanding, it seems most certain that the injury we find done to these parts, upon dissection, is more frequently the effect than the cause of the fever.

But there are other causes, beside inflammation, which bring on a puerperal fever; for it sometimes happens that coagulated blood lodges in the uterus after delivery, and putrefying from access of air, forms a most active poison, is in part absorbed, and brings on a putrid fever. In this case the discharge, which should immediately follow delivery, is not sufficiently large, making allowance for the difference which happens to different women in this respect: small clots of blood make part of the lochia, which are less in quantity

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milk which ought to be discharged by the breast (Com. Boer., sec. 1329) changes place, and is extravasated into the cavity of the abdomen, &c., even where, from the breasts being all along flaccid, it is impossible milk could be secreted. In the case we have translated from Lieutaud, it is evident no milk could be secreted; and yet, upon dissection, a milky kind of matter was found, both in the thorax and abdomen, whence we conclude, with other writers, that this whitish serum is not milky, but the inflammatory exudation spoken of by Dr. Hunter, in vol. ii. of the Medical Obs. and Inq., p. 61.

than they ought to be; but the patient has not any other sort of complaint, for three or four days, till the retained blood begins to putrefy. A fever then first makes its appearance, preceded by rigors, which are followed by a quick, weak pulse, thirst, pain in the head, want of sleep, sighing, load at the præcordia, restlessness, great weakness, dejection of spirits, either wildness or despair in the countenance, and the white of the eyes is often a little inflamed. Sometimes the patient has a difficulty of breathing, with pain in the sides; the skin is dry, the tongue is of a glossy brown colour, and also very dry; and I have, sometimes, in an advanced state of the fever, observed, upon laying my hand awhile upon the patient, the same kind of prickling sensation, though in a less degree, as is felt after having the fingers in warm putrid blood. There is nothing to be learnt from the urine, as it is mixed with black putrid blood, which is constantly draining through the vagina. A diarrhœa, in which the stools are very fetid, liquid, and sometimes black, is a constant attendant. Aphthæ too frequently come on; the breasts are flaccid; and upon drawing them, blood, instead of milk, is often discharged. Milk may, indeed, appear in the breasts, when the putrefaction is several days before it takes place; yet they soon become perfectly flaccid. Sometimes the belly swells during the course of the disease; but a soreness and tenderness of it is a never-failing attendant soon after the fever begins. A delirium is common, through a great part of the disorder, which too frequently ends in death. Nor are inflammation or obstruction the only causes which render the lochia putrid; for they frequently, where the patient has been kept too hot, become putrid, without either of these circumstances happening, and produce a putrid fever, more or less active, according to the degree of acrimony of the humors absorbed.

Seeing, then, that an absorption of putrid matter will bring on a puerperal fever, with common symptoms, may we not conclude that the putrid miasms of lying-in hospitals will produce the same effect? Is it not reasonable to suppose that the puerperal fever which has been observed in hospitals, is owing to some cause peculiar to hospitals? Otherwise, would it not be equally frequent in other places? Dr. Pringle[1] informs us, that the foul air, occasioned by one mortified limb, brought on a malignant fever in a military hospital. Peu[2] also seems to have proved that the putrid effluvia exhaling from wounded men brought on a fever, which killed a great many childbed women who lay in the same hospital; and are not the putrid effluvia, arising from the lochial discharge in lying-in hospitals, capable of producing the same disease?

I have sometimes been called to women in childbed, where the offensive effluvia arising from this kind of evacuation, pent up in a small close room, at once evinced to what cause their fever was

[1] Diseases of the Army, p. 16. [2] Loc. cit.

owing; and though I have not any doubt but in lying-in hospitals every attempt is made to preserve the air pure, and the patient in a state of cleanliness, yet where many women lie in the same ward, it is, perhaps, impossible to obtain these advantages in the perfection to be wished. We know the effects of an hospital air, notwithstanding every precaution, in fractures of the skull, and compound fractures; and is it not more likely to produce violent effects in these very irritable habits? But, perhaps, we shall still convey a clearer idea of the fevers of which we have been speaking, if we recite some of the appearances and effects in large wounds, which have very justly been compared with the state of the uterus immediately after delivery.[1]

During the state of inflammation, an inflammatory fever, in a greater or less degree, with a white and not very dry tongue, costiveness, rigors, and in irritable habits, vomiting, attend. The discharge from the wound is sometimes nearly stopped, becomes hot and corrosive; and if acrid matter afterward ensues, being in part absorbed, brings on a colliquative fever.

If it is a contused or lacerated wound, and the external opening is small, so that extravasated blood lodges, after the first inflammation is over, a new inflammation arises in the wound, from putrid blood irritating the parts with which it comes in contact; and some of the more active parts being absorbed, bring on a putrid colliquative fever. But if the inflammation of the wound happen to be of such a nature as to terminate in a mortification, a general mortification will of course ensue, if not prevented either by nature or art.

Now, apply this to the fevers we have been speaking of, and we shall see the analogy. If the uterus be inflamed, it brings on, at first, a common inflammatory fever, with a white, moist tongue, costiveness, sometimes vomiting, and other symptoms arising from inflammation, peculiar to the situation of the patient. The lochia are sometimes suppressed in consequence of the inflammation obstructing the vessels of the uterus, or sometimes they are diminished only, and lose the florid complexion sooner than they ought to do, from the inflamed vessels only admitting a bloody ichor; which, acquiring acrimony, and being in part absorbed, afterward brings on a colliquative fever.

If coagulated blood be obstructed in the uterus, it certainly will inflame the uterus when it begins to putrefy. The symptoms of inflammation will appear, and then a colliquative putrid fever ensues, from part of this very active poison being absorbed; and does not this analogy hold good, when the puerperal fever is owing to putrid effluvia being taken into the habit by the absorbents *ab extra?* Suppose a man having a healthy wound is seized with a putrid fever; the matter, which was before good, becomes ichorous, and so corrosive as to inflame the parts with which it comes in contact: if any

[1] Baron Van Swieten, Com., sec. 1029.

part of it be absorbed, it will still increase the fever; and yet does not the sore appear, without any marks of inflammation, if the patient happens to die? When putrid miasms affect women in childbed, they bring on a fever with all the symptoms peculiar to the situation of the patient, and the discharge from the uterus is, for the most part, either suppressed, or becomes fetid and ichorous; and the uterus has a healthy appearance, upon dissection, because it was not the principal seat of the disease. Nor is it putrid miasma alone which is to be dreaded; but any other cause which is capable of bringing on inflammatory irritability, while the patient is in this very irritable state.

A tenderness, soreness, and pain of the abdomen are not sufficient to alarm us, unless attended with a quick pulse and a fever; for it is well known that, after long and hard labours, women often complain of the whole abdomen being so very sore that they can scarce turn themselves in their beds: yet if no fever appears, the patient recovers without inconvenience. Nor are flaccid breasts and non-appearance of milk any bad symptoms, if a fever is absent; as this may arise from a large discharge at the time of delivery, and a variety of other causes which nature safely gets over in time. On the contrary, when I find a quick pulse and febrile heat accompanying an inactivity in the breasts at the time the milk should come, or even a quick pulse with pain resembling after-pains, I am always apprehensive of danger, however favourable other symptoms may appear: for these symptoms and inflammation are inseparable, and the uterus will frequently show no other signs of being diseased for some time, which may, perhaps, be owing to its particular structure. Many books, indeed, tell us that when the uterus is inflamed, there is a sensation of weight and tumour, and a continual burning, throbbing pain, in the region of the uterus, extending to the adjacent parts; but so far as I can judge from what I have seen, I believe the symptoms of an inflamed uterus are pains, which put on the appearance of after-pains, and shoot from the loins and belly into the groin and thighs, with a quick pulse and a fever. It is very well known that whatever irritates the uterus, during the pregnant state, brings on labour-pains, or pains resembling them; and an inflammation of the uterus, keeping it in a constant state of irritation, must of course produce a similar effect.

In Case II. an inflammation of the mouth of the womb brought on spurious labour-pains; and I have not any doubt but the violent after-pains in Cases III. and V. were owing to the same cause; because they were accompanied with heat and a quick pulse, which never happen when the irritability is confined to the spasmodic kind. Wherefore the absence or presence of febrile heat, and a quick pulse in the puerperal state, is the criterion by which we are to judge about the safety or danger of the patient. But as these symptoms are common to all kinds of inflammatory irritability, it follows that we should distinguish the diseases which bring them on.

If the fever is owing to an inflammation of the uterus arising from uterine irritability, it will, in all probability, commence during labour, or soon after, accompanied with pains resembling after-pains, which sometimes shoot from the loins and belly into the groin and thighs, without any perfect intermissions; and these are the only symptoms that may appear for some time; afterward the anus and neck of the bladder sometimes become very sensible. The tongue will be white and moist, and the patient costive during the inflammatory state; the lochia either will be suppressed entirely, or instead of blood a brown fetid ichor will be discharged, and the breasts will be perfectly inactive, and not in the least disposed to secrete milk.

When the fever arises from injury done in extracting the placenta, &c., the mode of operation will afford light into the nature of the disease; and the symptoms in proportion to the degree of inflammation which ensues, will be much the same as those arising from an inflammation of the uterus, brought on by uterine irritability; except that several hours, or a day or more, may elapse before the quickness of the pulse gives the alarm.

When a fever comes on from an inflammation of the abdominal viscera, in consequence of blood rushing into and stagnating in the weakened vessels of these parts after a quick labour, &c., much may be learned from inquiring into the progress of the labour, and of the steps that were afterward taken; but the uterus seems at first unaffected, and the patient only complains of a dull weight and pain in the belly. Sometimes the fever is not very violent, nor the pulse remarkably quick, and the patient is costive during the whole illness; at other times the fever rises higher, and brings on a diarrhœa, with other symptoms usual to fevers in childbed; but I believe, from the few cases of this kind which I recollect, the patient is afflicted much like those who die of bruises on the belly; and upon dissection, not only an inflammation, but a suffusion of blood seems to have brought on death.

If it arises from putrid blood inflaming the uterus and being absorbed, the lochia will be suppressed from the beginning, or they will mostly come away in small clots; otherwise the patient will be perfectly free from disease till about the third or fourth day, when the coagulated blood beginning to putrefy, a fever and looseness come on nearly together, accompanied with a dry, brown, red tongue, and a hot, dry skin; and the lochia come away putrid and black. In like manner, when a fever arises from part or all of the after-birth remaining undelivered, no symptoms of danger appear till putrefaction takes place.

If putrid effluvia *ab extra* are the immediate cause of mischief, though they may for a little time produce symptoms of local inflammation, yet the disorder may be distinguished from an original disease of the uterus (unless the patient is seized with an epidemic disease previous to or during labour), by the lochia being at first regular, and the after-pains, if there are any, at the same time unaccom-

panied with symptoms of inflammation. The same may be said of all other accidental causes which bring on fevers in childbed; but we are to remember that the symptoms will vary according to the time of seizure. If the fever happens in three or four days after delivery, all the symptoms usual to the situation of the patient will make their appearance; but if it does not happen till the milk has been secreted, and the lochial discharge is nearly finished, the symptoms, if the breasts are properly drawn, will, for the most part, be those only which are common to that kind of disorder which brings on the fever.

Case VIII.—A young woman very lately had, as I was informed, an extreme good time of her first child; but she was unfortunately put into a bed, out of which her sister, my patient, was removed, who had long laid ill of a slow nervous fever. If we except her not having a stool, she went on very well for five or six days, the lochia being properly discharged; she slept well, and her breasts were filled with milk; but about the conclusion of this period, probably when the miasma received from the curtains and bedclothes began to take effect, she complained of a pain in her head, was feverish; and her fever increasing with want of sleep, I was desired to see her on the eighth day of her lying-in. I then found her in a hot sweat, with an excessive quick, weak pulse, and exactly the same kind of symptoms which accompanied her sister's fever.

A clyster was immediately given with good effect; other remedies were ordered, and her breasts had been, and still continue to be, carefully drawn, till they became flaccid from milk not being secreted; but the parents of this woman having lost another daughter in childbed, were firmly persuaded that this would also die. Thus, she continued in the same bed, remedies were entirely neglected, she soon became delirious, and did die on the twelfth day from her delivery; but she had neither diarrhœa, pain, soreness, or swelling in any part of the abdomen, though the lochia entirely stopped on the second day of the fever. But the discharge, before she began to be ill, was lymph only, and small in quantity, from having been very regular; and it was now incapable of producing much, if any, inconvenience from being suppressed.

Fevers occasioned by milk during the time of lying-in are certainly puerperal fevers, and are of two kinds: one from a distension of the nerves in the breasts, which is readily distinguished by the swelling of the glands; the other, from an absorption of milk, which has become acrid by stagnating, and is known by a rigor and looseness coming on after the breasts have been inflamed and painful. Nor is the fever, which happens to women in this situation from a retention of excrement, less obvious, and may properly enough be called a puerperal fever; because it ensues in consequence of the intestines being rendered incapable of performing their office by pregnancy and

parturition. But in regard to the miliary fever, which has been supposed to be a childbed disease, I never yet saw it happen, unless the woman had been kept long sweating and too hot; and it rather seems to me to be brought on by mismanagement than by any other cause, and, therefore, cannot be ranged among puerperal fevers.

These, then, are the chief symptoms, so far as I now remember, which distinguish one cause of puerperal fevers from another; but the other symptoms which have been observed to attend women in this situation are, I believe, common to all of them. All that we can learn from a rigor seems to be, that the irritability of the habit is preternaturally increased; and the more irritable the patient, the more violent will this symptom be. We have already observed that pain, soreness, with a tenderness of the belly, and a pain above the os pubis, are common to all kinds of childbed fevers. A shortness of breath, without wheezing, and the patient choosing to lie upon her back, will be the consequence of any cause which inflames the muscles, subservient to respiration.

A nausea or vomiting frequently, if not always, accompanies an inflammation of the uterus; but as they also accompany inflammation in other parts of the abdominal viscera, they can only be considered as common symptoms, unless joined with particular circumstances which may point out their source. But whether they arise from an inflamed uterus or not, bilious matter will be discharged if it happens (on account of increased irritability) to be secreted in a larger quantity than ordinary; no information can, therefore, be gathered about the seat of the disease from this kind of evacuation, which is in consequence of another disease having taken place.

The lochia will mostly be suppressed or altered, and the breasts will become flaccid, in every childbed fever, the milk-fever excepted; and a more troublesome diarrhœa than commonly happens in fevers will be a constant attendant, wherever acrid matter is absorbed from the uterus or the cavity of the abdomen, in consequence of the very irritable state of the nerves of the intestines, and matter acting upon them with a double force. From this increased state of irritability, the pulse too will always be quicker in puerperal than in other fevers; and it will mostly be weak, in consequence of the blood lost at the time of delivery.

Upon the whole it appears that puerperal fevers are those only which arise from an inflammation of the uterus; from the abdominal viscera being inflamed in consequence of a hasty delivery; from the absorption of putrid blood or other putrid matter from the uterus; from the coming of the milk; from an inflammation of the breasts; from the absorption of acrid milk, and from a retention of excrement.[1]

[1] [It is very remarkable how very near Dr. Kirkland has arrived at the modern conclusion respecting the local disease in puerperal fever—he includes all, in fact, although he does not specify them; and he seems to have had a clearer notion of inflammation (uterine phlebitis) resulting from absorption of deleterious matters than any of his predecessors. Thus, as we advance, the reader will find additional light as the result of continued investigation, while most of the erroneous physiology and pathology gradually disappear.—Ed.]

Epidemic or hospital fevers, or fevers which take their rise from diseases foreign to the pregnant or puerperal state, are only adventitious diseases happening to lying-in women.

But though it be distressing to reflect upon the various disorders incident to child-bearing women; yet, on the other hand, it affords pleasure to observe that this state of increased irritability, &c., which renders them liable to so many accidents, seems, in a great measure, to decrease after proper discharge of the lochia and the coming of the milk; at least, they are no longer liable to those disorders which are the consequence of pregnancy and parturition, costiveness excepted; and I have long taken notice that, whatever disorders happen to women in childbed after this period, they are not in common equally dangerous with those which come on before it is over. Therefore my whole experience has led me to depend much upon a favourable issue after a proper discharge of the lochia, and a vigorous flow of the milk, provided no accident intervenes.

CHAPTER II.

ON THE CURE OF CHILDBED FEVERS.

We are now come to the principal object in view, the cure of puerperal fevers; in which we should always remember, that whatever may be the cause, there is mostly an absorption of matter, more or less putrid, from the uterus or abdomen,[1] which often produces

[1] All the late writers on puerperal fevers, except Dr. Leake, speak of an obstruction or alteration in the lochia as frèquently happening; but in his patients "the lochia, from first to last (p. 53), were not obstructed or deficient in quantity, neither did the quality of this discharge seem to be in the least altered from its natural state: a presumption that the uterus was not at all affected." I have observed, when the uterus is not the seat of the disease, the lochia being affected depends much upon the degree of violence of the fever; for where it does not rise very high, they will sometimes go on in their regular course, without the least alteration, till the death of the patient; and, from what I can judge, a smaller degree of fever in lying-in women will prove mortal than in any other state known.

Case IX.—A young woman of very irritable habit, and subject to hysterical symptoms, suffered her mind, during the pregnancy of her fifth child, to be prepossessed with an opinion that she should die, either in her labour or lying-in; and though she got safely through her labour in a few hours, yet her mind could not get clear of the apprehensions of death, and with which she so much distressed herself, that she first became hysterical, then maniacal. Sleep for several days left her eyes; and though there was an effort toward secreting milk, yet, on the fourth day, the glands in the breasts, which had swelled a little, soon became flaccid; and the milk which had been secreted seemed to go off in a few loose, green stools. The palms of her hands were mostly very hot, but the heat in the other parts of her body was very moderate, except at particular times, when a universal flushing came on. Her tongue was white and moist; she was not very dry; and a few hours' sleep on the sixth, seventh, and eighth days brought on a regular sweat. She had no pain or soreness in any part of

those symptoms of putrescency so frequent in these disorders, and to which particular attention must be paid in our prescriptions. However, in the beginning, an inflamed uterus (except when the inflammation arises from its being irritated with putrid blood) must be treated like other local inflammations, which are cured by dispersion. The antiphlogistic method, we see, cured (Case II.); and I have sometimes, I think, put a period to this disorder coming on after delivery, when I happened to be present at its first approach, by a similar treatment, suited to the situation of the patient. But the misfortune is, that neither bleeding nor purging can be used in their full force in childbed fevers; for where they do not entirely remove the inflammation in the first instance, they constantly render the patient less capable of undergoing the remainder of the disease, by thinning her blood, emptying her vessels, and reducing her strength. If we bleed and purge much in compound fractures or large wounds, to abate the inflammation, where there has been a considerable loss of blood, the colliquative fever, which afterward arises from the absorption of matter, is always more violent, and the patient less able to bear it; and does not the same thing happen in childbed fevers, where there has been a considerable evacuation at the time of delivery?[1]

On the other hand it is evident, from the relief given by external applications, which take off tension either by relaxing or promoting a discharge, and unloading the obstructed vessels, that the principal point in curing inflammation arising from or being kept up by distention, is taking off the increased irritability of the affected part; and that where external applications cannot be used, this must be effected by medicines which lessen irritability, and are capable of rendering the vessels pervious; the principal of which are bleeding, purging, and sweating, though purging seems to have the preference.

Cheselden observed, and daily experience evinces, the very powerful effects of purges in bruises without any external wound, which must certainly be owing to their dissolving and removing the stagnated blood; and does not the effect of purges in sores explain the whole of this matter to our satisfaction? If we give salts or other sort of purges where a sore is in a healing state, the matter becomes ichorous, is discharged in larger quantities, and it is evident, from their ragged appearance, that the small vessels have been irritated.

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the abdomen; her natural evacuations consequent upon delivery were perfectly regular, and yet her pulse from the third day was continually weak; she had a load at the præcordia, with tremors, and great dejection of spirits, which were always in a hurry, and she died on the tenth day from the time of her delivery.

[1] [There can be no doubt that the character of the puerperal fever seen by Dr. Kirkland was different from that noticed by the previous authors, both in the greater variety of the local disease and in the different treatment required. When peritonitis is the local disease, and the fever inflammatory, large bleeding is evidently called for, and very effectual; but when the fever is typhoid, and the local affection phlebitis, it does not seem either to be so well tolerated or so successful.—Ed.]

So that purges do not only irritate and unload the intestines, but they also irritate and unload every order of vessels, and thus lessen irritability when it arises from distention. They are, on this account, more to be relied on in the cure of inflammation arising from this cause than bleeding.[1]

Bleeding, by thinning the blood and lessening its quantity, abates its impulse against the impervious vessels, and thus takes off tension, and lessens the power of any additional cause of irritation. But then the bloodvessels seem to have a power of adapting themselves to the quantity of blood remaining in the body; and unless the obstructed vessels unload themselves, which sometimes happens after bleeding, increased irritability and a fever, in which the blood moves with equal celerity, though not with equal force, are kept up. We will explain this matter by practice.

Case X.—The placenta not following the delivery of the child, in a healthy woman, the midwife attempted to extract it with her hand, upon which a flooding ensued; and, being now perplexed, she brought it away piecemeal, after abundance of trials, in which time the woman was near bleeding to death, she appearing so pale, cold, and lifeless, that it was imagined she could not have survived half an hour. However, she recovered for the present; but in a few days an anasarca came on, and yet an inflammation of the womb (in which the pulse was quick and small) and a puerperal fever succeeded the injury done to the uterus, and seemed to be the immediate cause of her death.

Case XI.—A woman had been attempted to be cured of a violent inflammatory rheumatism by repeated bleeding, and though she had lost so much blood that her legs became anasarcous, yet her pain and fever were not removed; and her pulse was quick, small, and hard, even to her death. Probably she lost her life because bleeding alone was incapable of removing the obstruction, and there had not been sufficient reliance upon other remedies.

On the contrary, purges frequently relieve inflammation when bleeding has proved ineffectual; for instance, small doses of Glauber's salts, continued for a week or ten days, have often removed an inflammation of the eye, when bleeding, and those deobstruents, as they are called, which have not an irritating quality, have been tried long to no purpose. From what has been said, together with the following case, we may be pretty certain of the manner in which they produce their effects.

Case XII.—A young woman, about 25 years of age, had a vio-

[1] Perhaps we should have appeared more consistent in recommending medicines which dissolve and remove obstruction without irritating; but let us remember that if the discharge from a sore is entirely suppressed, and the adjacent parts are become inflamed, swelled, and painful, the giving a dose or two of salts, by irritating the affected parts, renews the discharge, and the swelling and pain disappear.

lent inflammation in both her eyes, for which she had undergone such a variety of well-intended remedies, that there seemed, at first sight, no room left for making any amendment. However, considering the difficulty of internal medicines ever arriving at the affected part, I determined to try purging medicines, by way of topical application, having seen their effects when thus used in sores. For this purpose I blew into one eye a small quantity of Glauber's salts, in very fine powder, which at first rather increased the inflammation; but a discharge of lymph followed, and next day the inflammation was entirely gone. Nor had I less success in the other eye, upon using the same remedy. From all this I would infer, that though bleeding is often a powerful assistant in removing increased irritability, arising from or being kept up by distention, yet the main remedies are those *after* bleeding, which have a dissolving power, and are capable of irritating and creating an oscillatory motion in the small vessels. By this means, not only purges, but saline sudorifics, do service in every inflammation arising from this cause; and women in childbed bear evacuation by the skin much better than by the bowels. But it must be remembered that purges, in the present case, make a discharge more immediately from the affected part, and ought first to take place.

When a sickness and vomiting arise from the nerves of the stomach becoming more irritable, in consequence of an inflamed uterus, by that consent of parts we have taken notice of, can a vomit be given with propriety, unless there happen, at the same time, to be bile or something offensive upon the stomach? Would not carrying it downward by purging medicines, under these circumstances, be preferable? If, instead of removing the cause of the vomiting in the lady whose breast was taken off, we had given her a vomit, should not we have harassed the patient without any prospect of affording her relief? Is it not, then, horrible to think of applying anything irritating to nerves which are already incapable of bearing a very light fluid, and of the injury that must be done, by the action of vomiting, to the abdominal viscera, and the muscles of the abdomen already inflamed? If a surgeon were to attempt the dispersion of external inflammation by rubbing and squeezing the part violently, would not he, instead of relieving, increase the malady? Chamomile, green or bohea tea, where there is in this case an inclination to vomit, will sufficiently wash the stomach, and the patient will be less fatigued and less injured by retching, with a soft fluid upon her stomach, than without it. But surely this irritability of the nerves of the stomach, instead of calling out for irritating medicines, points out the necessity of joining such medicines along with antiphlogistics as are capable of preventing them from irritating the primæ viæ; and if the local inflammation can be subdued, the vomiting and sickness will cease of course.

Now opium, when mixed in small quantity with cooling ointments, speedily abates external inflammation, probably by lessening irrita-

bility; and small doses taken inwardly, seemingly by the same means, not only prevent medicines from irritating the nerves of the primæ viæ powerfully, but their effects are communicated to every part of the expanded brain, and thus tend to relieve either general or local inflammation. This is proved by the practice of giving two or three drops of laudanum along with the bark to prevent its purging; and in inflammations coming to suppuration, where the pain is exquisite and the fever runs high, four or five drops of this tincture, taken every six or eight hours, seldom fails to abate the pain in the affected part, and to lessen the general heat. Indeed I believe there is no kind of fever which will not be moderated by its use; for if in inflammatory fevers we join small doses of it with antiphlogistics, and in putrid fevers with antiseptics, we shall frequently prevent the disease having violent effects, and give the proper medicines a better opportunity of accomplishing the intention desired. Nor are large doses of opium necessary for this purpose; a small quantity being sufficient to lessen irritability, though a larger quantity is necessary to bring on sleep; and I observe, that giving large doses of laudanum in wounds rather tends to increase than to abate heat, though it may sometimes lay the patient in an uneasy sleep. Nor are we to forget that opium has no power of removing obstruction (except when it arises from a spasm), for suppuration will take place under its use:[1] and it is, therefore, only to be given in inflammation arising from distension, as an assistant to those medicines which are deobstruent.

Camphire, too, has been recommended as a medicine having a peculiar property of abating inflammation of the womb; and as it lessens irritability, I have no doubt of its sometimes having this effect; and as much has been said for and against it in the cure of fevers, let us indulge ourselves a little in inquiring into the powers of this medicine.

I have frequently used a weak solution of camphire in oil for inflamed eyes, and find it first heats a little, and then abates the inflammation; but large quantities of camphire not only heat, but increase the inflammation. Seeing that the native balsams and essential oils cured spasmodic irritability, I was led to try camphire in uninflamed sores, where sensation was extremely acute, and found it to restore the fibres to their natural state of feeling; and those who have attended to its effects in hysteric and hypochondriac diseases, must have observed it to lessen spasmodic irritability. Is it not probably owing to this property of lessening irritability that it removes or prevents the strangury brought on by the application of cantharides? that by this means it renders the nerves of the primæ viæ incapable of being so powerfully irritated by the more active preparations of mercury? And is it not, therefore, most likely that it principally relieves or cures fevers by lessening the irritability of the nerves?

[1] This seems to be a plain proof, that by rendering the nerves incapable of irritation, a fever may be abated, even while its cause exist. This is explained by some facts in surgery, which prove that inflammatory heat may be produced by irritating the nerves, independent of increased circulation, or any other cause.

Hoffman[1] speaks of the speedy effect of camphire in the cure of fevers, and produces the testimony of several other physicians, supported by facts, in favour of his assertions. Dr. Lysons,[2] of Bath, has lately given us four or five cases, where he thought the patients were cured of an epidemic fever in one night, by taking a scruple of camphire and ten grains of nitre at going to bed; and, if I am not deceived, I myself have seen it make quick work in abating putrid fevers, which I attribute chiefly to its rendering the nerves incapable of being irritated; because if it produced this effect wholly by correcting and expelling the morbid matter, would it not take up a much longer time? Nor is this expeditious manner of relieving fevers to be wondered at, when we see that whatever lessens irritability abates heat.

But large doses of camphire are not always either necessary or proper, though they may sometimes have been very effectual in suppressing fevers; and what has before been said of opium, is very applicable to this medicine. For a small dose, for the same reasons, is sufficient to allay irritability; while an over-dose frequently heats the patient, and may bring on a delirium; but both these remedies act more or less powerfully, according to the degree of irritability of the patient, to which the doses must be proportioned accordingly.

But I do not think this medicine is always to be relied on alone for the cure of fevers; it must rather, I imagine, be considered as an assistant to other remedies, and, like opium, will mostly require the aid of antiphlogistics or antiseptics, as the case may require, to carry off the cause of the fever.

Hoffman rationally joined nitre with camphire, to prevent its heating; but it may be much doubted whether a few grains of nitre are capable of producing this effect. However, nitre in inflammatory fevers, as a cooling deobstruent, and spirit of nitre in putrid fevers, as a cooling antiseptic, are very proper assistants; but I imagine no ill consequences will arise in fevers, from the heating property of small doses of camphire, if the extinguishing plan is pursued which we have elsewhere advised; and we shall then be prosecuting the same intentions by different means.

Blisters have been both commended and condemned in the cure of internal inflammation: some have supposed the mortification which they discovered in childbed women, upon dissection, to be owing to their use; while others have concluded they must of course be serviceable, because they relieve pains in the side; and because when an inflamed part is made to discharge freely, it abates the inflammation. Now, finding the abdominal viscera mortified after childbed fevers, is no proof that it was owing to the blister, as we perceive to them mortify when no blister has been applied; and if the patient happens to get well, it is hard to say how far they were instrumental in the recovery, because they are seldom trusted to alone. It appears

[1] Dissertat. Medica de Camph., &c.

[2] Essay on Camphire and Calomel.

to me that they will be of service where the inflammation is not very violent, but when it is, great mischief may be done by introducing them.

It is a common observation, that blisters increase inflammation of the eyes for a time. I have several times ordered blisters behind the ears in an erysipelas of the face, and I always found the inflammation increased next morning, but afterward to decline as the discharge took place: whence I concluded that they might at first increase great internal inflammation beyond the bounds of safety.

Case XIII.—I once had an opportunity of seeing the effects of cantharides, when introduced into the blood, in the case of a boy troubled with a scald head. A blister was applied, bloody urine, a priapism, and convulsions followed, and the patient recovered with great difficulty. This instance is a proof that they irritate the whole nervous system violently, dissolve the blood, and at least bring on an inflammation for a time; so that they should apparently never be used in such a case till bleeding and purging have previously been tried: if the disease is not then subdued, putrid matter will begin to be absorbed, and effectually remove all kind of obstruction, when there will be no occasion for them.

It seems now generally agreed, that keeping the patient as cool and airy as her circumstances will admit of, is a principal point; and I may observe once for all, that in childbed fevers I order the patient to be kept as near a natural state of heat as possible. But to explain what is said, and to show the caution which seems necessary in bleeding and purging in the present state, I will give the outlines of the practice I have now adopted, and my not filling them up will be excused, as it is well known this can only be done by the bedside of the patient as exigencies occur.

If the patient has not lost much blood at the time of delivery, and her pulse is full and quick, I advise her to lose blood at the arm in proportion to her strength; but if the evacuation, when she was brought to bed, was sufficiently large, and the artery, though it beats round and rather hard against the finger, seems to be contracted, I defer bleeding, and have recourse to those medicines which may regulate the pulse by removing the obstruction.

If the patient be costive, an emollient clyster is immediately to be given; which frequently, in this very irritable state of the bowels, will procure several stools (and in pain and distension of the abdomen from pent-up wind, will give immediate and great relief); but in this case, as neither clysters, castor oil, or the like, are to be depended upon, because they do little more than act upon the first passages, I have recourse to the purging neutral salts, which traverse the whole circulation. A drachm of Glauber's salts may be given for a dose, and repeated every three or four hours, or at greater intervals, according to their effect;[1] the strength and spirits of the

[1] This quantity in the present state will sometimes give as many stools as an ounce taken by the same person at another time.

patient will decide what number of stools she should have before we put a stop to this proceeding, and the addition of a few drops of laudanum will, if it appears necessary, prevent the salts from running too hastily through the bowels.

If salts are rejected, I have sometimes tried calomel, which stays upon the stomach, and when properly dosed, clears the bowels by a smart stool or two, without danger of working too much; when it is well prepared, I do not find but it works with as much ease as any other purge; and I see no reason why a single dose may not be given with perfect confidence in childbed fevers, where purging is necessary.[1] But if it happens not to go off by stool, the practice of giving purging medicines after it must be pursued, to prevent any inconvenience from the lodging of the mercury in the bowels.

Many years ago I gave a scruple of calomel to a dog that was very ill; it did not purge him, and he died in the night. Next morning we opened him, when I found, to my great surprise, the mercury returned to its pristine state, and globules of quicksilver adhering to the coats of the stomach. Several other similar experiments followed in healthy dogs, with the same event; which led me to conclude, that when calomel does not irritate the primæ viæ sufficiently to produce loose stools, it is soon decomposed by laying in the stomach and intestines, loses its purgative quality, and, common quicksilver only remaining, produces the effects common to mercury, when given in conserve of roses or the like vehicles.

After the patient has had three or four stools by purging medicines, I frequently gave half a drachm of the terra fol. tartari, and thirty drops of essence of antimony (or a quarter of a grain of emetic tartar), in a draught every four or five hours, which commonly still increases this evacuation, and promotes both sweat and urine. Nor do these medicines, thus combined, cause that sickness or nausea as the same quantity of emetic tartar or essence of antimony would occasion, if given alone. However, if they are too active, and give more stools than the patient's strength seems to admit of, I render the nerves of the stomach and intestines, and the nerves in general, incapable of being much irritated, by adding to each dose two or three drops of laudanum.

If a sweat follow, I persist in the use of this medicine; otherwise, when the patient appears to have had stools enough, I order as much crude sal ammoniac as will sit easy upon the stomach, made into a bolus with spermaceti, and compound powder of crabs' claws, every four or five hours, along with Mindererus's spirit and peppermint-water, each an ounce; by which means, and the assistance of cool toast and water, where the heat requires it, a plentiful sweat will sometimes break out, to the great relief of the patient.

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[1] Mr. White gave three grains of calomel and half a grain of emetic tartar on the fifth day after delivery, which produced several very loose, offensive stools, and great ease.

Sal volatile and water, equal parts mixed, is sometimes to be rubbed upon the abdomen, and perhaps answers all the ends of the liniments and embrocations used on this occasion; but if any one chooses to employ fomentations, a discutient cerate or liniment should immediately follow their use, otherwise the skin becomes hard and dry, and more irritable, and the disorder, so far as the fomentation has reached, instead of being relieved, is increased. But we should be active in all our proceedings, for there is no disease in which the loss of time is of worse consequence, as an inflammation of the abdominal viscera very soon comes on, and the progress, in a little time, may render all our attempts to relieve the patient abortive.

Hitherto, then, we have considered the fever as arising from inflammation, and treated it accordingly; but when the method advised fails of success, and a diarrhœa comes on, the disease has changed its nature,[1] is become or less putrid, and very different treatment is required; for whenever putrid matter gets into the habit, deobstruents are no longer necessary, as it is of itself a most powerful dissolvent, and soon removes all kind of obstruction. No one would purge and bleed to cure the colliquative fever, arising from the absorption of matter in large wounds, and yet the only difference is, that in the puerperal fever the matter absorbed from the uterus, &c., acts with more violence, because the blood is commonly thinner, and the habit in a more irritable state. We see absorbed putrid matter purges as effectually as if any purging medicine had been given by the mouth; and may we not, therefore, do harm by additional purging, when there has already been a large evacuation, especially as purges in this case are incapable of entirely removing the fomes morbi? Nor is it any evidence in favour of purging, that some women have had strength enough to outlive the torrent of this discharge, which, if not kept within proper bounds, carries off all those who have not great strength of constitution indeed. In this opinion I am supported both by Hippocrates and Baron Swieten,[2] who assert "that a looseness in childbed women is salutary, before the patient's strength is broken, by carrying off the offending matter; but the disease being long protracted, almost all the humours of the body are resolved into putrefaction, and the patient generally perishes by a violent flux."

In large wounds we see into the constitution, and are judges of the change the body undergoes from violent purging. The fibres become pale, flabby, and glossy, the wound daily acquires a horrid gape, and yields an impoverished gleet instead of good matter; and the fibres daily becoming more lifeless and dry, the cheeks fall away, the eyeballs sink, the whole face puts on a ghastly appearance, and the patient dies exhausted; and does not the countenance of women

[1] While the fever is kept up by inflammation arising from distension, the artery beats full, and seldom so quick as when it arises from putrid matter irritating the nerves.

[2] Baron Swieten, Com. 1329.

who die in childbed of fevers, accompanied with purging, point out that they undergo the same alteration? But what reason is there to suppose that a constant purging will not prove as fatal in a colliquative state in childbed, as a diarrhœa in colliquative fevers, arising from the absorption of matter from large wounds and the like accidents?

On the other hand, the diarrhœa is by no means to be entirely stopped; for to detain putrid matter in the habit would destroy the patient. The question, therefore, is, in what manner are we to give nature assistance, to enable her to overcome the disease, when we have not been fortunate enough to prevent its becoming putrid? Certainly, by rendering less active the matter which irritates the intestines, by correcting the whole state of the fluids, by taking off the increased irritability of the habit, so that the materia morbi may have a less powerful effect, by giving antiseptic diuretics, and by defending the nerves of the primæ viæ against irritation, so that whatever putrid matter gets into the intestines, may pass off without acting as a violent purge.

When we are not called in till a diarrhœa is come on, the columbo root and rhubarb may first be given to lessen irritability, and carry off any putrid matter lodged in the primæ viæ; and the above purposes are then properly answered, where the pulse is rather full, and the heat great, by giving a powder composed of chamomile flowers and a little starch every three or four hours, with a drachm of spiritus nitri dul. in some simple water; for a violent diarrhœa, by these antiseptics,[1] will often soon be reduced to two, three, or four stools in twenty-four hours, which are always serviceable, and a greater discharge of urine will frequently ensue, with a manifest amendment of the patient.

However, the bark is the principal remedy in this fever; as soon as the pulse sinks the heat is lessened, and the stomach will bear it. I have known it alone relieve the fever and diarrhœa, by going off in two or three loose stools, and promoting a sweat; but while the heat is considerable, I always join a drachm of spirit. nitri dul. with every two ounces of bark decoction; and if two or three drops of laudanum are added, the heat is more effectually abated, provided it does not wholly suppress the purging. If bark increases the diarrhœa beyond moderation, small doses of laudanum do service in a double capacity; otherwise, joining spermaceti, almonds, or beeswax,

[1] Dr. William Fordyce recommends spirit of salt as a powerful medicine in the cure of putrid fevers; and, perhaps, in the present case may be preferable to spirit of nitre, as being, I believe, a more powerful antiseptic, Indeed I have never yet given it in the putrid fever of lying-in women; but it has many years been a favourite medicine with me, from the remarkably good effects I have seen it produce in the cure of putrid ulcers, when given in water, and when joined with bark. Nor can I have any doubt of its doing good service in the fever under consideration, by correcting putrid matter both in the intestines and in the habit. I have seen it cure the colliquative diarrhœa occasioned by putrid matter absorbed from large wounds. Some, perhaps, may prefer fixable air in this case, but upon this subject we refer to Mr. White; though, from what I have seen, I think it will be found a good remedy.

renders bark less liable to purge; and were the diarrhœa entirely to stop without the fever being gone off, I should, in the place of laudanum, add a proper quantity of rhubarb.

In this stage of the disorder, when the pulse sinks and the nervous oppression is more manifest, I look upon camphire to be a good remedy, because (by lessening preternatural irritability) it often keeps the diarrhœa within bounds, and by its immediate action upon the nerves, revives and supports the patient's spirits. If it is really an antiseptic and sudorific, as has been asserted, it may also contribute towards the recovery of the patient, by correcting and expelling the cause of the fever; but I have observed, that half an ounce, or even less, of the camphire julep, when repeated ever four or five hours, is sufficient for a dose; and I have several times seen two drachms, repeated in this manner, incline the patient to sleep.

Now, all the medicines advised in this stage of the disease will be readily comprised in a bolus and draught, which may be repeated as the case requires, drinking in the meanwhile a slight infusion of the bark, acidulated with juice of lemon, and made grateful to the taste with the addition of a little lemon-peel and sugar. I can say, in favour of this practice, that I have seen several women in childbed fevers recover under its use; and we leave the reader to judge, whether taking off increased irritability, correcting putrid acrimony, and preserving the strength of the patient, are not proper means to be pursued under the present circumstances.

If, notwithstanding the use of the medicines proposed, the diarrœa become so violent as to endanger the patient, I join my friend Mr. White in recommending the columbo root, which is a warm cordial, and takes off the irritability of the stomach and intestines more powerfully than any other bitter I know. It seems owing to this property that it so powerfully relieves the sickness in pregnant women and in the gout; and I have several times seen it cure a vomiting and a diarrhœa, when other powerful anti-emetics and astringents have proved ineffectual. Joined with rhubarb I find it an excellent medicine, where the diarrhœa arises from offensive matter irritating the intestines; and I have not any doubt, when it is necessary to mitigate or suppress a diarrhœa, in the present case, that it will be found of more use than many of the medicines at present employed, provided we do not lessen its efficacy by jumbling it with drugs of opposite or inferior qualities.

Indeed, some years ago I saw a woman in childbed rescued from the very jaws of death, to which a diarrhœa in a childbed fever had brought her, by the elect. e scordio, spirit of lavender, cinnamon-water, and other cordials; and these medicines, no doubt, often prove good astringents, as the essential oils and warm spices are very powerful in allaying the irritability of the stomach and intestines. Nevertheless, from what I have seen, I prefer the columbo root; its simplicity ought to recommend it, and, if necessary, laudanum may be joined, remembering, at the same time, that the essen-

tial oils, native balsams, and the like, cure preternatural irritability, unattended with inflammation, whereas opium only takes it off for a time.

Nor is it difficult to ascertain the time of giving astringents, because the patient's strength and spirits will always point out when they are necessary. However, we may observe, that a diarrhœa in childbed women, unattended with a fever, may always be safely suppressed, after a small dose of rhubarb; but while the fever exists, it will not be practicable to stop it entirely, without first removing the cause. It may, indeed, be checked, but it will always return; and, therefore, under this circumstance, it will be more prudent to employ those remedies in such a manner as to keep the diarrhœa within due bounds, that we may have an opportunity of removing the disease itself.

When a puerperal fever arises from blood rushing into the viscera of the abdomen after a hasty delivery, the method just laid down seems to be the most likely to obtain a cure. But very little service, I believe, can be done unless the disorder is discovered in the beginning, before the fever appears, otherwise it is commonly too late to afford any relief. As, therefore, I imagine with proper care it may always be prevented, we shall hereafter say more upon this subject.

But a much more dangerous fever, as it is quicker in its progress than those we have been speaking of, is the putrid fever, which arises from a retention of coagulated blood in the uterus, occasioned by a constriction of the os tincæ; for it corrupts in a few days, soon arrives at the highest degree of putrid acrimony, and offers every kind of violence to the constitution.

Bleeding, purging, and saline antiphlogistics are not, in this case, to be thought of, though symptoms of inflammation should be rather urgent at the onset; for the matter absorbed from the uterus exceeds all other attenuants, and often causes greater evacuations by stool than the patient can bear; so that no time should be lost, after clearing the bowels with rhubarb and columbo root, in giving the antiseptics we have just recommended, especially the bark. Nor do I imagine it will be unpleasing if I relate by what means I was, several years ago, led to pursue this practice, in preference to that I had been taught,[1] for the cure of the lochial fever.

Case XIV.—About twenty years ago, a blacksmith, riding in a wagon loaded with iron, was overturned, and had an iron spike belonging to the wagon forced into the middle and inside of his thigh, where, running upward, by several motions of the carriage, it tore the muscles in a miserable manner indeed, and the very small orifice being choaked up, the skin almost of the whole thigh was soon put upon the stretch by coagulated blood.

A common wound-fever succeeded, which, by the usual applications,

[1] See Smellie, sect. vi., of the Milk Fevers, vol. i.

was removed in three or four days' time, and the swelling being somewhat reduced, black coagulated blood began to be discharged, by which more ease was given to the patient; nor did any change for the worse happen till the third day afterwards, when the extravasated blood becoming putrid, another kind of fever appeared, attended with a violent pain in the head, want of sleep, very quick, weak pulse, a pungent, burning heat, great depression of spirits, loose, fetid stools, a wildness in his looks, and a delirium.

Hitherto I had not enlarged the wound, fearing lest a hasty removal of the coagulated blood should renew the hemorrhage; but it was now evident, that unless the putrid blood was taken away, to prevent its absorption, the patient would actually die. I, therefore, made a large opening, and removed as much of the coagulated blood as I could without violence (in which operation I felt a pricking in my fingers, as if they had been dipped in spirits of hartshorn), but it was impossible to remove the whole at once, being dispersed among the muscles, which were very much torn, down to the bone. However, I washed the ulcer well with water and vinegar mixed, then dressed it with an antiseptic digestive balsam, continued a stale-beer poultice, which had before been applied, and ordered him to take four spoonfuls of a decoction of the bark every three hours.

Next morning I found his fever neither better nor worse; he had had several loose stools, and very little or no rest in the night. Upon laying my hand awhile upon his skin, I observed the same kind of prickling sensation I had before discovered in my fingers in removing the putrid blood, which, I suppose, was owing to the whole state of juices being contaminated, and to part of the putrid matter passing off by perspiration; wherefore, I ordered a scruple of powdered bark and three drops of laudanum to be taken with each dose of the decoction; the wound was dressed as before, and a better night succeeded.

From this time, and by this management, his fever and delirium gradually left him; but he had three or four loose stools every day for a week or ten days longer, but as the new flesh began to rise and the matter became good, this symptom also disappeared, though we did not leave off the use of the bark for a considerable time after we had nothing to fear from the absorption of matter, because his strength required invigorating medicines.

Case XV.—Now, before this man was quite well, I happened to be called to a woman who, I was informed, had a milk-fever. I found her breasts very flaccid, and, upon the inquiry I made, the following account was given me:

That she had a very good time; that the after-birth immediately followed the child; and that she seemed to be as well as it was possible for a woman to be in her condition, except that the lochia were in small quantities, and came away mostly in clots, till the fourth day, when this discharge was thinner, and something freer; that this

evening she became hot and feverish, had a pain in her head, and could get no sleep; that on the fifth day a looseness came on, and she got worse, and that early this morning, being the sixth day from her delivery, her friends thought proper to desire my assistance, assuring me, at the same time, that they had not given her anything strong or heating, and that she had not been stirred out of bed.

I found her very hot, her skin dry, her pulse excessively quick and weak, a great depression of spirits, with a load at the præcordia, and tremors; she had not had a wink of sleep the preceding night; she had a particular kind of wildness in her countenance, and a slight delirium. Her belly was rather sore, and in making this inquiry, I discovered the same kind of prickling sensation I had observed in the man; and upon finding that black putrid blood was discharged from the uterus, I did not hesitate to conclude, from the whole, that their fevers both arose from the same cause, and, so far as related to internal medicines, immediately pursued the same method of cure.

I should, indeed, have been glad if the uterus could have been washed with antiseptic injections; but this, I believe, from a variety of obstacles, is seldom practised, and I contented myself with desiring the patient to be raised up in her bed two or three times a-day, which seemed to forward the discharge. From this method of treatment I had the pleasure of seeing her recover; the looseness, which was kept within bounds by the laudanum, and the fever gradually decreasing as the materia morbi was corrected and removed.

After this I had recourse to the bark, under the same circumstances, and sometimes, where I have been called early, my patients have recovered. Nor have I ever seen the least reason to lay it aside; a delirium is no objection, but demands its use, because it arises from the irritation of putrid acrimony, and where are we to fly for relief but to the most powerful antiseptic? We have long seen it cure the delirium and fever in gangrenes and other fevers arising from the same cause; and I cannot have any doubt but I have seen it take off the fever and delirium of which we are now speaking. The excessive heat in this fever first induced me to join sweet spirit of nitre with the bark, in putrid puerperal fevers, as a cooling antiseptic diuretic; and the spermaceti, with wax, &c., seem to be particularly useful here, on account of the aphthæ, which, I apprehend, extends itself through the alimentary canal, as they may, perhaps, act the part of an emollient cerate, till the bark has eradicated the disease. But I ordered the mouth and throat to be washed with some tincture of roses slightly acidulated, and sweetened with a little syrup of elder, or with red port and warm water, which, perhaps, is as proper a gargarism as any we can use. When the patient is become weak, I have joined snakeroot with the bark, as I think, with advantage; and, under these circumstances, I have encouraged the drinking of good port, with restrictions, by way of cordial.

It is very evident, from what has been said, that those writers who have asserted that a puerperal fever sometimes takes its rise from an obstruction in the lochia are certainly right, notwithstanding what may have of late been said to the contrary; but how little they knew of the matter is very evident, by their attempting to cure the fever by troches of myrrh, and the like. I cannot conceive how so bad a practice came to be introduced, unless having seen these kind of medicines relieve obstructed menses in chlorotic girls, they very improperly recommended them in the present case. If the lochia are obstructed in consequence of inflammation, antiphlogistics are certainly the proper deobstruents; and, accordingly, we see them sometimes have the desired effect in accomplishing a return. But in the present case, where the obstruction is entirely owing to coagulated blood choking up the os uteri, internal medicines cannot have any effect, and recourse must be had to the methods we shall hereafter recommend, when we speak of preventing the fever which may arise from this cause.

When a putrid fever is brought on by the patient breathing and swallowing, &c., putrid air, which surrounds her, the mucus, the bile, and the other juices in the primæ viæ, &c., will doubtless be contaminated; and, unless removed, be a constant fomes to the disease. I have, therefore, when the fever arose from this cause, begun the cure with a vomit, composed of ipecacuan wine and emetic tartar, which also frequently gives more or less stools with advantage: or I have given so much of Dr. James's fever powder as would both vomit and purge; by which means, and keeping the room filled with pure cool air, I have seen a speedy stop put to this disorder. But I apprehend the vomit should be given before the inflammation of the viscera is come on: and if the fever does not give way to these medicines, after they have made proper evacuations, may we not conclude that the disease is deeper seated; that the primæ viæ are not only affected by putrid matter taken in *ab extra*, but that there has been also an absorption of putrid matter from the uterus? Or that the matter taken in by the lungs, &c., has diseased the whole mass of blood, and that immediate recourse should now be had to antiseptics, either by themselves or joined with other medicines, in such a manner as the particular circumstances of the case may require? I have seen women recover of the fever of which we are speaking, after evacuation by antimonials proved insufficient, while they have been taking the antiseptics recommended to them; nor are we, as I can aver from experience, under any danger, in this case, of suppressing the lochia by giving the bark; nor does bark appear to be an astringent, as some have supposed, but produces the effects which have been ascribed to this quality by its immediately invigorating the blood and fibres. These I take to be very different from the effects produced by astringents, which seem to thicken the fluids by coagulation, and to constringe and harden the solids: whence the bark may often be very advantageously given where astringents are

unsafe, as by increasing the elastic power of the arteries, it will at first expel from the blood any morbid matter that is capable of passing through the vessels, which astringents would most likely confine, to the detriment of the patient.

That bark and astringents do produce these different effects, many observations sufficiently prove; and I will mention some, to show that the doctrine advanced is not a child of theory, but deduced from the effects of these medicines upon the human frame, by which alone we can investigate their true nature. For this purpose we will begin with their effects in wounds and ulcers, where the curtain, which mostly conceals the manner in which the body receives assistance from internal medicine, is withdrawn; and we see with our eyes the change the solids and fluids undergo, without being under the necessity of having recourse to conjecture.

If we give bark in wounds, where, from the weakness of the patient, the wound discharges much thin matter, looks pale and flabby, you soon find the matter become thicker, and less in quantity; new ruddy granulations of flesh shoot up, which yields thicker blood, and the patient becomes stronger and fuller of spirits. On the contrary, give alum, Japan earth, or any other powerful astringent, and though the discharge may be lessened, yet the wound remains in the same bad state; the matter discharged is still thin and poor, nor does the patient seem any stronger from the use of the medicine.

If you give bark in lax habits, where the fluids are capable of passing through the small vessels, it promotes sweat. Alum or elixir of vitriol suppress it; and does not the bark successfully promote eruption in all eruptive fevers, where the fibres are not rigid or tense?

But it may be asked, if bark is not an astringent, how comes it to pass that obstructions in the viscera often follow its use? To which it may be answered, that this only happens when the matter already lodged is too thick to pass through the small vessels, and is, therefore, more firmly impacted in them by their diameters being lessened, and by the increased impulse given to the blood. But in the present case, never any impediment of this kind will be met with; as the putrid matter, which gets into the circulation, removes all obstructions, and thins the blood and juices sufficiently to pass the least order of bloodvessels.

Epidemic diseases will, at first, always require their own peculiar medicines; if it be a pleurisy, &c., antiphlogistics, under the regulations mentioned in speaking of an inflamed uterus, will be proper: but supposing it to be of the putrid kind, from the constitution of the air being rendered noxious by putrid effluvia, and the like, can copious bleeding be proper? Will it not accelerate the progress of the ensuing dissolution of the blood, notwithstanding the pulse may be rather full, and seem to point out the necessity of bleeding at first, when the putrid miasma enters the habit? Those who have

taken away blood, in similar cases, have observed that the patient has often become worse after once bleeding; that many have recovered where the lancet has not been used, but few who have lost much by it.

Experience has sufficiently evinced, that clearing the primæ viæ in fevers of this kind, is the first step that should be taken, and, therefore, antimonial vomits, proportioned to the situation of the patient, or antimonial fever-powder, which purge and vomit, ought to have the preference; and when the colliquative looseness and symptoms of putridity, usual to childbed fevers, appear, the antiseptic method already chalked out may take place.

Some years ago, an erysipelatous sore throat, accompanied with an efflorescence, prevailed in my neighborhood, and several women in childbed were seized with the disorder. If they were treated in the beginning with medicines proper for an erysipelatous fever, an end was several times, within my own knowledge, put to the complaint; but when it was neglected in the beginning, it soon became putrid, and required the antiseptic remedies mentioned. The same may be said of fevers arising from taking cold in childbed.

Case XVI.—A woman got up the second day after delivery, sat several hours in a cold, damp room, and found herself chill before she returned to bed; a severe rigor and a fever followed, but upon taking some doses of Mindererus's spirit, a plentiful sweat broke out, and she recovered; whereas, had not the disorder been thus removed, it would, in all probability, have degenerated into a putrid state, and required a different kind of treatment. But I always find when the woman has undergone the change so often mentioned, the disease requires no particular treatment, unless it be on account of the weak state of the patient; and that the remedies which are found most successful in similar cases, are here properly adapted, as Case VIII. sufficiently points out.

According to the order we have laid down, the cure of the milk-fever, arising from the coming of the milk, should next be considered; but it only remains for us to observe, that when drawing the breasts cannot take place, the lymphatic vessels, if possible, should be kept in a state capable of immediately carrying the milk back again into the blood; but when this is not accomplished, and the breasts become hard, inflamed, and painful, I would recommend the application of linen cloths, wet in cold-drawn linseed oil, having for several years seen it, in this instance, produce remarkably good effects. I think, too, we may observe, that milk-fevers are not so commonly mortal as has generally been believed; and that many deaths have been charged to this which ought to have been placed to another account. We have already observed that milk cannot produce a fever till it is secreted, and that a non-secretion of this fluid is not likely to be attended with bad effects. And do not daily instances prove, that after it is secreted, if the lymphatic and other

vessels of the breasts are preserved in a state capable of performing their office, it is soon, where the breasts are not drawn, carried back into the blood, without producing the least alteration or inconvenience? Probably this is because it does not remain long enough in the breast to undergo any change; and what reason is there to suppose that pure milk will do more injury, thus absorbed, than milk which is daily absorbed from the intestinal lacteals?

However, it is possible that the fever, which comes on from the breast, being tense and painful, may, if suffered to rise very high at this time of lying-in, end in death; but we see it very seldom terminate thus unfavorably, suppuration being the common consequence, where the inflammation is obstinate and great. More dangerous seems to be the preternatural fever, arising from an absorption of milk, which has become acrid by stagnating in the breast, especially where the quantity is large; yet, even in this case, the very disease itself preventing a supply of the materia morbi, by suppressing secretion, nature frequently throws off all the offending matter in a few loose, green stools, and the patient recovers.

Nevertheless, when this evacuation does not happen of its own accord, a gentle purge should be given, which, with the assistance of the ter. fol. tart. essence of antimony and the compound powder of crabs' claws, is commonly sufficient to carry off the disease. But when nature is not so friendly an assistant, and art is not used to carry off the offending matter, this preternatural milk-fever sometimes ends more unfortunately, by abscesses in the groins, or other parts of the body, after the patient has continued ill with frequent rigors a considerable time. Nor would it be at all surprising, if a worse event should be the consequence; for though a small quantity of acrid matter only get into the blood, yet if it does not soon pass off by some of the secretions, it may contaminate the whole mass, and be the source of various disorders. However, my recollection does not furnish me with one instance, where death has in a short time been the consequence of what might truly and properly be called a milk-fever: it must always be preceded or accompanied with tumour or inflammation of the breasts; and who can say that he has frequently seen an acute fever, which came on in consequence of these causes only, end speedily in death?

The fever which happens to women in this situation, from a retention of excrement, simply considered, I believe seldom proves fatal, unless neglected, because it does not take place till they have nearly undergone that change which renders them less liable to danger; but I will give a late instance to explain this matter.

Case XVII.—A young woman of her first child had a lingering, but in the end a good labour: she slept well afterward, and at the end of the fourth day she had milk in plenty, and yet at ten days' end I was desired to see her, because her milk had perfectly disappeared, and she was become delirious by a fever.

Everything considered, it was evident that the whole mischief arose from her not having a stool since the time of her delivery; but though the milk was entirely gone from the breasts, yet the glands were in a very different state from those women where the uterus is concerned: for instead of being flabby, and without the least fulness, they appeared to have done their office, by being uneven and still enlarged.

I immediately ordered clysters, which procured two hard stools; afterward she took castor oil, till she purged, which abated her excessive heat, and made her more sensible. But her fever and delirium did not entirely leave her for four days, from first seeing her, notwithstanding she took saline medicines, and was purged with castor oil two or three times in twenty-four hours. Yet by persisting in this method, keeping her cool, and allowing toast and cold water, she got perfectly well, and after some time was able to suckle her own child. However, had so high a fever arisen before the coming of the milk, and the natural evacuations had been completed, it is very probable it would not have terminated so much to the patient's advantage.

I have often seen the fever arising from this cause end in a different manner; for after a loss of milk, having a pain in the belly, being remarksbly full of wind, with the abdomen and its contents very much relaxed and enlarged, upon giving a warm clyster or two, an œdematous swelling has appeared in one or both legs, the fever has disappeared, and the patient has afterward been cured by the bark and proper topical applications.[1]

Hitherto, then, we have considered the different causes of puerperal fevers simply, as they have chiefly happened in our practice; but they may often be combined in such a manner as to require different kinds of treatment from that which would have been proper, if one disease only had been the fomenter of the fever. For instance, suppose a woman in childbed already having an inflammation of the uterus, or of the abdominal viscera, should be seized with a pleuro-peripneumony, from the cause we shall hereafter speak of,[2] would not a greater freedom in bleeding, purging, and the antiphlogistic method be indicated? On the other hand, if instead of an epidemic disease, which brings on inflammation by thickening the blood and distending the nerves, the putrid miasms of an hospital were to be inspired and absorbed, where the patient has an inflamed womb, should not these evacuations be used with more caution? Or suppose putrid blood to be lodged in the uterus, would not a putrid atmosphere increase the disease, and render the cure difficult? Would not copious and repeated bleeding, in this instance, be a

[1] An œdema of one or both legs, occasioned by a sudden translation of matter from the habit, is not uncommon in the third or fourth week of lying-in, where the patient has had a slow fever, probably in consequence of some morbid alteration in the juices taking place during this period, either from an absorption of acrid milk or other matter; but all the cases I have seen terminated in favour of the patient by the above method.

[2] See chap. iii.

horrible practice? From the whole I would infer, that no fixed rule can be laid down for the cure of any kind of puerperal fever, that different causes will always require different treatment; and that, if one method only is used for all kinds of childbed fevers, death, more frequently than a recovery, will be the consequence of medical assistance.

CHAPTER III.

ON THE METHODS OF PREVENTING CHILDBED FEVERS.

THERE is not anything, perhaps, which can exceed the pleasure of relieving the miseries of mankind, except that of preventing them; and this part of the physician's duty is more immediately the object of his concern in the present, than in any other case, because the patient frequently puts herself under his care, previous to her indisposition, in hopes of being conducted properly through her labour and lying-in: and for this purpose, it is necessary he should guard against every accident that may bring on future danger or inconvenience.

Much has already been said by other writers on the general methods of preventing the fevers which may happen to women in childbed; nor has the means of hindering the coming of the milk from bringing on a fever been less noticed; and, indeed, Mr. White has so nearly exhausted this subject, that room is only left for us to enforce a few particulars which have not been so fully insisted upon.

From what has been said, it appears that the seeds of the puerperal fever, arising from an inflammation of the uterus, may be laid even before the time of labour; and, therefore, if the patient is strong and so full of blood as to occasion a distension and uneasiness, the practice of emptying the vessels by bleeding, as the case requires, may frequently hinder uterine irritability from degenerating into inflammation. A state of costiveness is contrary to nature, and may be productive, not only of inflammation, but of so many other ill consequences, that it is unnecessary to use any fresh arguments in favour of keeping the body in a natural state. A cooling diet, too, will much contribute to prevent inflammation; and if any febrile symptoms arise, the saline antiphlogistics must take place, because those medicines which are capable of removing uterine inflammation, when it exists, are most likely to prevent it.

The same process we see from Case II. must be followed, if the symptoms of an inflamed uterus present themselves during labour; and we will give the following instance as an evidence in favour of such proceeding:

Case XVIII.—A woman, at her full time, was seized with a most violent excruciating pain in her back and thighs, which had remissions, but never went entirely off. Being costive, a clyster was administered, and after it had worked, a dose of laudanum, but without any advantage, for next morning the pain seemed to be more agonizing, and so violent, that the woman thought she could not survive it many hours, and what was worse, we had not yet any signs of true labour coming on.

Her pulse this morning was become quick and rather hard; and upon inquiry, I found the os uteri in an extreme degree of irritability, wherefore ten ounces of blood were immediately taken away, and another clyster given; but though it procured two stools, the patient was no easier, upon which an ounce of Glauber's salts was given her, from which she had four or five stools and some relief. This intention being pursued by her taking regenerated tartar, essence of antimony, and four drops of laudanum every three or four hours, after four or five repetitions, though it abated, it did not entirely take away her spurious pains; and her pulse being still quick, and rather hard, eight ounces more blood were taken away. Soon after, true labour-pains coming on, she was delivered of two children, and afterwards recovered without the least interruption. We here may observe, that when delirium or convulsions come on previous to or accompanying labour, from this cause, the same method must be pursued; but when they arise from spasmodic irritability, opium[1] is the cure.[2]

If the uterus, then, is sometimes so very irritable during pregnancy as easily to degenerate into inflammation, the accoucheur should not be over officious, during the pains, in dilating the mouth of the womb, to hasten labour, lest he bring on the disorders we have been endeavouring to avoid; nor can we imagine that any, except the very ignorant indeed, will endanger the bringing on a fever, by heating the patient with spirituous liquors, or the like. We should always remember that parturition is the work of nature, and when the child presents itself right, and meets with no remarkable impediment, he certainly acts most consonant to right reason who leaves the most to her care; she generally, in due order of time, will even surmount most difficulties which do not arise from a very unnatural position of the child.

Indeed, I have often wondered how so vile a practice as that of

[1] We would be understood to mean, that opium proves a cure in this instance by lessening irritability, till the irritating cause is removed by the delivery of the child, in the same manner as it cures a fit of the gravel by taking off spasms and lessening irritability, till the gravel has passed through the ureters into the bladder. But by calling to mind the tetanus in Case V. [of the original], we see, after the brain is become diseased, that spasmodic irritability is not always cured by removing the cause which first brought it on; that opium only then mitigates the symptoms, and that other medicines, of which we have spoken, are to be applied to for accomplishing the cure.

[2] We are not to forget, when this method does not relieve the patient, that the Case at page 233, note, was cured by extracting the fœtus.

introducing the hand into the uterus immediately after the birth of the child, to extract the placenta, should ever have taken place; and why it should have been imagined that nature, who we see generally brings this great work to perfection in all other creatures, even in the smallest insect, should be more deficient in carrying it on in that species for which the world was created. Nor is the structure of the uterus less wonderful than the rest of the creation; being formed to dilate as the fœtus increases in size, and to contract immediately after its delivery, for expelling the secundines. Is it not, then, the highest absurdity even to think of rendering this design useless, by forestalling nature, in tearing away the placenta before this contraction can take place? There can be no doubt but more danger is to be apprehended from a hasty bringing away the placenta, than

The next page should have been printed 265 *instead of* 285. *The text continues regularly.*

always able of herself to complete this work; she is liable to accidents, and sometimes requires the assistance of art. We might as well suppose that a cross-birth would be brought to a happy issue without art, as that nature should, under certain difficulties, deliver the placenta; and yet if it does not come away in proper time, a putrid fever will frequently be the consequence.[1]

When, therefore, the after-birth is not delivered by nature in due time, we are to consider the case as preternatural, and inquire to what cause the obstruction is owing. If we discover that a spasm of the uterus is the impediment, we may remove it by opium, or still commit the whole to nature, because spasms will, of course, go off, and a delivery of the placenta will follow, or, at least, it may then readily enough be brought away by the common method; whereas the force necessary to overcome the contraction while the spasm lasts may be so great as to injure the uterus and occasion a fever.

Case XIX.—I was called to deliver the placenta in a woman

[1] Other ill consequences follow a retention of the placenta. See Mr. White's cases in his Treatise on Midwifery.

whose child had been born half an hour; and upon inquiry, I found the os uteri contracted round the umbilical cord within the breadth of a shilling. In endeavouring to introduce my fingers through this passage, to come at the placenta, instead of dilating, the parts contracted with such force upon them, that I thought it prudent to desist immediately, and having no laudanum with me, committed the whole to nature, who in an hour or two afterward accomplished her work, without any violence being used.

However, if the contraction will readily give way to a gradual dilatation, so that the hand may be admitted into the uterus without great force, the placenta may, for the most part, be extracted without injury, because when the closing of the uterus has so far taken place, it is mostly loosened; and nature having done this part of her office, it will be brought away without danger of leaving any part behind. The same may be said when the uterus does not contract sufficiently to expel the placenta.[1] And the case is still less liable to hazard if it is only retained in consequence of coming double; but the greatest hazard of all is, I believe, when the placenta grows to the womb.

Case XX.—I was called to give my assistance in bringing away the after-birth; but upon my arrival I found the woman dead, the uterus inverted, and, I believe, without any violence being used, because it was brought down by pulling at the umbilical cord, which was very small, excessively tender, and would certainly have broken if the force had been great. I was desired to examine this case, and found that the placenta and uterus, which had passed the vagina, were so firmly united that it was impossible to separate them, with the utmost deliberation, without lacerating the placenta, and leaving part of it still joined to the womb. The question is, whether, if the uterus had not been inverted, she would not have died in bringing part of it away? and whether this is not sometimes the unavoidable cause of fevers, and death in childbed women? If, in such case, the whole after-birth is left, the consequence is still more likely to prove fatal, as there will be a greater degree of putrefaction; and, therefore, removing as much of it as possible in this instance seems, of two evils, to be choosing the least.

In very quick labours, where there is a large quantity of water discharged, an immediate pressure upon the abdomen may frequently prevent the ill consequences heretofore mentioned as arising from that cause; and for this purpose, I commonly direct the woman herself, or some assistant, to make a moderate pressure with her hands for a time, and afterward apply a bandage round the waist for the same purpose. This, I know, by many modern writers stands perfectly condemned, because a tight bandage does harm: but I find it so general a practice in the country, among all kinds

[1] For instance, in flooding cases.

of people, without inconvenience, that I am fully convinced the outcries against it are merely the offspring of an ill-founded hypothesis; for though a tight bandage certainly does harm, yet it does not follow but that moderate pressure will do good. In wounds, a proper degree of pressure prevents inflammation, which would make its appearance where the bandage is too tight, or where there is no bandage at all.

Some, I find, apply a piece of flannel under this bandage, in hopes of making the abdomen perspire; and from the observations I have made, I think women who sweat freely after being laid in bed, recover much quicker than those in whom this evacuation does not happen; which is probably owing to a free circulation being by this process accomplished, through the small vessels of the viscera. It must, therefore, be of great consequence in the present case, and when it does not come on after being laid in bed, by the common diluting liquors, the sp. minder. will, in all probability, both render the vessels pervious, and promote a sweat; therefore, in very quick labours, it seems to be no bad practice to have immediate recourse to this medicine.

However, long-continued sweating is as bad as not sweating at all, since it weakens the patient; therefore, when the sweat, which spontaneously comes on, or is brought on immediately after delivery, is gone off, it is never necessary to renew it, except from accident. Nor should we heat the patient much, in hopes of promoting this evacuation, as the sweating point does not exceed the natural heat many degrees.[1]

If costiveness is alone capable of bringing on a fever (see Case XVII.), it should always be avoided in the puerperal state, and particularly under the present circumstances; indeed common sense has at last got the better of the unnatural method of suffering, or rather wishing, women to remain five or six days succeeding delivery without a stool. This, it is well known, is abundantly sufficient to create a fever, even in a person in health. But seeing that loosenesses in childbed, which ended in death, were easily brought on, people ran into the other extreme, and occasioned a disorder equally dangerous with that they endeavoured to avoid. Nevertheless, women in this situation should be purged with caution; for, as has been already observed, their bowels are much more irritable than at any other time; even to that degree, that food which before agreed very well, now purges the patient. A common saline draught will frequently act the part of a smart purge; so that if they have not natural stools, our remedies to procure them should be of the mild kind: accordingly, we find the practice of giving milk and clysters occasionally is sufficient for the purpose, without the danger of having a violent effect.

I have observed, if blood lodges and coagulates in the uterus, it

[1] See Alexander's Experiments.

mostly happens when the placenta comes away, before the uterus has had time to contract; which is another proof that we should not be over-hasty in delivering it. For when the uterus is sufficiently closed, the coagulated blood and the placenta are both pressed out together. However, in moving the patient to her own bed, after she has recovered her spirits, I always direct her assistants to raise her up a little, or, if she is able, that she should walk a few steps; as by thus stirring her about, whatever blood may have lodged is commonly discharged. Nor do I approve of the practice of entirely suppressing after-pains; for being kept within due bounds, they seem to me to be as necessary for the expulsion of the after-discharge as labour-pains are for the delivery of the fœtus.

Every person whose business requires him to attend lying-in women, must have observed, where there has been little or no discharge of the lochia during lying in bed, for two or three days, that in consequence of occasionally getting up, or moving into an erect posture, large coagula of blood have been discharged by their own weight, and all has gone on well. Therefore, when we suspect coagulated blood to be lodged in the uterus, a day or two after delivery, the patient should sit up in bed, or even be carefully gotten up, if necessary; by which means I have seen future mischief prevented by the coming away of the coagula. Some advise pressing above the os pubis for this purpose, and it may probably do the business, but one or both of these methods should be used; for though we allow that coagula forming in the uterus is merely accidental, yet accomplishing their discharge by these simple means will frequently prevent the death of the patient.[1] So, also, may keeping the patient cool and clean; for I observe the brown ichor which finishes a regular discharge of the lochia, never brings on a fever when it is timely removed, and the patient breathes a pure cool air; I therefore apprehend the very great degree of putridity to which this matter arises is chiefly accomplished by heat among the linen after it is discharged, and its producing bad consequences may always be avoided with care.

The breasts, too, should not only be drawn, to prevent a fever from the coming of the milk, but if they are filled with milk previous to the onset of a fever, they should immediately, upon its first appearance, be emptied by drawing them, to prevent its becoming acrid, and being absorbed. If the fever does not rise so high as to suppress entirely a further secretion of this fluid, care should be taken, for the same reason, that as little of it as possible returns, when altered, into the blood, as it would probably aggravate the disorder.

[1] Some advise the warm bath as an expedient in this case; but whether from experience or the reasonableness of the practice, does not appear. It should be remembered that heat and moisture promote putrefaction; but never having tried it myself, under these circumstances I cannot speak for or against it. The method of dilating the os uteri to discharge coagulated blood, as some advise, cannot with propriety be proposed while the patient seems indisposed; and when the fever comes on it will be too late.

In regard to hospital or epidemic fevers, they are both prevented by the same means, if they are both of the putrid kind; and there has been so much said to the purpose about preventing putrid fevers by various writers, that it is unnecessary to enter any further into this subject; unless we observe, that when an epidemic disease, though it brings on a fever, is not of the putrid kind, filling the room constantly with cool, fresh air, without first correcting it, is not always safe or useful. Some years ago, during an excessively cold north-east wind, many people were seized with an inflammatory rheumatism, accompanied with an inflammation of the lungs and pleura, and a violent fever. Lying-in women, in particular, shared the fate of their neighbours. And would not a free admission of such kind of air to the patient have been detrimental without first correcting it by fire? which instance we mention, to show that no general rule can be laid down for preventing fevers in lying-in women, except that the prescriber should have a general knowledge in the science of medicine; so that instead of pursuing one road, he may be able to vary his way, as particular circumstances require.

AN ACCOUNT.

OF THE

PUERPERAL REMITTENT FEVER.

BY DR. BUTTER.[1]

CHAPTER I.

THE DESCRIPTION AND PROGNOSTICS OF THE PUERPERAL REMITTENT FEVER.

On the second or third day after delivery, whether of a ripe or unripe child, and sometimes a few days before such delivery, the woman, when exposed to febrile causes, is seized with a cold fit, which is succeeded by headache, giddiness, noise and throbbing of her ears, oppressed breathing, sickness, faintness, great dejectedness, pain and soreness of the belly, heat, thirst, and other feverish symptoms: at this time the body is generally costive.

The pain in the head is chiefly over the eyebrows; and it is commonly exasperated by attempting to rise from the pillow.

Giddiness is not a constant symptom; nor is the throbbing noise of the ears observable in every case.

Though delirium is a rare symptom, yet it sometimes occurs even in cases which end favourably.

The woman is much harassed with watchfulness, and her sleeps, or rather slumbers, are broken and disturbed.

The face, though sometimes flushed, is generally pale, and devoid of that look which is observable in feverish disorders.

The tongue is moist, and seldom very white.

The breathing is generally affected with a straitness, and sometimes with what the patient calls a weakness; which symptom is in proportion to the fulness or pains of the belly. This complaint, though very troublesome to the patient, is not very obvious to the bystander.

Sickness is a common symptom, and the patient often hawks up great quantities of tough phlegm, and sometimes vomits phlegm and bilious stuff.

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[1] [An Account of Puerperal Fevers as they appear in Derbyshire, &c. By William Butter, M.D., F.R.C.P.ED. 1775.]

Great faintness, dejection, and despair of recovery are the constant attendants of this fever.

The belly is often large, though soft; sometimes it is large, with a degree of general or partial hardness; and frequently, as to its external appearance, it is quite natural.

The pains of the belly, and soreness of it to the touch, are sometimes from the navel downwards; but more frequently they extend all over the belly. The patient calls these pains aching, sometimes griping, and sometimes bearing-down pains.

Wind is always a troublesome symptom; it often makes a roaring noise in the bowels, and when discharged either upwards or downwards relieves both the breathing and the abdominal pains.

The woman frequently complains of an uneasy heat in her stomach and bowels, which extends even to her throat.

The milk generally leaves the breasts.

The lochia sometimes stop on or before the commencement of the fever, but most commonly that discharge continues its usual course.

The urine, in some cases, is deeply saturated, but in more it is slightly tinged.

The urine, when deeply saturated, generally breaks either not at all, or but slowly; and sometimes retains, in a great measure, its colour, even after depositing a copious sediment with a pink surface.

The urine, when slightly tinged, often becomes turbid, nearly as soon as made; and in less than half an hour drops a crude gray sediment. This kind of urine, as often as it occurs, is a certain criterion that the fever is of a putrid nature.

The urine is sometimes scarce; for the most part it is sufficiently copious.

The urine by its quantity sometimes increases the faintness, oftener relieves all the symptoms, but is never critical.

The stools are dark, slimy, clotted, very fetid, and often froth and ferment like barm; they always give great relief to the patient, and are the only salutary crisis of the puerperal fever.

Worms, either alive or dead, frequently come away in the stools.

The external heat of the belly and groins is often very great, while, at the same time, the rest of the body is little warmer than natural.

The skin is generally moist and soft.

There is a very great lassitude and debility, in consequence of which the woman, for the most part, prefers a supine posture.

The pulse is low, small, sometimes sharp, and generally beats about a hundred and thirty pulsations or more in the minute during an exacerbation.

There is, in some cases, an offensive smell about the patient, unless the room be kept cool, the linen often changed, and sometimes the whole bedding.

Sometimes the breasts are swelled, hard, and very painful, and and sometimes the womb is affected with inflammation; but both cases are accidental, and not necessarily connected with this fever.

There is an irregular, feverish exacerbation once or twice a-day, and sometimes oftener. This paroxysm is preceded by a violent rigor, much oftener by a chilliness without tremor, and sometimes the hot fit comes on without any sense of coldness.

These exacerbations are usually terminated by sweats, which are sometimes partial, sometimes general, but never critical, and tend more to debilitate than relieve the patient.

All the symptoms are increased during the feverish exacerbations.

The length of this fever is various; sometimes it terminates in a week or ten days, sometimes it lasts three, four, or five weeks, and, in some rare cases, much longer.[1]

The Prognostics.—A belly naturally large and pendulous is always an unfavourable circumstance in the puerperal fever.

On the contrary, a small belly contributes greatly towards a speedy and successful issue of this disease.

If the patient hath lived sparingly, and hath had regular stools during pregnancy, those circumstances tend to render the puerperal fever mild and of short duration.

If, on the contrary, the woman hath lived luxuriously, and hath also been costive during that period, we may justly expect that the fever will at least have a longer course.

A sickly season adds both to the danger and frequency of the puerperal fever.

If the feverish exacerbations are mild, and preceded by little or no coldness, if the belly is soft and not large, and if the urine is pale, and soon drops a sediment,[2] there is reason to believe that the disease will not only end soon but favourably.

If, on the other hand, the rigors are violent and return often, if the exacerbations run high, if the belly is large and hard, and if the urine continues deep coloured even after dropping its sediment, there is room to fear that the recovery will at least be slow.

If the stools are daily acquiring a more natural appearance, while, at the same time, the urine grows pale in the same proportion, and its sediment whiter, there is a great reason to expect a favourable and speedy termination of the disease. Under such circumstances, urine even as limpid as spring water is a very good symptom.

While the stools continue foul, and the urine deeply saturated,

[1] [I confess I have had some doubts as to the propriety of inserting this treatise in this place, the disease described being so different, so much milder than that described by the previous authors, as scarcely to deserve the name of puerperal fever. However, I have certainly seen cases myself in which the more prominent symptoms were referable to the gastro-intestinal mucous membrane, and which proved fatal, with but slight evidence of uterine or peritoneal affection. On this account, and as showing that the type of puerperal fever is far from uniform, as the earlier writers thought, I have determined to let it stand.—Ed.]

[2] Though I have shown that urine which quickly drops a crude gray sediment indicates putrescence, yet I make no use of this sign in forming a dangerous prognostic; having always found putrid fevers, if not complicated, as curable as any other fevers whatever.

even after depositing its sediment, the prospect of a recovery is not only distant but doubtful.

If the urine continues high coloured, notwithstanding that the stools become more and more natural, the impending danger is great.

Sweats, however general, and in what degree soever, without other concurring circumstances, cannot be regarded as a symptom of recovery.

If this fever is attended with a looseness, it will, other circumstances being equal, terminate sooner than when the stools are more sparing.

I add no more on this head, because I profess to write from experience, without copying in the least from other authors. I shall, in the following chapter, inquire into the causes and nature of this noted fever. Perhaps it will be found that the true reason of the great diversity of opinion on this subject is, that the case is too obvious, and, at the same time, apparently too simple to be capable of producing such dreadful conseqences.

CHAPTER II.

OF THE CAUSES AND NATURE OF THE PUERPERAL REMITTENT FEVER.

Pregnancy seems to add greatly to the natural sensibility of the female constitution. At this time women are uncommonly affected with certain odors, have great dislike to particular articles of diet, are distressed with groundless fears, and are often subject to a train of nervous symptoms, which, at other times, they are strangers to: all which circumstances can, in no respect, be accounted for so easily as from morbid sensibility. And this very weak and mobile state of the nervous system is much increased in childbed, on account of the considerable loss of blood and other humors.

During gestation the appetite, for the most part, is keen; while, at the same time, every appearance gives proofs of a bad digestion. This indigestion is increased by improper food, which the woman too often hankers after, and by the indolence inseparable from her condition. Beside, the course of the bowels being interrupted, costiveness generally prevails. On all these accounts, the first passages are loaded with impurities, which, the longer they stagnate, become of so much the more acrid and septic a nature.

Having, therefore, found great weakness and irritability, the common predisposing causes of all fevers, as also a morbid accumulation in the first passages, which is a very common exciting cause of such disorders—I say, having found all these causes eminently to concur in the puerperal state, we can readily account for the

danger attending childbed, and why women are so apt at this time to have fevers, which too often prove fatal. In most cases, however, the balance between these causes is so even, that, if the woman is managed with proper caution, she will, notwithstanding, escape all feverish ailment, and have a good recovery. But if, from the least error in the non-naturals, one or all of these causes are aggravated, a fever will inevitably be the consequence. It must, however, be allowed that it sometimes happens that no precaution used upon delivery can prevent this fever. This chiefly is the case when the intestinal accumulation, from a peculiar state of the air, is become so highly putrid, as to be able of itself to kindle up the disorder.

Fever is so far from being unnatural to the human constitution, that it attends us, and for the best purposes, both in sickness and in health. Digestion is always carried on by a degree of fever. When the body is in health, this is not otherwise perceptible than by a slight chill, and an inconsiderable quickness of the pulse. But in a morbid state, even this dietetic fever becomes a disease, and not only aggravates every feverish symptom, but will of itself often bring on a considerable fever. Hence it is, that no precepts in the records of physic have been longer or better established than these: that patients should be fed with the weakest and most fluid aliment during feverish exacerbations; and that patients greatly reduced by any disease, must be nourished by the lightest and mildest food.

Whenever, therefore, the stomach of a woman in childbed is oppressed by improper food, the dietetic fever is greatly exasperated, the stomach and intestines are spasmodically affected, and the whole body is drawn into the same affection from sympathy. The fever thus produced increases the acrimony of the intestinal accumulation, and thereby generates, as it were, a fuel to support itself.

This only accounts why improper food should bring on a fever; but every other error in the non-naturals will have the same effect, at least ultimately. But whatever be the exciting cause, this fever will always begin at the first passages; these being chiefly aggrieved, as being the most irritable part, and as being the most likely, from extensive nervous communication, to affect the whole system.

From what hath been said, I conclude that the proximate cause of the puerperal fever is a spasmodic affection of the first passages, together with a morbid accumulation there; and upon this supposition all the phenomena are easily to be explained.

Headache, giddiness, tingling of the ears, and even delirium, often arise from an affection of the first passages; and this is always the case in the pure puerperal fever.

The difficulty of breathing is owing, in this fever, to the same cause.

Chilliness, dejection, faintness, and sickness are symptoms peculiar to the first passages, and are, in the present case, commonly

in proportion to the quantity or quality of the intestinal accumulation.

Uncommon heat of the belly, either externally or internally, is easily understood from this idea of fever.

As the lochia, in general, observe their natural course, the womb is not necessarily affected in this fever; but if the woman hath bearing-down pains, we are led to suspect something extraneous in that bowel, as clots of blood, or some relics of the after-birth.

When the urine becomes turbid almost as soon as made, and in less than half an hour deposes all its colouring matter, it is a pure intestinal symptom.

The urine, however high coloured, if it is not diaphanous, and provided that it deposes the whole of its contents, is an intestinal symptom.

But high-coloured, muddy urine, with partial or no separation, indicates, besides intestinal accumulations, an immediate affection of some of the viscera.

From what hath been said, we see why a crisis can never be expected by sweat or urine; and when these excretions accompany, in any remarkable degree, a favourable termination of this fever, they can only be considered as the effects, not the causes of recovery.

This fever will be uncertain as to its duration or event, according to the quantity or quality of the morbid cause.

If there is but little accumulation in the intestines, the fever, other circumstances being equal, will be milder, and will terminate sooner, than when there is a great deal.

If the disease is attended with a looseness, it will, other circumstances being equal, terminate sooner than when the stools are more sparing.

When the belly is large and hard, as there must be a great accumulation, the cure will at least be tedious.

When the belly is, in general, soft, but with partial hardnesses, there are, probably, very hard viscid accumulations, which must indicate a slow recovery.

If the external marks of intestinal congestion be attended with severe febrile exacerbations, and a high-coloured urine with slow or partial separation, we must conclude that the fever is not simple, but complicated with other visceral affections.

When a peculiar state of the air, a neglect of cleanliness, or other causes conspire to promote a great degree of putrefaction in the bowels, the disease will be very dangerous, and soon end fatally; as the whole habit must be tainted, and some parts absolutely corrupted, by the intestinal putrid fomes, long before it can be carried off by any degree of purging consistent with the strength of the patient; for such are the convolutions and length of the intestinal tube, and such the clotted and viscid nature of its contents, that considerable accumulations cannot generally be carried off in less than three or four weeks, and sometimes not so soon.

When there is an offensive smell about the patient, we have reason to suspect that there is a great tendency to putrefaction in the humours; but we are certain that this is the case when the urine drops a crude gray sediment. However, in many cases of this fever, there are no symptoms of putrefaction. As it is a remittent fever, it will be allowed, of course, to approach very nearly to the nature of an intermittent. I therefore consider this as a strong argument in proof of what I have advanced in another work, that all intermittent disorders have their seat in the intestines. And as this fever, through continuance, but more readily from other causes, becomes highly putrid, the notion of a putrid disease being produced in the guts is thereby illustrated and enforced. Indeed, were this a proper place for such a disquisition, I could advance many arguments to prove that all fevers originate in the stomach and guts; or, in other words, that fever is nothing but an assemblage of symptoms depending either immediately or mediately on the stomach and guts.

This puerperal fever is so far from being of a peculiar nature, that it is exactly analogous to the worm fever so fatal to children. The pains of the head and belly are not only common to these two disorders, but, if I mistake not, to some others also of the febrile kind.

Finally, after what hath been said, all inflammatory symptoms must be considered as a complication, and by no means as essentially constituting any part either of the cause or nature of the puerperal remittent fever.

CHAPTER III.

OF THE CURE OF THE PUERPERAL REMITTENT FEVER.

It hath been too commonly the practice to lay down methods of cure with great parade, mustering up as many indications as possible. For my part, I think no cure can recommend itself so much as by its simplicity; and I could wish to see the time come, when the indication should oftener lie only in the remedy. Considering that this is the natural method, and that it hath been adopted by the Chinese for ages, it might seem wonderful that attempts of this kind should not be received with more general approbation, did we not know that this hath always been the fate, at least for a time, of even the most interesting innovations.

This simple or specific method is of all others the most perfect, and the only natural one; for it acts immediately on the whole proximate cause, by which means the disease is not only soon eradicated, but every symptom is daily mitigating during the whole pro-

gress of the cure. This method of treating a disease may be compared to the pulling down of a house by undermining the foundation on which it stands, when, of course, the whole pile at once falls to the ground.

There is a secondary or less perfect method of cure upon which practitioners chiefly depend, and indeed they employ it successfully against many diseases, though they be still at a loss for it in many. It may, however, be discovered in almost all diseases, and a physician ought never to be satisfied at least without it, as he may be certain that he is otherwise in the dark, and cannot practise either with credit to himself, or advantage to his patient. I have, in my treatise on the Kink-cough, given a *true* specimen of the specific, or most perfect method of cure.[1] I wish I could afford another example in the puerperal fever. However, it is hoped that the cure here described for this disease will properly illustrate or exemplify the secondary or next perfect method. As the one acts upon the whole proximate cause, so the other affects only some particular part or parts of it; which, indeed, in the end, destroys the whole, as a proximate cause cannot subsist independent on any of its component parts. This method may be compared to the usual manner of demolishing a building, by pulling asunder its several walls, roofs, and partitions in succession; the end is commonly answered, but it requires more time, the effect is every way less splendid, and too often the patient enjoys but imperfect health, even after the disease is said to be gone.

Now, as this less perfect method of cure acts only partially on the proximate cause, many symptoms of the disorder will continue very troublesome during a great part of the curative treatment; for this reason such a method can have no fewer than two indications, the principal or leading one, without which no cure can be effected, and a second, which tends more to relieve uneasy symptoms than to expedite a cure, though it must be allowed to have some share even in this. But to come to the cure of the puerperal fever.

There are only two indications. The first or primary one is to promote two, three, or four stools daily, in a manner suited to the strength of the patient and exigence of the case, till such time as they put on a natural appearance. This indication is best answered by a bolus, consisting of ten grains of rhubarb, and as much cordial confection given every night, adding or diminishing a few grains according to the effect. When the bolus fails at any time of its desired effect, it can immediately be assisted by a clyster of a pint of warm water impregnated with a large spoonful of common salt.

The second indication is to be relieve all uneasy symptoms.

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[1] Since the above publication, I have experienced the efficacy of hemlock, as a cure for the kink-cough, in several more instances; and have never yet met with a single one, either of its failure or bad effects. I now double the doses mentioned in the sixth chapter of the treatise; but a particular account of my improvements and success shall be given in the second edition of it.

For the heat, thirst, and scarcity of urine, the following julep will be found very useful:

Take of mint-water, five ounces;
Camphorated julep, two ounces;
Syrup of orange-peel, one ounce;
Pure nitre, forty grains. Mix them.

Of this the patient is to take a fourth part every six hours, and it is to be repeated daily.

With the same views, the patient must drink plentifully of thin cooling liquors, as barley-water and gruel, and she should absolutely be confined to these and small broth by turns, for all her food during the course of the fever; taking this kind of nourishment often, and particularly at those times when she happens to be low.

In case of great lowness, and when the food does not answer the purpose of a cordial, a large spoonful of the following mixture may be given now and then with advantage:

Take of mint-water, seven ounces;
Syrup of orange-peel, one ounce;
Volatile salts of hartshorn, thirty-two grains. Mix them.

If this mixture prove too heating, it may be used without the salt.

Both the julep and mixture, beside answering the purposes assigned to them, often dispel wind, and so relieve not only the breath, but the pains of the head and belly.

If the headache continue obstinate notwithstanding the above means, a blister applied between the shoulders, or to the arm, will always give relief; and commonly, at the same time, procures refreshing sleep.

When the patient is troubled with vomiting or retching, which is a fruitless effort to vomit, she should drink chamomile tea plentifully. If in that manner the stomach seem not to be cleansed, eight or ten grains of ipecacuanha must be given. It is never necessary to give a vomit in this fever till a natural retching or vomiting come on.

When the belly is large and hard, or much affected with pain, the part should be fomented with flannels, wrung out of the common fomentation, for an hour together, at the distance of every six, eight, or twelve hours. The warmth of the cloths should be such as to be quite agreeable to the patient. After each time of fomenting, the belly should be anointed with camphorated oil. This method not only relieves the symptoms mentioned, but by taking off strictures in the bowels, assists the laxative in carrying off the accumulation; and, indeed, for that reason often brings on a looseness. When the stools in that case, or from the bolus itself, or from any other cause, are too frequent, they must be moderated, but not stopped, by giving a spoonful of the following opiate after every loose stool:

Take of spring-water, four ounces;
Proof spirit,
Syrup of orange-peel, each half an ounce;
Laudanum, twenty drops. Mix them.

An opiate thus given, not only moderates the stools, but hath, besides, an excellent effect in procuring rest, which is always very desirable to a weak patient: and particularly in this fever, where watchfulness and dejection of spirits are such harassing symptoms. Sometimes I even promote a stool or two extraordinary, for the sake of giving an opiate in this manner.

When a pain continues fixed and violent in the belly, although the means already recommended have been used, a blister applied to the part will have the desired effect.

Venesection is never to be used in this fever, except it be complicated with inflammatory symptoms; and there is a good rule in such cases for that evacuation. If the pain be inconsiderable but during the exacerbations, you should draw a little blood when it is at the worst. Three ounces will give instant relief; and you may repeat the operation in the same manner every exacerbation till the pain is gone, which will be after two or three bleedings at the most. By this method you will remove the inflammation, and save the strength which is to carry the patient through the fever. It must, however, be remembered, that the inflamed part is to be fomented two or three times a-day; and poultices of bread and milk with oil are to be applied during the intervals. I have seen some instances of this kind where the breasts were the parts inflamed.

But when the pain and other symptoms of inflammation are constant and violent, the lancet must be more freely used. I once met with a complication of this kind, where the womb was the part inflamed. I let blood freely once and again. Fomentations and poultices were constantly applied in succession to the region of the womb. Purgings were used more liberally than if the fever had been simple; and large clysters of warm water were thrown up twice or thrice a-day, to be retained in the intervals. By these means the woman had a very good recovery; and any such complication, especially if taken in time, will, I apprehend, yield to the same method, even at the expense of less blood.

In all cases with inflammation, the general treatment for the puerperal fever must be carried on at the same time.

Rest, quietness, stillness, coolness, and an obsure light, are necessary for this patient. Her linen should often, and the bedding sometimes, be changed. She may be laid in blankets upon a squab every day till her bed is made, but she should scarce ever attempt to sit up in the course of this fever.

After the stools are come to their natural state, and all feverish symptoms are gone, so that the woman complains of nothing but lowness and weakness, she may have her clothes on, and lie upon the bed with a quilt or single blanket drawn over her. At this time she may begin to mend her diet with a bit of bread-pudding at midday. In a day or two she may venture on a little chicken, always remembering to make the best part of her meal of small broth, and rather to eat often than much at a time, and never meat oftener

than once a-day. As the woman gets strength, she will gradually approach nearer and nearer to her natural diet, till at last she come to go abroad, and may then live in her usual manner.

In this convalescent state little medicine is wanted beside as much rhubarb, in the manner prescribed, as will give a stool or two extraordinary twice or thrice a-week. In some particular cases, two teaspoonfuls of any simple tincture of the Peruvian bark, taken every forenoon and afternoon in a cup of chamomile tea, will hasten the patient's recovery to her usual health and strength.

CHAPTER IV.

OF THE METHOD OF PREVENTING THE PUERPERAL REMITTENT FEVER.

THE cure described in the preceding chapter hath never yet failed where the disease was taken in time; for it is proper to observe, that this was generally employed in a simple state of the disease, and that there are many instances of the puerperal fever in which, as every other method hitherto attempted has failed, so, *perhaps*, this also would be found ineffectual. There is no absolute security, therefore, but in prevention.

In order to prevent the puerperal fever we must obviate all known causes; and from what hath been hitherto said, I hope this will be found no difficult task.

The pregnant woman ought to live on a spare, cool diet, and to eat meat only at dinner.

Water, wine and water, or good small beer is the best drink.

She should use moderate exercise in the free air.

She should go to bed at an early hour.

She should never have a fire in her bed-chamber, and every part of her habitation should be temperate and airy.

She should be at great pains to subdue all inordinate passions, and to keep her mind, as much as possible, happy and serene.

She should have a stool every day, by means of a laxative, if she be not naturally regular in that respect. Eight or ten grains of the aloetic pills of the Edinburgh Dispensatory will, in general, answer this purpose well.

This is all that seems requisite by way of prevention during pregnancy.

As soon as the woman is delivered she should be kept still and quiet, as though she were in a fever; and supported, for the first two or three days, with only barley-water and gruel; and then small broth may be added by turns with these for all her food.

The room should be kept cool, by regulating the fire according to the season of the year, and by admitting fresh air cautiously by a door or window from time to time.

The stools and urine, as soon as made, should always be carried out of the room.

All the linen about the woman should be shifted at least every other day.

A clyster of half a spoonful of common salt, dissolved in a pint of warm water and oil, each equal parts, should be given the day after delivery. The bolus, so often mentioned, should be given on the third night from delivery, and repeated every second night, with a view to cleanse the guts.

In a week or ten days all danger will be over.

I know, from experience, that this medicine will have the desired effect in preventing the puerperal fever, that would otherwise be of a mild nature; but when a fever of a very malignant tendency is to be apprehended, some further precaution is necessary.

In such a case, beside a due observance of the rules already laid down, the woman ought not to run the risk of delivery in any place where the puerperal fever is either frequent or fatal. The mortality of this fever in London cannot possibly be ascribed to any other cause than a peculiar state of the air; for no part of the world is supplied with abler or more experienced physicians.

People of fashion, therefore, who would wish to lie-in in London, may fulfil their purpose with equal convenience in some healthful situation within a few miles of that city; they will then be as safe as in any other country place, and beside, will have all the advantages of superior help. I must, however, observe, that pregnant women ought not to think it enough that they retire to the country just at the time of delivery; the last month or two of pregnancy spent in the country would be an excellent preparation for passing safely and easily through the puerperal state.

I hope a proper attention to what hath been advanced in this short chapter will contribute greatly towards preventing a disorder which in no state is absolutely free from danger.

OBSERVATIONS

ON

THE PUERPEPAL FEVER, ETC.

BY DR. JOSEPH CLARKE.[1]

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1. By puerperal fever, I mean a disease which generally attacks women on the second or third day after delivery. Its ordinary symptoms are, a cold shivering fit, acute pain in some part of the cavity of the abdomen, and great tenderness when pressed externally; a rapid pulse; and these soon succeeded by considerable distention of the abdominal cavity.

2. During the puerperal state, symptoms, somewhat similar to these, not unfrequently arise, and continue rather alarming, till the intestines are emptied by purgative medicines. It may be difficult, therefore, in the beginning, to distinguish puerperal fever from accumulations of fæces in the alimentary canal, especially if joined to an ephemera, or weed.

3. When the symptoms (enumerated in paragraph first) continue beyond the period of twenty-four hours, which is the ordinary duration of an ephemera, and after the operation of purgative medicines, I consider the existence of puerperal fever as absolutely ascertained, and it will be found to prove fatal to a great majority of those whom it attacks.

4. A disease is described in the works of Hippocrates, and some other old writers, which, in many particulars, resembles puerperal fever, as may be seen in Dr. Hulme's excellent treatise on this subject. But we have no account of this fever appearing as an epidemic in lying-in hospitals till the year 1746; since which, its frequent occurrence, and fatal effects, have made it an object of very serious attention among physicians; insomuch, that it has of late become the subject of many treatises, both in France and England.

5. It may appear, therefore, superfluous, perhaps presumptuous, in me, to draw farther attention to a subject so hackneyed. I have been induced to do so because the opinions of writers are so widely

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[1] [Observations on the Puerperal Fever, more especially as it has of late occurred in the Lying-in Hospital of Dublin. By Dr. Joseph Clarke. From the Edinburgh Medical Commentaries, vol. xv., p. 299. 1790.]

different from each other, both on the theory and treatment of this fever, that the inexperienced practitioner must be totally at a loss what course to pursue. Besides, in searching after methods of cure, not one of which has hitherto proved even moderately successful, authors have lost sight of, and been almost silent on, the means of putting a stop to its progress in hospitals, or, perhaps, of preventing its existence entirely. With the view of throwing some light on these particulars, the following facts and observations are, with deference, submitted to public consideration:

6. To show the importance, and prove the necessity of such an inquiry, I beg leave to premise a short sketch of the appearance and effects of this fever in hospitals, so far as these are well authenticated. In the Memoirs of the French Academy of Sciences for the year 1746, we are informed that during the winter of that year an epidemical disease was known to prevail, with great violence, among the lying-in women of the Hôtel-Dieu of Paris. In the month of February, of twenty seized with it, hardly one escaped. From the history and appearances on dissection, there can be no doubt this fever was similar to that we now call puerperal.

7. In the year 1760 (which is about eleven years after the first institution of lying-in hospitals in England), the puerperal fever was epidemical in London. From the 12th of June till the end of December, Dr. Leake informs us,[1] that twenty-four women died of it in the British Lying-in Hospital.

8. In the year 1761, Mr. White, of Manchester, says:[2] "A gentleman, whose veracity I can depend on, informs me that he attended a small private lying-in hospital in London, in the latter end of May, June, and beginning of July; during which time the puerperal fever was very fatal there. That, to the best of his recollection, they lost twenty patients in the month of June. They sometimes buried two women in one coffin, to conceal their bad success."

9. In the year 1770, this fever raged violently in several of the London hospitals. In the Westminster Hospital,[3] between November, 1769, and May, 1770, of sixty-three women delivered, nineteen had the fever, and fourteen died, which is nearly every fourth woman.

10. In the British Hospital, of 890 delivered in the course of this year, thirty-five died, or one in fourteen and a half.

11. In a third hospital, which Mr. White has not thought proper to name,[4] during the year 1771, of 282 delivered, ten died, or one in twenty-eight.

12. In the year 1773, the puerperal fever appeared in the lying-in ward of the Royal Infirmary of Edinburgh, of which the late Professor Young gives the following account: "It began about the end

[1] Practical Observations on Childbed Fever.
[2] Treatise on the Management of Lying-in Women, &c., chap. vi., p. 165.
[3] Leake's Practical Observations, &c., p. 241.
[4] Postscript to Mr. White's Treatise, p. 305.

of February, when almost every woman, as soon as she was delivered, or perhaps about twenty-four hours after, was seized with it; and all of them died, though every method was used to cure the disorder. This disease did not exist in the town. I found that the women in the lying-in ward did not recover so well last year as formerly; but scarcely any died. It was this made me think there was a local infection, and determined me to shut up the ward till it could be removed. This I did, after losing six women."

13. In the year 1782, the Royal Medical Society of Paris was ordered, by the King of France, to make a report of a Memoir of the late Dr. Doulcet, containing a new method of treating the puerperal fever. This very respectable society informs the public, that puerperal fever has made its appearance more frequently than ever in the Hôtel-Dieu of Paris since the year 1774, and that it had always proved fatal to every person it attacked. They further report that, in four months, during which this epidemic disease raged with great fury, near 200 women were saved to society by Doulcet's new method of treatment; of the success of which, in this country, we shall give some account in the sequel.

14. In the year 1786, a report was published in Paris, by a committee appointed by the Royal Academy of Sciences, to inquire into a plan of a new Hôtel-Dieu. In this report it is stated that, in the year 1774, an epidemic disease prevailed among the lying-in women, which committed the greatest ravages; that it re-appeared every winter till the year 1781; and that still it prevails more or less in the cold seasons. These facts are taken from Memoirs communicated to this committee by Mr. Tenon; by which it also appears, that all women seized with this epidemic die; and that, of twelve, seven are frequently attacked. Their conclusion is, "l'Hôtel-Dieu donc perd quelquefois plus de la moitié des femmes qui y vont accoucher."

15. The puerperal fever first visited the lying-in hospital of Dublin in the year 1767, about ten years after it was first opened for the reception of patients. From the 1st of December till the end of May, of 360 women delivered, sixteen died.

16. Seven years afterwards, this fever reappeared. Of 280 women delivered during the months of March, April, and May, in the year 1774, thirteen died.

17. From the year 1774 till the year 1787, this fever was unknown as an epidemic in Dublin. From the 17th of March, in this year, till the 17th of April, 128 were delivered in the hospital, eleven of whom were seized with symptoms of puerperal fever, and seven died.

18. In November, 1788, the same fever appeared, for the fourth time, since the institution of the hospital. During this, and the two succeeding months, 355 women were delivered, seventeen were attacked by this fever, and fourteen died.

19. The management of the lying-in hospital in Dublin having

been intrusted to me, during the occurrence of the last two epidemics, my observations will, of course, be principally confined to them; and as my design is not to make an essay on puerperal fever, but to supply some supplementary facts, I hope to be excused for passing over several parts of the subject with brevity.

20. During spring, 1787, the temperature of the air was, in general, very cold, with sharp winds from the east and north-east. Inflammatory diseases were more prevalent among our patients than usual; particularly acute rheumatism. Some were affected with severe pains in the thorax, and difficult respirations. In consequence of these complaints, we were obliged to have recourse to venesection more frequently, during February and March of this year, than during the twelve preceding months.

21. It was a general observation, that our patients recovered slowly; or, to use the language of the nurses, it was much more difficult to get them out of bed than usual. This was peculiarly distressing, as the admission of poor women was now very numerous, probably on account of the severity of the weather. Contrary to our established custom, we were sometimes obliged to put two in a bed, rather than refuse admittance to those who solicited it at our gates.

22. As a considerable time had elapsed since our wards had been painted and whitewashed, I thought it probable that these circumstances might contribute to the slow recovery of our patients. Application was therefore made, in the month of February, to a board of the governors of the hospital, for an order to have the wards repaired. It was apprehended that the expense might be considerable; and the funds of the charity being then low, the secretary was desired to give notice, that he would receive proposals for doing the business by contract.

23. While we were thus waiting in expectation of repairs, the puerperal fever began to make its appearance, and in a very treacherous manner. The first woman was attacked on the 18th of March, and the second not until the 31st; the third, on the 3d of April; the fourth, on the 7th; the fifth, on the 10th; the sixth, on the 11th; on the 14th, two; on the 15th, two more; and one on the 17th. It was not, then, till the middle of April that its progress began to be rapid, and its nature as an epidemic clearly ascertained.

24. The symptoms of this fever corresponded so nearly with what Dr. Hulme has well described, that a very few remarks will suffice on this subject. It always began with a distinct chilliness or shivering. The pain in the cavity of the abdomen was not more frequent in one part than another, nor was the tenderness so great as to be much affected by such trifling causes as the pressure of the bedclothes. Little or no vomiting appeared in any stage of the disease, no delirium, no unequivocal marks of putrescency in any part of the system. The pulse, in general, beat from 120 to 140 strokes in a

minute. The lochial discharge and secretion of milk were not subject to any general law. Sometimes they continued regular for a short time, and sometimes were suppressed from the beginning. They have never appeared to me more deranged in this, than in other disorders where the circulation of the blood is equally disturbed.

25. The appearances, on dissection, of the bodies of six patients who died of this fever, were not materially different from what have been described by writers who have seen the disease in hospitals. In all our subjects, the omentum appeared inflamed, and wasted in substance, but in no instance mortified. I am inclined to think, from numerous observations, that those writers who have described mortification of the omentum, and some other parts of the abdominal viscera, allowed the dead bodies to remain too long after death before they inspected them. In all our dissections, the peritoneum appeared everywhere unusually vascular and inflamed. Next to the omentum, the broad ligaments of the uterus, the cæcum, and sigmoid flexure of the colon seemed to suffer most by inflammation. We always met with more or less of a turbid yellow, and sometimes fetid fluid floating among the intestines; coagulated purulent-like masses, adhesive inflammation, glueing the intestines to each other, &c. In no instance did the appearances of inflammation seem to penetrate deeper than the peritoneal coat, on any of the viscera of the abdomen or pelvis.

26. The most probable supposition which has hitherto been made of the proximate cause of this disease is, that it consists in an inflammation of the peritoneum; and hence, the nosological name of peritonitis has been given to it by Dr. Forster. This hypothesis appears to me to be more consistent with the appearances on dissection, and to afford a more rational explanation of them than has hitherto been given. Why does the omentum appear to suffer more than other parts in this disease? Probably because it is peculiar to it to be composed of four folds, or a quadruple peritoneum; and, of course, it ought to exhibit appearances of inflammation four times greater than parts simply covered by this membrane. Next to the omentum, the duplicatures of the peritoneum are most affected, and especially the broad ligaments of the uterus.

27. Most of our patients attacked in the year 1787 were admitted in a weakly state, or had tedious and fatiguing labours. Four of those who died were cases of first children. Two appeared to be ill during labour, and continued so, without intermission, after delivery. One of them died in thirty-six hours, and the other lived till the sixth day. Three were attacked on the second day after delivery, and died on the seventh, or of five days' illness. One was attacked on the fourth, and died on the tenth. One was very distinctly attacked on the ninth day, as she was sitting by a good fire, and died on the twelfth. Notwithstanding the short duration of this patient's disease, from five to six pounds of a yellow fetid fluid were found

floating in the cavity of the abdomen, and a great deal of adhesive inflammation.

28. The attic story of our hospital, on which all our patients are delivered, is separated into four great divisions, each consisting of a great ward, and two small ones. The former contain seven, and the latter two beds each. To each division a maid-servant and nurse-tender are allotted. I mention these circumstances, in order to render a remarkable fact intelligible, viz., one of these divisions did not lose a single patient by the puerperal fever, whereas the mortality among the other three was nearly equal, though, upon the whole, there was a greater number of women sick in two of these divisions, which have a southern aspect.

29. Such partial distribution of disease, joined to circumstances already mentioned (21, 22), rendered it probable that this fever derived its origin from local contagion, and not from anything noxious in the atmosphere.

30. Influenced by this probability, we proceeded, on the 17th of April, to shut up the two great wards in which disease was most prevalent. The sick contained in them were put into the adjoining small wards, until their fate was determined, and the remainder were put into the opposite great wards. The walls and ceilings of the wards evacuated were whitewashed without delay. The bedsteads and all the woodwork were painted. Everything belonging to the bedding, that it was possible to wash, was scoured, and the remainder exposed for days to the open air. Great fires were kept on by day, and at night the windows were kept open. In this manner, we went round every apartment in the hospital which had been occupied by patients.

31. The consequences of this practice were extremely favourable. From having been most disagreeably harassed by disease, the hospital became remarkably healthy. During the remainder of the year, of 960 women delivered, we only lost three, and two of these bore twins, a circumstance which I have elsewhere[1] proved to lessen considerably the chance of the mother's recovery.

32. During the first ten months of the year 1788, 1,255 women were delivered, of which number thirteen died. As admission was more promiscuous and numerous during this than any former period, many were received labouring under dangerous disorders; and two were actually in a dying state from mismanagement. Under such circumstances, the loss of nearly one in a hundred could not be considered as great. Not one of the thirteen, however, died of puerperal fever.

33. On the 18th of November one woman was attacked with this fever; on the 8th of December, another; on the 21st, two; on the 23d, one; on the 28th and 29th, one each day; on the 31st, one; on the 3d of January, one; on the 6th, one; on the 14th, two; and

[1] Philosophical Transactions, part ii., 1786.

on the 16th, one. Every one of those in which the disease was marked, as described (3), proved fatal; whereas of five cases attacked on the 4th, 7th, 16th, 20th, and 22d, with doubtful symptoms, none died.

34. From the 18th of December till the 23d of January, thirteen women were affected with symptoms of general fever, without any appearance of local disorder in the abdomen. All these continued beyond the usual period of ephemeræ. Two of them only died: one on the eighth, the other on the seventeenth day from the attack. Many of these febrile disorders I was inclined to attribute to the fears and apprehensions naturally excited by the numerous deaths produced by puerperal fever.

35. The symptoms of this epidemic did not differ essentially from that of 1787. In several cases the pain of the abdomen, and consequent tumefaction, were less severe; and hence, probably, it happened that, in some instances, the duration of the disease was protracted to an unusual length. The days of attack were as follow: One, four days before delivery; one on the day of delivery; eight on the second day; and three on the third. Their deaths happened as underneath: Two died on the second day; three on the fourth day; two on the fifth day; one on the seventh day; two on the eighth day; one on the tenth day; one on the eleventh day; and one on the twelfth day.

36. In several of the above cases the stomach and intestines showed very unusual degrees of insensibility to the operations of medicines. One took tartar emetic, in solution, to the quantity of sixteen grains, before it operated as an emetic. Another took forty-five grains of ipecacuanha, in doses of seven grains and a half, every hour, to have a similar effect. Not unfrequently, we were obliged to assist the operation of ipecacuanha, as lately recommended by the Royal Medical Society of Paris, with a solution of tartar emetic. In a few cases, the milder purgatives produced no effect on the intestines; and we were obliged to have recourse to cathartic extract and calomel; to irritating clysters of decoctions of senna-leaves, tobacco, &c. Such insensibility we always considered in an unfavourable light, as marking great derangement in the functions of the nervous system. Some patients, during this epidemic, were affected with delirium before death.

37. It was further remarkable of this epidemic, that the ward exempt from sickness, during the preceding attack, was now one of the most sickly; and one of the most sickly, in the first, was now one of the most healthy, although still under the care of the same nurse-tenders.

38. Having observed, from the historical facts already recited of puerperal fever, that it seldom appeared more frequently in hospitals than once in ten or twelve years, I had not the most distant apprehension of its returning in a space of twenty months. The first two or three cases, happening at distant intervals of time, were consid-

ered as accidental. However, observing the mortality to continue, although slowly, I began to suspect that the beds, from having been in constant use, might have acquired some noxious properties. But as they had been scoured a few months before, I hoped that, by exposing the mattresses to a strong fire, and then to the open air, they might be sufficiently purified. The blankets, quilts, &c., were also ventilated. These measures only served to produce some insidious intervals, during which the disease seemed to abate (see 33). At length, we were compelled to have recourse to the same expensive and troublesome processes of white-washing, painting, &c., as before, and with the same salutary effects. Every symptom of fever subsided, as our patients were received into clean wards. Of 150, admitted after our refit, scarcely one had any serious illness, and we were tolerably healthy during the remainder of the year.

39. The late Dr. Young, of Edinburgh, is the only writer who has recommended measures similar to what we pursued, for putting a stop to the progress of this fever. In a letter to Mr. White, of Manchester, he says: "After losing six women, I then washed and painted the wards, caused all the bedding to be removed, and fired gunpowder at different times in the wards. I had a number of chaffers filled with cinders, which burnt all night, and all the windows were opened through the day. This operation lasted about a fortnight, when I furnished the wards with new bedding, put no curtains to the beds; and, by this, put an entire stop to the disease." Why similar measures have not been practised in France and England, to stop the progress of puerperal fever in hospitals, I am at a loss to explain.

40. The preceding facts appear to me fully to warrant this conclusion, that whenever three or four women die of the puerperal fever within a short time of each other, local infection ought to be suspected to exist, and particularly in the building; and that the most vigorous measures ought to be immediately adopted, in order to destroy this source of the disease.

41. And, to prevent the generation of such infection, I have no doubt that lying-in hospitals, whose beds are in constant use, ought to undergo annually a refit, such as already described, excepting only the article of painting. The bedding of every woman who dies should be instantly carried out and scoured, before it is replaced. Whenever a ward happens to be empty for a day or two, its beds should be stripped, and exposed to a current of air, night and day, instead of the usual practice of covering them up by blankets, &c.

42. Probably, also, a ward more than is actually necessary for the ordinary business of an hospital, might be converted to very useful purposes. It would permit each ward, in rotation, to be in airing (if the expression may be allowed) for a week, two, or three, as might be thought advisable. In this way, the ill effects arising from constant use might probably be prevented. This is a scheme which was strenulously recommended to a governor of the lying-in hospital of this city by the very benevolent Mr. Howard.

43. I am persuaded that precautions of this nature, if duly attended to, would greatly lessen the frequent recurrence of puerperal fever in hospitals, and they might, perhaps, destroy its existence entirely as an epidemic. It will no doubt continue, occasionally, to occur both in hospitals and private practice, from such accidental causes as tend to excite inflammation in the cavity of the abdomen; but that it must, of necessity, exist as an epidemic, I doubt very much.

44. Most writers have positively asserted that puerperal fever never affects women till after delivery; and yet I have dated the attack of some of our patients at an earlier period. Several cases have occurred to me, in which it was clear that some disease existed before delivery; and dissections after death have exhibited all the appearances usually found after this fever. A case of this kind occurred so long ago as the year 1782, in which the patient died in thirty-six hours after delivery. A second case happened in the autumn of the year 1786, where appearances were still less equivocal:—A patient expired two hours after a tedious labour, apparently exhausted. On opening the cavity of the abdomen, on the following day, all the ordinary effects of puerperal fever were found very distinctly marked.

45. Having stated some cases of this very fatal disease to have terminated successfully, the reader may, perhaps, be anxious to know something of the practice pursued. All I have to observe, worthy of communication, in such methods of cure as have hitherto been recommended, will require but a few words.

46. Venesection, which is strenuously advised by Leake, Denman, and others, I have never seen of any use, excepting in a few cases, where there seemed to be a combination of peripneumonic symptoms along with peritonitis; and even in such cases it only had the effect of alleviating the severity of symptoms.

47. Ipecacuanha, exhibited as directed by the Royal Medical Society of Paris, will sometimes seem to do essential service; in other cases it will evidently do no good. How is this to be explained? We are directed to give seven grains and a half the instant a patient is seized with shivering, and to repeat the same quantity in an hour. Now, I assert that when a woman in childbed shivers, no man can tell whether her disease is to turn out ephemera or puerperal fever. If the former, the ipecacuanha will apparently produce a cure; if the latter, it will seldom afford permanent relief. When ipecacuanha operates both as a laxative and an emetic, which not unfrequently happens, it will be found to have better effects than when its operation is merely emetic. But, so far from performing a cure in every instance, I have no hesitation to affirm, that it will not succeed in one of ten cases, where the disease is epidemic. I find by our medicine-book that, during the month of January, 1789, three ounces and a half of ipecacuanha were consumed, agreeably to the rules laid down by the Royal Medical Society of Paris; and yet during this month the mortality of our patients was very considerable.

48. Saline purgatives, and fomentations to the cavity of the abdomen, as advised by the late Dr. Forster, and practised in the lying-in hospital of Dublin, since he served the office of assistant-physician therein, appear to me to afford the most rational and probable prospect of relief in puerperal fever. But I can by no means join Dr. Forster in saying, "that no disease, of equally apparent danger, is nearly so obedient to the laws of medicine; and that all dangerous symptoms almost constantly vanish, upon the early and repeated use of the medicines recommended by him." My experience is diametrically opposite to these assertions. When the disease is epidemic, or produced by infection, no method of cure, yet devised, will succeed in one of five cases. On the contrary, when the disease proceeds from accidental causes, inducing inflammation, there will be reason to hope for better success, by pursuing steadily, for some days, the method of cure prescribed by Forster. Upon the whole, although I differ in some particulars from this physician, yet I cannot omit this opportunity of recommending to the inexperienced practitioner such parts of his book[1] as relate to puerperal fever.

[1] Principles and Practice of Midwifery, p. 295, &c., first edition.

PRACTICAL ESSAYS

ON THE

MANAGEMENT OF PREGNANCY, ETC.

BY DR. JOHN CLARKE.[1]

ESSAY I.

ON THE GENERAL MANAGEMENT OF PREGNANT WOMEN, WITH A VIEW TO THE PREVENTION OF DISEASE; AND ON THE RETROVERSION OF THE UTERUS.

Of those women who die in consequence of utero-gestation, it is known that very few are cut off during the time of pregnancy, and not many during the act of labour; therefore it may appear superfluous to say anything respecting the general management of pregnant women.

Yet although, upon the whole, pregnancy is not looked upon as a state of disease, and although it even seems probable that, in general, women, when in that state, enjoy better health than they usually do when they are not, still we know that there are some complaints which occur during their situation at that time which are at least troublesome, and in a few instances dangerous.

Many of the complaints of pregnancy depend upon irritation simply, and these generally yield to time; such are the sickness and vomiting, diarrhœa, &c. Sometimes, however, these admit of palliation.

Such as depend upon the pressure made by the increasing uterus upon the veins, absorbents, nerves, or other parts liable to it, are most frequently found from the end of the fourteenth to that of the eighteenth week, and again from the end of the thirtieth to the conclusion of pregnancy. Such are piles, as also varicose veins and œdema in the depending parts; cramp, and sometimes partial or total paralysis of the lower extremities. These diseases will commonly be relieved by quickening at the former period, by labour in the last, and may in the meantime be so far palliated by judicious

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[1] [Practical Essays on the Management of Pregnancy and Labour; and on the Inflammatory and Febrile Diseases of Lying-in Women. By John Clarke, M.D., &c., 1793.]

treatment, that they rarely become dangerous. In one case, however, I was called to a patient who, from inability of motion in the lower extremities for some time before delivery, suffered a mortification of the soft parts, covering the lower part of the spine and the os sacrum, of which she died.

The retroversion of the uterus is the only disease which I know of that is at all likely to become dangerous to pregnant women. This is an acquired disease, and not a necessary attendant upon utero-gestation; so far from it, that in a natural state of society I doubt very much if it would ever occur, since the customs of civilized society seem to be, in all instances, the occasional cause of it.

The retroversion of the uterus was first described, as we learn from Dr. Hunter, by Gregoire, a teacher of midwifery in Paris, in his lectures; but it is probable that the knowledge of it would have been entirely lost if Dr. Hunter had not investigated the subject farther. The account of his inquiries into the disease may be found in the "London Medical Observations and Inquiries."

The retroversion of the uterus consists of a displacement of the uterus in such a manner that it lies transversely in the cavity of the pelvis, or with its fundus rather inclined downwards towards the os coccygis, and with the os uteri turned upwards against the posterior surface of the symphysis pubis. Upon examination per vaginam, a large rounded tumour will be found occupying the posterior part of the pelvis, and the lower lip of the os uteri will be indistinctly felt close to the upper part of the symphybis pubis. Such a fixed situation of the uterus hardly occurs before the end of the third month, nor can after the time of quickening, because in the first case, though the uterus might change its situation, it could not remain confined, and after the time of quickening the uterus will be in the cavity of the abdomen. In thin subjects, if the hand be laid above the pubes, the full bladder will be easily distinguished; and in fatter women pressure on that part will produce a strong inclination to make water.

The effect of this change in the relative situation of the uterus will be pressure upon the rectum behind, and (which is of more consequence) upon the meatus urinæ before; whence will arise, in proportion to the degree of compression, a partial or total suppression of urine.

I am disposed to be of opinion, from a consideration of the cases which have occurred to me, that a retroversion of the uterus is more apt to occur either in a remarkably large or in a pelvis rather too small, and that the ordinary size of the pelvis is least liable to it. In the former, the concavity of the sacrum being great, affords a convenient lodgment for the fundus uteri; and in the latter, the projecting angle of the sacrum is very unfavourable to a reinstatement of the uterus, if from any slight cause it should be a little displaced from its situation. Nevertheless, if the occasional cause be applied, it may happen in any form of the pelvis.

It is now understood that the fulness of the bladder is in all cases the predisposing, and in most the occasional cause of the complaint. Nothing but such a state of the bladder can draw the os uteri upwards, so as to dispose the fundus to fall under the projecting angle of the os sacrum. Hence, it becomes necessary to put women on their guard against allowing the urine to be retained in large quantity during pregnancy.

For ascertaining the general cause of this disease we are indebted to Dr. Denman, and it ought to be considered as a great improvement in practice, without which it would, perhaps, have been better for mankind if the disease had never been known, because it then would have been considered and treated merely as a suppression of urine; whereas, when it was known that the uterus was displaced, and the suppression of urine was thought to be the consequence, and not the cause of the alteration in the situation of the uterus, most violent attempts were made to replace it, with the risk of doing considerable mischief to the uterus and to the bladder, neither of which would have suffered any inconvenience if the water had been drawn off, and the retroversion of the uterus never discovered.

The pressure of the os uteri against the inside of the symphysis pubis renders this operation sometimes rather difficult. It will be much facilitated by employing a small catheter, and sometimes by passing up a finger between the os uteri and the symphysis pubis, so as to afford a passage to the instrument. It has been said, that the difficulty of introduction of the catheter has been in some cases insuperable, and that it has been necessary to puncture the bladder above the pubis. I must, however, be permitted to observe, that it is rather singular that such a case has never occurred in my own knowledge, or even in London; and I think I may venture to hazard an opinion, that either with a small or a flexible catheter, the urine may be drawn off, in all cases, by a person accustomed to the use of the instrument, and who is perfectly acquainted with the disease. It has also been suggested as a question, whether in such cases it might not be right to puncture the uterus, so as to evacuate the liquor amnii, and by this means diminish the bulk of the uterus? But to this my objections would be still greater than to the other, both because I believe that such an operation can never be necessary, and also because it offers great violence to the uterus, the consequences of which we cannot foresee, and when that organ was never in any danger from the disease.

It has been supposed by some, that the bladder is sometimes divided into two chambers in this complaint; but this is a mistake which has arisen from the catheter not having been, in the first instance, pushed high enough to be perfectly clear from the os uteri, and thence, as the whole of the water was not drawn off till the catheter was carried up higher into the bladder, the idea arose of the division of the bladder into two cavities, which is next to an

impossibility, because, in the first place, as the bladder is changed from its contracted to its dilated state only by the urine brought into it by the ureters, and as that urine is introduced at the lower part of the bladder, so the upper part can never have it in its power to contract, so as to retain any urine in it distinctly from that in the lower part of the bladder; and in the second place, we can hardly suppose so perfect a partial contraction of the bladder as not to allow of the urine descending from the upper to the lower chamber.

It will not be sufficient for the removal of a retroversion of the uterus, to evacuate the urine from the bladder once only; the urine should never be suffered to collect again in any considerable quantity, and, therefore, should be taken away at least twice in twenty-four hours. In the meantime the ovum continuing to increase in size within the cavity of the pelvis, will, at length, without any assistance, remove the uterus into the cavity of the abdomen, and the disease will be cured. In no instance which has fallen within my knowledge has the uterus suffered any injury, so that we need not be very solicitious about it; but cases are on record, and many more, it is to be feared, have occurred, in which the bladder has sustained great mischief. In some, inflammation of it has been brought on; in others, it has burst, and the urine has been discharged into the cavity of the abdomen, and the patient has been destroyed.

The worst consequence which can arise respecting the uterus is, that from the pressure made upon it, the life of the fœtus may be endangered, and the woman may miscarry, which, at this period of pregnancy, is rarely attended with any danger, certainly with much less than may be occasioned by violent means employed to replace the uterus.

If, however, the patient should be uneasy from the continuance of the complaint when the bladder has been emptied, gentle methods may be tried, of which the best is to let the patient kneel on a bed, and rest with her elbows on the floor. By this means all pressure is removed from the fundus of the uterus, and then it may sometimes be placed in its natural situation by a very gentle pressure made upon it with two fingers in the vagina. If this should fail of success, I would strongly recommend that additional force should not be employed.

I have observed above that the fulness of the bladder is always the predisposing cause of the retroversion of the uterus. That it is generally the occasional cause, too, there is now no reason to doubt. But cases have come to my knowledge where external force applied to the belly (the bladder at the time being in a distended state) has given immediate pain to the woman; and by pressing the fundus uteri downwards and backwards, at a time when the os uteri was turned upwards, has occasioned a suppression of urine. Such cases, however, are comparatively rare, nevertheless they do some-

times happen; yet I am fully persuaded that no external violence with an empty bladder can ever produce that alteration of the situation of the uterus which is the cause of a suppression of urine; therefore, in every instance we must consider the fulness of the bladder at least the predisposing, and commonly the occasional cause.

Besides the suppression of urine occasioned by this disease, there are other symptoms, which, though not equally dangerous, still require to be attended to. If the suppression of urine has continued for some time, considerable fever will be excited, and sometimes inflammation of the internal surface of the bladder. If, therefore, the patient should complain of much pain near that part, or if the pulse should be frequent and strong, with a dry and hot skin, thirst, and other symptoms of fever, some blood may be taken away with considerable advantage. It is not necessary to mention the precise quantity; that must be regulated by the violence of the symptoms and the constitution of the woman.

Costiveness, also, is an attendant upon this disease, and depends upon the pressure of the fundus uteri against the rectum. This may, in most instances, be relieved by clysters frequently injected. If any attempts are made to replace the uterus, a clyster should, in all instances, be previously thrown up, to evacuate the fæces contained in the rectum, and the sigmoid flexure of the colon, which will, if not discharged, prove an obstacle to the return of the uterus into its natural situation, by the pressure which they will make upon the fundus of the uterus.

With regard to the general management of women with child, we ought always to remember, that the progress of the future labour and its consequences will depend very much upon the previous state of the patient's health. In everything, therefore, which we recommend to pregnant women, we should consider the effects which may be thereby produced upon the labour, and upon the health of the woman afterwards.

The natural disposition of pregnant women verges towards plethora, and those diseases which have been denominated diseases of increased action. To this cause is to be attributed the alteration in the texture of the blood, similar to that which takes place in such diseases where the coagulating lymph is either in smaller quantity than in a state of perfect health, or has lost its power of coagulating so soon, in consequence of which the blood drawn from women in pregnancy is generally covered with a buff, the red globules having fallen to the bottom of the cake.[1] To the same cause are to be referred the headache and giddiness which are so frequent at that time, and the strong disposition which we find towards pulmonic

[1] The change which takes place in the quality of the blood during pregnancy is a higher degree of oxygenation, as shown by the increased quantity of fibrin. It is possible that the entire quantity of blood may be increased also, but I am not aware that we have sufficiently exact data for calculation.—Ed.]

complaints. This last, perhaps, is in some measure increased by the encroachment which the contents of the abdomen make upon the cavity of the thorax, occasioned by the enlarging bulk of the gravid uterus. If this plethoric disposition and increased action be kept up, or aggravated by improper or heating food, by violent exercise or strong liquors freely and imprudently drunk, it must be apparent that the stimulus arising merely from the exertions of labour will be sufficient, in a constitution so predisposed, to produce a fever.

To guard against this, women during pregnancy should carefully and industriously avoid all excess of the table, and should confine their diet to such kinds of food as neither stimulate during their digestion nor afterwards. Fruits, therefore, vegetables, and a milk diet are particularly proper, with a sparing use of animal food, strong liquors, and spices. Exercise should be taken; but it should be moderate in its degree, and, if possible, should be in a pure air.

If a woman with child should be attacked with peripneumonic symptoms, or, indeed, with any complaint of the chest, it is of the last importance that it should be immediately attended to before the approach of labour, because as, during labour, it is indispensable to the free action of the abdominal muscles, in co-operation with the uterus, that the chest should be filled with air, so the attempt to do this in an inflamed state of the lungs, must either be ineffectual or greatly injurious. On this account I would earnestly recommend the most strict attention to such complaints.

It is scarcely ever proper (except in the weakest constitutions) to omit taking away blood from the system, because this, by immediately diminishing the quantity of the circulating fluids, contributes, in a peculiar manner, to relieve most diseases of the lungs.

The other methods of treatment usually prescribed in these complaints, such as topical bleeding, the application of stimulants externally, and the use of relaxants and demulcents internally, are so well known to every medical man, that I need not enlarge upon them in this place.

By paying a constant attention to these points, we shall so conduct a woman through the state of pregnancy that she will fall into labour in perfect health, and with the constitution prepared to sustain the violence of the exertions employed during the progress of it, and this without the most remote danger of disease being produced afterwards.

ESSAY II.

GENERAL MANAGEMENT OF WOMEN IN LABOUR, WITH A VIEW TO THE PREVENTION OF DISEASE.

THE process employed by nature for expelling the child and the placenta consists of the action of the uterus and abdominal muscles, in order to overcome the resistance occasioned by the pelvis and the soft parts to the passage of the child's head through them.

In the human subject, the difficulty of parturition may be chiefly referred to those wise precautions which nature has taken to counteract the evils which result from the erect attitude of the body. This has been so critically and so ably described by my valued friend and colleague, Dr. Osborn, in his Essays lately published, that nothing remains to be added upon the subject.

Labour in women is also liable to be affected by the operation of the mind, in which they differ from other animals; and it is well known that fear and want of confidence will disturb and retard, just as confidence and hope will facilitate labour. The exercise of the voluntary powers is also capable of doing much mischief in an operation which the involuntary powers were alone intended, and are fully equal to accomplish.

There is another considerable difference between human and comparative parturition, which has not been usually noticed, and this consists in the different structure of the placenta from that which obtains in other animals; in them the maternal portion of it continues attached to the uterus after the birth of the young, being itself an excrescence from the uterus. But in the human species the maternal portion of the placenta being a newly-formed substance, consisting of cells, into which the vessels of the mother open, if, by any accident, any part of it should be separated from the uterus, hemorrhage must ensue, which, indeed, must have been fatal to every woman with the birth of her first child, upon the separation of the placenta, if nature had not wisely provided such a muscular structure of the uterus as would, and does in the generality of cases, effectually prevent the loss of blood.

The greater number of the evils attendant upon labour depend upon an irregularity in one or other of these points which I have mentioned; therefore, the care and attention to these circumstances, to which every judicious practitioner will direct his attention, constitutes a great part of the practice of midwifery, the object of which is to prevent more than to remedy evils. Real difficulties or dangers in labour are very rare, and both may often be prevented by the prudent management of natural labours, as both may be, and often are, produced by ignorance and mismanagement.

The first object of an accoucheur, upon the principles laid down

above, should be to regulate the exertion of the woman's powers, and to prevent those inconveniences which are likely to be produced by the violence of them. The two things to be guarded against are fatigue during the labour, and fever afterwards.

The first may incapacitate her for finishing the labour, and may render the use of artificial means for delivering her necessary, when otherwise they would not have been required.

As waste of the strength is to be avoided, by taking care that the woman do not employ her voluntary exertions in the course of the labour, which, if the parts are not prepared for the exit of the child, must be hurtful as well as inefficacious; and if they are, then such exertions will be unnecessary, because the uterus possesses of itself sufficient powers, aided by the involuntary action of the abdominal muscles, to complete the labour, time being allowed and patience exercised. All attempts to increase the frequency of the labour-pains, either by stimulating the os uteri or by internal stimulants, on the same accounts should be discouraged.

Another reason for being careful to save the general strength of the system, and of the uterus particularly, is, that if the powers should have been exhausted in the delivery of the child, there will either be an unfavorable separation of the placenta, or if a flooding should supervene, from the detachment of any part of it, the uterus being exhausted, there will be no powers by which the loss of blood can be restrained, and the patient will very probably die.

The next object in conducting a woman through her labour is to guard against a fever after delivery. The violence of the exertions alone have a tendency to disturb and stimulate the whole frame very much. That this disposition may not be increased, her food during her labour should be very mild in its nature, and of very easy digestion. On this account weak broths, gruel, or barley-water are much to be preferred to solid food of any kind. Solid food eaten during labour will hardly ever be digested, except by very strong stomachs; and if not digested, it will be liable to do much harm afterwards.

For this reason, then, as well as to prevent fatigue, I must take the liberty of objecting very strongly to a practice which is still very prevalent among persons in the middle and lower stations of life, that of taking during the labour a variety of substances, rendered stimulating by being impregnated with spices, wine, or spirits. Nothing can be more false in principle, nor more destructive in its tendency. If a labour is going on well there can be no occasion for them, and if ill, they are much more likely to do harm than good. If they do anything, they will most certainly increase the action of the heart and arterial system beyond that degree which the mere exertions of labour will produce; and this increased action will not subside when the woman is delivered. If there were any previous disposition to fever in her system, nothing is so likely to bring it into activity; and although the labour alone might not stimulate the constitution beyond what it could bear, or, in other words, although the increased

circulation arising from the actions of the uterus might gradually go off after delivery, yet if such means have been employed as tend still farther to increase the action of the vascular system, a fever may be the consequence.

Accidental violence offered to the parts concerned in parturition will also sometimes lay the foundation of a fever, such as stimulating the os uteri, either by too frequent examinations or by attempts to dilate it. These practices, however, are gradually declining, and are only pursued at present by the most ignorant practitioners, chiefly by women, who, having no idea of any difficulty except that which arises from contraction of the parts, employ themselves in removing what they consider as the obstacle. But when it is remembered that the os uteri cannot be dilated enough to allow of the head passing through it, and that if that effect be not produced the attempts must inevitably stimulate and inflame the part, I need offer no other reasons to a judicious (I had almost said to an honest) man, who will consider his own time of less consequence than his patient's safety, why he should avoid it. Time and patience will overcome any difficulties which may arise from the natural rigidity of the os uteri, and, at the same time, will do no injury either to the constitution or the parts of the woman.

Violence offered by the improper use of instruments may also become a cause of fever, therefore they ought never to be employed in any case, except where they are absolutely and indispensably necessary. He who uses them unnecessarily, and solely with the intention of saving his own time, has much to answer for, both to society and to his conscience.

I have already observed, that the influence of the mind upon a labour is not inconsiderable. The state of a patient's spirits will depend very much on the conduct of those who are about her; therefore cheerfulness in the demeanour of her medical and other attendants is of much importance, by which I do not mean a levity of behaviour, which suits as ill the situation of a woman in labour as moroseness or ill humour, which, when exercised in the presence of a woman in pain, is little short of brutality, when at least she has a reasonable claim to attentive pity and compassion.

The last object in the management of a natural labour is the care of the placenta.

This part being differently constructed in the human subject and other animals, requires, on that account, a difference in the management of it. If a labour were allowed to proceed naturally, without any interference of the woman herself or her attendants, the placenta would usually come away in half an hour. We shall rarely find that it will be expelled immediately after the child.

It is not my intention in this place to enter at length into the management of the placenta, but only cursorily to deprecate the hasty extraction of it by artificial means.[1] The introduction of the

[1] [Agreeing with Dr. Clarke as to the propriety of never extracting the placenta

hand into the uterus for this purpose is rarely necessary, if care be taken to retard the delivery of the body of the child, which has been strongly recommended by Dr. Osborn in his late work, and which will so certainly prevent both the retention of the placenta in the generality of cases, and the chance of hemorrhage when it is expelled; that, without assuming to myself any merit from the circumstance (except that of not hastening the delivery of the child), I have scarcely ever had occasion, in twelve years, to introduce my hand into the uterus, and have never, except in one instance of a very weak and delicate patient, seen any hemorrhage, which could be considered as alarming, upon the separation of the placenta, and in that case the patient recovered. The hasty delivery of the placenta immediately after the birth of the child can never be necessary, except in cases of hemorrhage, and must endanger the life of the woman in many cases, particularly after tedious and lingering labours, where the uterus is indisposed to act. This practice, though formerly common in England, has of late been very properly discarded, so that no prudent man at this time thinks of pursuing it.

In the greater number of cases the placenta will come away of itself within half an hour, by a contraction of the uterus, or at most only requires a very gentle assistance to remove it from the vagina, which has no power of expelling it.

The practice of hastily delivering it by introducing the hand has been attempted to be revived at different times by bold, adventurous, and ignorant persons; but their advice and example have been cautiously followed, and therefore fortunately little mischief has arisen from the propagation of their opinions.

ESSAY III.

TREATMENT OF WOMEN AFTER DELIVERY, WITH A VIEW TO THE PREVENTION OF DISEASE; OF AFTER-PAINS AND THE LOCHIAL DISCHARGE.

Of all women who die in consequence of childbearing, by far the greater number are cut off by diseases after delivery, very few, with

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when it can possibly be avoided, in addition to not hastening the birth of the *body* of the child after the head is expelled, I strongly recommend the practice, which I believe is universally taught and practised in this city, viz., that the nurse should place her hand upon the uterus the moment the head is born, and continue a gentle pressure, following down the uterus as it descends, until the binder is applied. If this be carefully done, the placenta, which I believe, in the majority of cases, to be detached by the uterine contractions which expel the child, will generally be found protruding through the os uteri, and quite easily withdrawn by gentle traction of the cord.—Ed.]

good management, dying during the act of labour. But, although but a small proportion are destroyed during the time of labour, yet the foundation of diseases, which come into action after delivery, is often laid in the time of pregnancy by improper indulgence of the appetite; hence, patients become plethoric, and have their constitutions so disposed to disease, that nothing more is required than the exertions necessarily attendant upon parturition, to produce it. If, however, the rules offered in the two preceding chapters be attended to, this disposition will be checked at least, and we shall have nothing to guard against after the woman is brought to bed, but the immediate consequences of the labour itself, and the circumstances which always attend upon the puerperal state. It is impossible to believe, because it is inconsistent with the wisdom of the Creator in all his other works, that women should be so ill constructed, that they must necessarily be liable to disease from the performance of a natural act, therefore we must attribute those cases in which disease is a consequence of labour to some mismanagement either before, during, or after labour. The two former have been already considered.

With respect to improper treatment after delivery, this is partly to be imputed to the accoucheur in some instances perhaps, but much more frequently to the woman herself, either using some indulgences of the appetite, which are incompatible with her situation, or to the well-meant, but ill-judged advice of friends, or the obstinacy of bad nurses.

I need not observe here how much quiet and rest immediately after labour must contribute to appease that irritation of the system which must be occasioned by the violent efforts of labour, and therefore of what great consequence it must be that all admission of company be carefully avoided. The patients should be laid in bed without being newly dressed, and above all things she should not be allowed to be in any but an horizontal posture. I have known some instances in which the woman has died immediately after delivery, from being unable to bear an erect posture of body. This is very well exemplified in the instance from bleeding from the arm, which many persons cannot bear at all without fainting, if they be upright, and all persons can sustain better, if the operation be performed whilst they lie down. Every woman must lose some blood when the placenta comes away; and although the constitution will sustain the loss very well in a supine posture, yet, from one cause or other, an erect attitude is very unfavourable to carrying on the functions of life under such circumstances.

The great object in treating women after labour, is to guard against fever. But as the constitutions of women vary extremely, so a different mode of treatment will be necessary to be observed in different women. In general, it is better, I believe, to avoid animal food of all kinds, till the stimulus arising from the secretion of the milk has subsided. But even this must be done with some limita-

tions, because there are some very weak and delicate women, whom it is necessary to support by more substantial food than gruel and barley-water, however proper they may be for the strong and plethoric. In patients of the latter description, it is hardly possible that too low a regimen can be pursued, because it will have the effect of diminishing the milk fever in all cases, and of rendering them less liable to the attacks, either of fever or inflammation. Breathing a pure air is very necessary, therefore the chamber in which the patient is confined should, if possible, be spacious and airy; a free ventilation should be allowed, the extremes of heat and cold should be equally avoided, and all impurities be constantly removed which might contaminate the air of the room.

Women after delivery, from the fatigue of labour, have naturally a disposition to sleep and to perspire. Great stress has been laid upon the necessity of keeping up perspiration, and with this intention they have been frequently plied with draughts of heating liquors. Now, however advantageous and natural easy and passive perspiration may be, nothing can be more detrimental to the recovery of patients than the violent and active perspiration brought on by such means, and farther encouraged by a large quantity of clothes heaped on the bed, by drawing the curtains round it, and keeping a large fire in the room. This is not nature; and the consequence of such management will be that, if by any unavoidable accident the smallest exposure to cold should happen, a fever will almost certainly ensue; or, if it should not, the continuance of such sweating will necessarily very much weaken, and render the patient almost incapable of becoming a nurse.

But at the same time that it does not seem necessary to keep up sweating by such means, there is no occasion, and it would be unwise to attempt to counteract the natural disposition to a gentle and kindly perspiration the first few days after parturition, especially as it is well known that it generally attends those who recover best.

Respecting the medical treatment of women after delivery, if they are perfectly free from disease, and will be governed implicitly by the rules suggested above, perhaps no medicines are absolutely required; but it has been usual, and it certainly cannot be wrong to exhibit some slight relaxant, as the saline mixture, every six hours, which will comply in some degree with the views and intentions of nature; and if there should be any disposition to fever, it will be in some measure corrected. I think I am warranted by experience in saying, that those patients who have been thus treated, suffer less from the milk fever than those where it has been neglected. Of late years, the exhibition of more powerful relaxants, as preparations of antimony, has superseded the use of remedies considered so simple as saline mixture; and it has been confidently maintained that either such active remedies ought to be used, or none. But it is a question whether the interests of mankind have been served by such opinions, and general experience seems to prove that there are

some cases where advantage arises from such gentle remedies, and where those of a more violent nature have done harm instead of good.

Probably the only complaint which really calls for the use of medicines in the early part of the puerperal state, is what is called after-pains. These rarely occur after the birth of first children. They are spasmodic contractions of the uterus, either to reduce its volume to its original size, or (which is more common) to expel some coagulated blood contained within its cavity. They may, indeed, be in some degree prevented or lessened by not hastening the delivery of the placenta, but allowing it to be expelled by the contractions of the uterus. By such conduct the uterus will be more contracted than if the placenta be hastily delivered, so that there will either be less or no room for the formation of coagula there. With all the care which can be taken, after-pains will sometimes take place. If they are intended to answer either or both of the purposes mentioned above, it is evident that their operation is, upon the whole, salutary, and on that account they ought not to be prevented altogether. But they are sometimes so violent in their degree, that they effectually deprive the woman of rest. When this is the case, it will be advisable to give such a dose of an opiate at night as will procure sleep, and either leave them to produce their effects during the day, or only give anodynes in such small does as to diminish the sensibility a little, so that they shall be tolerable.

Another subject to which the attention has been much directed in the treatment of women in the puerperal state, is the lochial discharge. This consists of the blood which either flows from or is pressed out of the extremities of the bloodvessels which had supplied the cellular part of the placenta with blood, and which upon the coming away of it open into the cavity of the uterus.

Much pains has been taken to ascertain the average quantity of the lochial discharge which comes away, with a view to regulate it, especially as the foundation of many diseases has been conceived to be laid in the redundancy or paucity of it. But when we consider what the nature of the evacuation is, the difference of the quantity will be found to vary very much, and not to be reducible to any rule. The quantity of the lochial discharge, as well as the attack of after-pains, may be much lessened by the prudent management of the placenta; for it must be obvious that, where the uterus is more contracted, there will be less, and where it is less contracted, there will be more of the lochial discharge.

The evacuation will be at first common blood, and afterwards, as the uterus becomes more contracted, and the vessels smaller, it will have the appearance of bloody water; then it is of a greenish colour, and resembles serum, and at last is simply watery, till the vessels at length becoming impervious, the discharge stops altogether. In the course of these changes, the appearance of blood will return sometimes even after the serous discharge has begun, from any little irregu-

larity of diet or exercise, which increases the quickness of the circulation and the force of the heart.

Those who have considered the lochial discharge as noxious, and have attributed disease to the diminution or suppression of it, have been very anxious to promote it by various means, but such alterations are commonly the effects, and not the causes of disease, and all such measures have been, accordingly, found rather detrimental than useful. If there be little or no evacuation of the lochia, and the woman be in health, no remedies are required, and if she be diseased, the means appropriated to the relief of her complaints will reproduce it.

In like manner the redundancy of the lochia is rarely a primary affection, but depends either upon a too great strength of the circulation, or upon great weakness. In the former lessening the force of action of the heart and arteries, and in the latter strengthening the system by bark, bitters, vitriolic acid, and other astringent remedies, will relieve the morbid state of the system, and the redundant discharge dependent upon it will cease when the cause is removed.

The lochia are sometimes observed to be fetid, and this has often been supposed to be a proof of disease. But fetor of the lochia often depends upon accidental circumstances, where there is certainly no disease, such as a small portion of the maternal part of the placenta left behind, or portions of the decidua, which putrefy and come away, or the coagula of blood which had been formed in the extremities of the veins and arteries of the uterus (especially if it have not acted very strongly at the time of expelling the placenta), and which putrefying and coming away, give a fetor to all the rest of the discharges.

It may be expected that something should be said here concerning the time when women should rise from their bed, and be allowed to sit up after delivery.

Great stress has been laid by some on the propriety of women sitting up very early, with the intention of giving a free discharge to the lochia, lest by its retention in the uterus it should be productive of mischief. This has been particularly and strongly insisted upon by a late author of considerable celebrity.

But some doubts may be entertained as to the propriety of this practice, when it is considered that, from the direction of the vagina, it is hardly possible that the lochia should be retained more than the menstruous discharge. If this be true, then it seems that some inconveniences may arise from the practice of early rising, of which one, and that not inconsiderable or unimportant, deserves attention, which is the danger of procidentia uteri being brought on; for the weight of the uterus, in the early days after delivery, will prevent the broad ligaments from restoring themselves, which they will be much more likely to do when the woman is in an horizontal than in a perpendicular posture of body.

For this very reason, if there were no other, it seems right that no women should rise before the end of the third or fourth day, and if they be weakly or delicate subjects, they should even observe an horizontal position longer. By this it is not meant that it is at all necessary that they be kept absolutely in bed. A sofa, or the outside of the bed, may be quite as advantageous, and will weaken less. When they begin to sit up, they should not remain in that position so long as to fatigue, else it will do much more harm than good. Indeed, it is far from certain, that an horizontal posture would not be best, for at least a fortnight after delivery, by which means all the inconveniences above mentioned will be avoided.[1]

ESSAY IV.

ON THE MILK FEVER, AND ON THE INFLAMMATION AND SUPPURATION OF THE BREASTS.

NOTHING can be more self-evident than that nature intended that every woman should suckle her own child. With a view to this, a great determination of blood is made to the breasts during pregnancy, which thence become considerably enlarged, especially near the time of delivery. This increased circulation sometimes will occasion a secretion of milk before labour in such quantity, that it will run out of the nipples in great abundance; more commonly, however, the secretion begins after delivery, and goes on most rapidly, about the third or fourth day, whence the breasts become enormously distended and very painful. The irritation of this sometimes produces a great degree of fever in the system, which begins often with a violent rigor, and is followed by a severe hot fit, and a profuse degree of sweating. In some rare instances delirium has taken place during the continuance of the milk fever. When it is combined with any other disease, it scarcely ever continues more than twenty-four hours.

It may be conceived, then, that very little is necessary to be done to prevent or cure a disease so short in its duration, and in itself of so small importance. But, notwithstanding that, simply considered, a fever of this kind would require little medical assistance, yet, as when once excited it may be kept up by other causes, it is right to prevent it from arising, and to suppress it directly upon its attack.[2]

[1] [I could have no scruple in placing Dr. Clarke's experience against Mr. White's recommendation were it merely a question of authority; but I am satisfied that the experience of most men will be sufficient to convince them that Mr. White's plan is very hazardous. I can most truly say that for one evil result of an error in diet, I have seen ten from assuming an upright position or leaving the bed too soon.—ED.]

[2] [I would suggest that one of the best means of preventing milk fever, is to put

Evacuation by purging seems to produce more effect than any other means which have been employed in the way of prevention or cure.

It has been customary for some years to give a purgative on the third day after delivery, so as to procure three or four evacuations, and this especially in robust patients.

The blood is by this means derived to the intestines from the breasts, whence the secretion becomes less, and the constitution is less apt to be stimulated. Nothing is more certain than that patients treated in this way are less liable to any severe attack of milk fever than those in whom such evacuations have been omitted. Even after the fever has begun, the same treatment will succeed in diminishing it. After evacuation by purging, saline draughts should be given, with a small quantity of vinum antimonii tartarisati, and repeated every four hours, till the frequency of the pulse, heat, and thirst have subsided.

Before I dismiss this subject, it will not be much out of place to introduce a few words upon inflammation and suppuration of the breasts, a very common disease in lying-in women, and which, in my opinion, has not been generally successfully treated.

Though I esteem it a matter of great consequence that every woman should give suck to her own infant, yet there are some who from particular circumstances of their situation in life, from great delicacy of constitution, or from some defect in the nipples, cannot suckle; and there are others, who for some reason or other will not discharge their duty as mothers to their children.

In any of these cases the blood flowing abundantly to the breasts, the milk is secreted; but not being consumed by the child, it distends the tubuli lactiferi, which therefore inflame.

Besides these causes of inflammation of the breasts, there is another, which is the application of cold. Whether this immediately produces its effect on the breasts, or whether it only acts by making a change in the constitution, of which the inflammation of the breasts makes a part; or whether none of these is the case, and the cold produces a feverish disposition, which is terminated by an inflammation of the breast, brought on in consequence of the increased circulation, or whether sometimes the one takes place and sometimes another, it is not of much consequence here to inquire. It is sufficient for our present purpose that we know, that cold is frequently a cause of inflammation in the breasts.

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the child to the breast sooner than is usually done. If the mother have not been much exhausted by the labour, the child may be allowed to suck in eight, ten, or twelve hours after delivery; but the attempt should not be repeated too often the first two or three days, with first children, or the nipples will be chafed. As the milk increases and becomes free, the child may obtain more, until the secretion is fully established, and then for a short time it is better that he should not be fed at all. If the nurse manage cleverly, the milk will thus be drawn off nearly as fast as secreted, and the ducts will be quite free by the time that the maximum of secretion is attained.—Ed.]

The first symptom which the patient feels, is generally that of a small lump in some part of the breast, which is painful to the touch. In a few hours this enlarges so as to occupy more of the gland, and sometimes the whole breast partakes of the inflammation, becoming hard and tender. The swelling either of a part, or the whole of the breast, does not depend entirely on the absolute quantity of inflammation, but partly on œdema of the surrounding parts, and it will be found to yield to the impression of the finger, especially at the lowest part.

After the inflammation has remained some days, the skin covering the part affected assumes a red colour; and this redness is more or less diffused according to the extent of the part affected with disease. Soon it will be found that one part becomes more prominent than the rest; the skin there is thinner from internal absorption, and more particularly tender than at any other place. At length, it breaks by one or more small openings, through which the matter contained in the abscess is gradually discharged, if the orifice be dependent, till the whole be emptied, the inflammation subsides, the formation of pus is at an end, or much diminished in quantity. Milk, either pure or mixed with a serous or purulent fluid, then flows out of the orifice, which at length closes.

Sometimes, however, such abscesses, left to themselves, have not so favourable a termination. A larger quantity of skin becomes interested in the disease; several orifices are formed, which afterwards, by ulceration of their edges, break into one, so that the cavity of the abscess becomes more exposed, and is longer in healing.

On others occasions, the orifice not being at the lowest part, the matter, by its pressure, produces ulceration below, and another orifice takes place at the lowest part, which discharges the remainder, and then closes.

During the progress of this disease of the breast, if it be extensive, the constitution sometimes becomes affected with febrile symptoms, more especially in full habits. The pulse will become hard, full, and strong; the tongue will be white; there will be great thirst, sometimes pain in the head, and restlessness. When the whole breast is inflamed, the pain is sometimes almost intolerable, and so violent as to deprive the patient entirely of sleep. After the pus is formed in it, frequent and sometimes violent shiverings ensue, till it is discharged either by a natural or an artificial opening.

This complaint having been by many considered to be a deposition of redundant or hurtful milk, which, if carried back into the constitution, might induce other more violent and dangerous diseases, such as puerperal fever, swelled legs, inflammation of the uterus, and even mania, we are not surprised to find that practical men, misled by such opinions, have been afraid of stopping it *in limine*. All their intentions have, therefore, been usually directed to the forwarding of the suppurative process, and giving a free evacuation to the pus, when formed, by making a large opening.

We have, accordingly, been advised to use emollient and anodyne fomentations and poultices to the part inflamed, during the inflammatory state, both to give ease to the patient and to hasten the formation of matter.

From having had frequent opportunities of observing the effects of this mode of treatment, I have had abundant reason for being dissatisfied with it, and there seems to be no good reason why this inflammation should be allowed to run on to suppuration, if it can be prevented. Much present and future inconvenience will be spared to the woman, if the cure by resolution be attempted at first.

If she should be of a strong constitution, and the febrile symptoms or inflammation be considerable, bleeding from the arm will be necessary, and also evacuation by purging, in order to diminish the quantity of blood and the strong action of the vessels. To further the same intentions, her food should be purely antiphlogistic.

The next object is to diminish the circulation in the part. Blood should therefore be taken away by the application of three or four leeches, inclosed in a wine-glass, till they have fastened on the most inflamed part, which may be allowed to bleed for some time after they have dropped off.

Evacuation, by purging every day, so as to procure two or three stools, beside its advantage on the general principle, is further useful, as it produces a determination to the intestines, and therefore necessarily draws off the circulation from the breasts.

I have mentioned above that I have objections to the use of fomentations and poultices, and I beg leave here to state what they are. In the first place, by their warmth they derive a large quantity of blood to the parts; and in the next, by their relaxant power they weaken the tone and strength of the parts to such a degree, that if matter should inevitably be formed, which, when it happens, is generally in a large quantity, the abscess is always very difficult of healing, especially if a large opening should be artificially made into it. Instead, therefore, of such applications, it will, I think, be found that much more utility will arise from the use of solutions of lead[1] constantly applied cold to the part inflamed, even though it should be the whole of the breast. The advantages of this mode of treatment are several.

1. The cold repels the blood from the part, which is further assisted by the astringent quality of the lead, and hence the inflammation is lessened.

2. The breast is not weakened, so that if an abscess should be formed, it will be sooner filled up with healthy granulations.

3. If the inflammation should be diminished, the woman will suffer less pain, and there will be less affection of the constitution.

4. Matter will either be not formed at all, or if formed, it will be in less quantity, which will shorten the duration of the disease.

[1] I am in the habit of recommending a solution of a drachm of cerussa acetata, in two ounces of acetum distillatum; to which may be added an ounce of rectified spirit of wine, and five ounces of distilled water.

If there should be much pain, it will be right to employ a sufficient quantity of opium in a saline draught, every six hours, to appease the violence of it.

If this plan has been undertaken early, and pursued with strictness and punctuality, the inflammation will often be altogether suppressed; but if medical assistance should be called too late to produce a complete resolution, the extent of the suppuration will be very much lessened.

Let us suppose, however, that the breasts should suppurate, and that the fluctuation of the matter can be distinctly felt under the skin, yet I would still advise that the saturnine lotion should be continued, without intermission, till the abscess points, when, if the pain be not very great, and the skin do not seem likely to be very largely involved in the disease, it may be allowed to break spontaneously; and if the opening should be too small, it may be easily enlarged, by introducing a small piece of sponge tent, with a bit of thread fastened to it, to prevent it from slipping into the cavity, so as to make the orifice as large as the barrel of a small quill.

But if the pus be very near the surface, and it should seem probable that the skin will give way very largely, or if the pain should be insufferable, then it is better to make a small artificial opening of the size mentioned above, with a lancet, and to discharge a part of the matter, which will give great relief from pain.[1]

The whole should not be emptied in one day, because then the cavity will be large, and will always fill with great difficulty, and take up a long time. On the contrary, supposing that it should appear to the surgeon that the abscess contains eight ounces, it is not right to let out more than half an ounce, or at the most an ounce, and then the orifice should be filled with lint or sponge tent till the next day, when it should be taken out and more discharged. This should be repeated for several days, till the whole is evacuated.

By this treatment the sides of the abscess will contract themselves, independently of granulation, till the cavity would at length not contain a fourth part of the pus which was originally within it. When once the whole has been discharged, it should be kept empty by squeezing the matter thoroughly out at least twice in a day. After some time the nature of the discharge changes, from being purulent, to a serous, and lastly to a milky appearance, which proves that the parts have reassumed a healthy action, and then the orifice will close, even though we might attempt to keep it open.

I was led to the trial of this manner of managing the suppuration

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1 [I believe the opinion of the practitioners of the present day is in favour of opening these abscesses freely, instead of allowing them to open spontaneously. I cannot quite agree with Dr. Clarke in his objections to poultices and fomentations: before and after suppuration they are very soothing, and, I think, as often promote the suppression of the swelling as the suppuration. After opening the abscess they are indispensable.—Ed.]

of the breasts from having seen very troublesome and bad consequences from making large openings, and dressing them from the bottom, by introducing great quantities of lint. It is true that granulations will quickly form, and, in some cases, will soon fill up the cavity of the ulcer; but they are always weak, easily separable from each other, pale, and apt to bleed profusely on being roughly touched, especially if fomentations and poultices have been employed, and the skin will not form upon them. The quantity of discharge joined to the irritation from a large sore weakens the strength of the woman, sometimes produces hectic symptoms, during the continuance of which the sore puts on a worse appearance, and is at last with difficulty healed, sometimes after many months, and even then not without the use of bark, wine, country air, and other tonic and cordial remedies.

There is one, and only one, inconvenience which arises from the mode of treatment advised above, which is that of a second orifice being formed at the bottom of the breast, in consequence of the pressure of the matter downwards. But this seldom gives much pain to the patient or trouble to the surgeon, as it commonly heals very soon.

Whatever treatment is pursued in suppuration of the breasts, a hardness will often remain for some time in the part which had been the seat of the disease. This generally yields to time, but its disappearance will be much assisted by the use of a liniment, consisting of one part of camphor and four of oil, twice or three times in a day, which, on the whole, I prefer to mercurial liniments, because it is more cleanly, and is not followed by any unpleasant symptom, such as salivation, which sometimes, in delicate habits, occurs from employing a very inconsiderable quantity of mercurial ointment.

ESSAY V.

ON THE OTHER INFLAMMATORY AND FEBRILE DISEASES ATTACKING WOMEN IN THE PUERPERAL STATE.

SECTION I.

IN the writings of physicians, whether in ancient or more modern times, we find very few (and those chiefly detached) observations on the diseases to which women in the puerperal state are liable, and yet it is remarkable that they are often of a very serious nature, soon proving fatal, and sometimes carrying off great numbers of patients in a short time. The reason of this apparent negligence is, that in most countries the practice of midwifery, and the subse-

quent treatment of lying-in women, has been committed to women, the nature of whose education did not lead them to make or record any observations. Among the ancients, as at Athens, attempts were made occasionally to rescue this department of physic from the hands of ignorant women; but rooted and inveterate prejudices do not readily yield to innovation, however useful it is likely to prove, and mankind have often shown an inclination to remain in voluntary error rather than be at the trouble of changing former habits, respectable only for their antiquity. It is now scarcely a century since men of science have devoted their attention to the practice of midwifery. When we consider how short a space of time has elapsed, it seems more surprising that so much should already have been, than that more has not been done, especially when we reflect that on the one hand the progress of the art has been obstructed by the delicacy of women, and on the other, opposed by prejudices suggested by interest, and artfully propagated by many practitioners in the other branches of physic. The management of parturition, however, under all circumstances, is now very well understood, and the rules for practice have been rendered plain and perspicuous.

Parturition, in its most natural state, certainly is not exposed to much danger; yet luxury and unnatural modes of life have subjected women to difficulties in labour, and diseases consequent to it, of such importance, that notwithstanding all the opposition which has been exerted with such industry against the practice of midwifery, women have at length sacrificed false ideas of delicacy to the more weighty consideration of self-preservation.

Still, however, our knowledge of the diseases following parturition remains very confined; not, indeed, for want of attention to them, but because perfection is seldom attained in the infancy of any science. Much has been written upon the subject by men of the first abilities and reputation for medical knowledge in this country and France; and if still there remains much obscurity, we must impute it partly to the difficulty of making any subject clear at once.

Another cause has impeded that advancement in the knowledge of these diseases, which would otherwise have been perhaps better understood, which is, that every disease attacking women after delivery has been called puerperal fever. This has created great confusion, so that symptoms the most opposite in their nature have been, by different authors, supposed to characterize the same diseases, and they have recommended modes of treatment no less contradictory to each other than their description of symptoms and their opinion of the disease.

The name of puerperal fever having been given indiscriminately to every febrile disease attacking women in childbed, has thus become a source of much inconvenience. Practical men, misled by this false bias, have persuaded themselves that the form of disease, which respectively they may have most frequently met with, is the only

one; and that authors, who have described a disease under any other form as attacking lying-in women, must have either been mistaken in, or must have misstated the appearances of the disease, and have erred in the mode of treatment.

And yet, when we consider that many of the writers have been men of acknowledged reputation in the profession of physic, men engaged in the practice, and not addicted to the whims and fantasies of theory, we must conclude that their descriptions have been drawn from nature, however dissimilar they may appear. But they have been led to conceive all cases which did not accord with their idea of the disease as anomalies, and have not given themselves leave to inquire whether a woman in childbed may not be attacked with very different complaints.

A review of what has been said by different aurhors will soon satisfy us of the truth of these observations.[1]

Some writers consider the disease as a fever of the inflammatory kind, of which the affection of the abdomen is symptomatic.

Others consider the disease as an inflammation of some of the contents of the cavity of the abdomen, of which the febrile appearances are symptomatic, and have accounted for it by supposing that, from the sudden removal of pressure from the bloodvessels at the time of delivery, a greater proportion of fluids than circulate there in a natural state may rush upon some particular part, and, from a very slight obstruction, may cause a local plethora, and so inflammation. The inflammation has been further accounted for by bad management in the time of labour—by rude treatment of the os uteri—by violent and hasty extraction of the placenta—by suppressions of the lochial discharge—by translations of the milk, &c. Among those who have considered the disease as a local inflammation, there has been much difference of opinion as to the part which they have conceived to be the subject of it. The uterus, ovaria, omentum, intestines, peritoneum generally or of a particular part, have been, all in their turn, supposed to be the particular seat of the inflammation.

This having been considered as the nature of the complaint, the symptoms have been described corresponding thereto, such as rigor, pain, and tumefaction of the abdomen partially or generally; heat, thirst, a dry, white tongue, a hard, full, and strong pulse, &c.; and the inflammation has been said to terminate either by resolution, suppuration, or gangrene, with the symptoms belonging to these states.

The treatment recommended has been conformable to the idea entertained of the disease, and consists of repeated evacuation, by

[1] I shall confine my remarks chiefly to what has been written on the subject in later times. The inquisitive reader, who is desirous of knowing what the old writers have said on the diseases of women in childbed, will find many sensible observations scattered in their works, from the time of Hippocrates to that of Sydenham; after whose time midwifery began to be cultivated in England as a branch of medicine.

bleeding and purging through the whole disease, which have been described as almost specifics, and to be employed even in weak and delicate habits. Antimonials have been also recommended, with a view to encourage sweating, vomiting, or purging, and opiates to quiet pain. To these general modes of treatment some have added the use of topical bleeding, blistering the abdomen, fomentations, &c.

Other writers, on the contrary, think that the puerperal fever has evident marks of putrescency, the cause of which has been traced to misconduct in the early part of pregnancy, such as tight stays and petticoat bindings, which, together with the weight of the uterus, detain the fæces in the intestines, the thin putrid parts of which are taken up into the blood. This is followed by loss of appetite, in consequence of which bile is collected, becomes putrid, and is absorbed. Small and crowded rooms, strong liquors, a confined air, and too much lying in an horizontal posture (which, by detaining the lochial discharge, is supposed to occasion the putrefaction of them), are considered as the immediate causes, and the disease itself is said to be of the same genus as the hospital or jail fever.

The symptoms described are those usually found in malignant fevers, together with fetor of the lochia, swelling and pain of the abdomen.

With such ideas of the disease various means have been recommended by way of prevention, to counteract the predisponent, and avoid the occasional causes of putrefaction.

Bleeding, blistering, purging, sweating, and all extraordinary evacuations on this principle, are to be avoided; but emetics are advised to be frequently given to promote the evacuation of putrid saliva, and of putrid juices supposed to exist in the stomach and duodenum.

The rest of the treatment consists of means to prevent a waste of strength, and to resist or cure the symptoms of putrescency.

Besides these general opinions, some have considered the disease as being originally inflammatory, but soon verging to putrefaction.

I have taken these different accounts from authors of whose accuracy the public has with justice entertained a good opinion, and I shall endeavour to reconcile these diversities of sentiment and practice, by supposing that they have described different states of disease under the same name; and I shall, in the sequel, take notice of the various febrile and inflammatory complaints which I have had the opportunity of seeing in puerperal women.

It appears to me absolutely impossible to reconcile such diversities of opinion in men of good practical information, upon any other principle than that which I have mentioned, of their applying the same term to different complaints.

To avoid falling into a similar error, when I was engaged in describing the epidemic fever, which attacked women in the puerperal state, during the years 1787 and 1788, I determined not to

give any name to the disease, but simply to collect the facts and describe the complaint as I found it, without any bias to any particular system, and without endeavouring to reconcile the appearances with those which had been noticed by any of the preceding writers on puerperal diseases.

This appeared to me to be the best way of communicating such observations as I had made, and at the same time of avoiding controversy.

Since that time, having bestowed much time and reflection upon the different cases of puerperal disease which have fallen in my own way, having compared these with the cases and observations recorded in authors of reputation, and, lastly, having in conversation with my medical friends met with much of useful information upon the subject, I thought that it might be of some advantage, at least to young practitioners, if I should arrange in some order the result of the whole.

Yet, although I have bestowed considerable time and attention upon it, I am well aware of the difficulty of the task which I have undertaken, and I trust to the candour of the reader that he will, on that account, overlook many errors which he will meet with in these pages.

Being thus far engaged, I am unwilling to recede, yet I cannot but wish that my abilities were equal to the desire which I have of rendering this subject better understood than it seems to me hitherto to have been. Whether I shall in any degree contribute to the attainment of this desirable object, it must be left to the practical part of the profession to decide. If I shall have set the matter in any degree in a better light, and by my labours shall have contributed in the smallest manner to lessen the sufferings, and by that means alleviate the misfortunes to which the state of child-bearing is liable, my expectations will be fully satisfied, and my trouble will have found a sufficient reward.

Sect. II.—*On inflammation of the uterus and ovaria.*

It has been already observed in the course of these Essays, that the process of labour is composed of a resistance to be overcome, and of the exertions which are destined to overcome it. The resistance arises from the size of the child's head, the comparative smallness of the pelvis, and the rigidity of the soft parts. The powers employed to effect the passage of the child are the actions of the uterus and of the abdominal muscles, which exert themselves first by pressing on the membranes, and afterwards, when the liquor amnii is discharged upon the body of the child. In the early part of labour, too, it not unfrequently occurs, that the lower segment of the uterus is protruded into the cavity of the pelvis along with, because covering, the head of the child, and in this situation is squeezed between the head and the sides of the pelvis.

Considering all these circumstances, it will appear evidently that

many causes of violence, or injury to the uterus, and the peritoneum covering it, as also to the lower part of the bladder and its peritoneum, will be applied in a natural labour.

Long-continued actions of the uterus exerted upon the body of the child can hardly happen without inconvenience, and the violent pressure made upon the soft parts, by the impaction of the head, will farther add to the chance of injury. Besides these, it is to be feared that in some cases the improper use of instruments, especially of the vectis, by those who employ it, because it can be secretly used, may have done still more violence.[1] Hence, might arise inflammation of any of these parts, which would produce symptoms according to the nature of the parts inflamed, and the extent of the inflammation.

But, though all these causes of inflammation are applied, the effect is generally prevented by the topical discharge of the lochia, which, therefore, though a necessary consequence of the separation of the placenta, answers the secondary purpose of preventing those evils, which otherwise would be very likely to arise,

Another cause co-operating to the same end, is the accession of the milk about the time when the lochial evacuations begin to diminish in quantity. This revulsion of the blood from the uterus to the breasts, effectually defeats that determination to the uterus which is so necessary to the support of inflammation there.

But, notwithstanding these wise precautions of nature, inflammation of the uterus sometimes takes place from the causes recited above; to which may be added exposure to cold, as by taking patients early out of bed after delivery, a practice deservedly reprobated by Sydenham. This has a general tendency to throw the circulating fluids upon the internal parts. That direction of the blood to the uterus, which obtains during pregnancy, naturally induces the flow of them to that viscus in preference to any other part. This, and the predisposition in consequence of labour, produces an inflammation in the substance of the uterus, which, though sometimes it appears distinct and uncombined with any other disease, yet is often communicated to the peritoneum covering it, and to the neighbouring parts; as, for example, to the ovaria and fallopian tubes. Inflammation having once begun, the natural functions of the part when in health become disturbed; thence a suppression of the lochia will be brought on, and so an increase of the disease.

Inflammation of the substance of the uterus, when it exists simply, is tolerably well marked in its symptoms.[2] It usually begins about

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[1] The impropriety of using instruments merely to save the time of the accoucheur, and, therefore, in cases where none are required, has been with great justice reprobated by Dr. Osborn, in his Essays lately published.

[2] [Inflammation of the womb has been described by Astruc, Vigarous, Primrose, Pouteau, Baer, Smith, Danyau, &c. Out of 222 cases of puerperal, we have seen that Tonnellé found simple metritis in seventy-nine, superficial softening in twenty-nine, and deep softening in twenty. M. Dugès found the womb affected in three out of four cases; Dr. Robert Lee found the muscular coat softened in ten out of forty-five dissections.—Ed.]

the second or third day after delivery, and is first known to exist by a sensation of pain felt at the lower part of the abdomen, which gradually increases in violence, and is distinguishable from after-pains by its constancy. After-pains are intermittent like the pains of labour, depending, like them, upon contractions of the uterus, whilst the pain of inflammation of the uterus arises from irritation of the nerves of the part, which is, therefore, constant. The patient complains much if any pressure be applied to the uterus. On examination externally, the uterus will be found larger than its common size. It is also harder to the feeling, resembling almost the firmness of a stone.

I know nothing of the state of the os uteri by any examination of the living body, because it is not customary to examine it in such cases, and it would most probably be attended with no advantage; but in one case, where I had an opportunity of inspecting the body after death, it was in a more contracted state than is usual at that period after delivery. This may not be the general state of it, but I think it right to mention this, as I have once found it. Farther observation will confirm or reject it.

Soon after the symptoms which have been mentioned, marks of constitutional affection sometimes appear in an increase of heat all over the body, a white and dry tongue, thirst, pain in the head, hardness, fulness, and strength of pulse (when the complaint occurs in strong habits), and in all cases frequency from 100 to 120 beats in a minute.

Very soon after the attack of the disease, the stomach is apt to become affected with sickness and vomiting. As this symptom is not constant, may it not depend upon the affection of one or both of the ovaria, in particular cases, as there exists a strong connection between those parts and the stomach? In most cases the patient expresses a sense of great pain in the back, and shooting into the groins. The lochial discharge is usually much diminished, and sometimes altogether suppressed; and the secretion of milk is, for the most part, interrupted.

The bowels are variously affected in this disease: at first they are often costive, but afterwards they frequently fall into purging, which, in some cases, proves useful, by diminishing the symptoms of inflammation.

The urine is, for the most part, high coloured, depositing sometimes a pink coloured sediment, when we have an opportunity of seeing it unmixed with uterine discharges. It will sometimes be found, where the disease has communicated with the neck of the bladder, or when both the uterus and it have suffered, that suppression of urine will take place, so that the catheter must be employed two or three times every day to draw it off.

If the inflammatory symptoms should not run very high, the abdomen does not swell; but if they should, then the inflammation attacks the peritoneum, and new symptoms arise, such as take place

in the disease to be next considered, and then it becomes a mixed case.

In the progress of the disease it frequently happens that slight shiverings take place at various times in the day, and the face of the patient becomes occasionally flushed. Under these circumstances the tongue puts on a fiery red or scarlet appearance. The pulse after this generally increases in frequency and weakness, symptoms of general irritation succeed, and the patient is often cut off in a short time. Now and then, however, a flow of fetid lochia relieves the symptoms—the pulse becomes less frequent—the flushings appear more seldom—the tongue becomes paler—and the skin, which which before had been hot and dry, now relaxes, and is cooler; a spontaneous diarrhœa comes on, and the patient recovers.

The chance of recovery is far greater when no shiverings have taken place, nor flushing of the face, nor any of those unfavourable symptoms described above; but where the uterus gradually becomes softer and less tender, where the lochial discharge returns in its usual quantity and quality, and the secretion of milk begins again.

A sudden cessation from pain, succeeded by evident marks of depression of strength and delirium, is not so commonly met with as a fatal symptom in this disease, as in that which is next to be described. When this disease kills, it is usually by symptoms of irritation.

Upon examining the bodies of women who have died under this disease, we have found little or no extravasated or secreted fluids in the cavity of the abdomen, when the disease has existed simply. The peritoneal surfaces have been also discovered free from disease in some cases; in others, however, the peritoneum which covers the uterus has been partially inflamed, and that covering the posterior part of the bladder. Inflammation is often observed running along the fallopian tubes, which, when cut open, will be seen loaded with blood. The ovaria too are often affected in the same way.

The uterus will commonly be found very firm in its substance, but larger than when naturally contracted. Upon cutting into the substance of the uterus, pus is often found, which, in all the cases I have met with, is situated in the large veins of that part. Pus is also sometimes found contained in the cavity of the fallopian tube, and also in the substance of the ovaria, which are distended by inflammation and matter, so as to equal in bulk, in some cases, a pigeon's egg.

I never had occasion to meet with any case in which mortification had taken place in any part of the substance of the uterus, except in one instance, where there was a gangrenous appearance of the cervix; but it is to be remarked that instruments had been employed in that case by the gentleman who attended the labour.

I am well aware that mortification has been often described as

having taken place in the uterus;[1] but I am persuaded that this has been chiefly said to happen by persons not habituated to examining the bodies of women who have died in childbed, from their mistaking the appearance of that part of the uterus, where the placenta had adhered, for gangrene; whereas, it is commonly only the remains of the maternal portion of the placenta, and of the coagula of blood formed at the extremities of the large vessels of the uterus upon the separation of the placenta. A very little attention, by scraping off gently this substance, will detect the sound internal surface of the uterus underneath.

This disease, as far as I know, has never been epidemic, nor is it likely that it should; but it occurs, on the whole, more frequently in the country than in large towns, on account of the difference in the state of the atmosphere disposing more to inflammation.

It also is found more in women of robust than weak constitutions, and especially in those who have indulged an appetite for heating food and spirituous liquors during pregnancy, and immediately after delivery.

It is reasonable to be believed, that a slight disposition to inflammation in any viscus, which, with a proper attention to regimen, &c., might subside, will be very likely to be called into activity by such irregularities. Indeed, I think that I have seen many cases where there has been some degree of constant pain and tenderness at the bottom of the belly after delivery, in which the disease has been altogether prevented by a careful attention directed to those circumstances, which have a tendency to subdue the causes, or shorten the continuance of inflammation, but which are too well known to every practical man to require any description here.

The prevention of the disease altogether may be very much assisted by attention before and during labour, to the management of the woman, according to the plan suggested in the first, second, and third essays.

Of all the serious complaints which attack women in the puerperal state, I believe this to be the least fatal, and most within the possibility of relief from medical assistance, if it be early attended to. The attack being accompanied with pain, and often succeeded by constitutional symptoms, gives quickly alarm both to the patient and physician. The symptoms sufficiently portray the nature of the disease, and then the mode of relief which should be attempted is distinct, and will very frequently be attended with success, if the form of the disease be simple.

Every art, which has a tendency in any manner to diminish the quantity of the circulating fluids, and weaken the action of the heart and arteries, should be employed in order to subdue the inflammation at the very outset.

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[1] [Gangrene of the uterus in puerperal women has been described by Baer, Ricker, Danyau, Tonnellé, and others, and in my prefatory sketch the reader will find some notice of it from these authors.—Ed.]

Bleeding, therefore, from the system (in strong constitutions, and in the country more especially) should scarcely ever be omitted. Almost the whole of the success depends upon this being performed early. The quantity must be regulated by the constitution of the woman, the violence of the symptoms, and the state of the pulse. In the repetition of the operation we must be governed by the same circumstances, and the effect of the former evacuation upon the disease; and it must be observed that it will frequently be found necessary not only a second, but a third time. In less robust patients, it will be found expedient, if the symptoms, having been diminished, are not entirely carried off by the first bleeding, to take away more blood by the topical application of six or more leeches, inclosed in a basin, to the belly; if it be desired to continue the discharge of the blood upon their falling off, it may be effected by the use of warmed flannels laid on the belly.

Fomentations of chamomile flowers, and the heads of poppies (the clothes used for the purpose being sprinkled with camphorated spirit), are also of service in alleviating the pain and disposing the patient to a gentle perspiration. The greatest care should be taken in removing and applying the clothes that the sheets be not wetted, nor the patient exposed to cold; and when the operation of fomenting is finished, it will be found advantageous to make the skin quite dry, and then anoint the whole abdomen with some warm oily liniment, such as a mixture of an ounce of oil of olives with two drachms of camphor, and a drachm of oil of cloves.

From blisters applied to the abdomen, so useful in many other occasions of internal inflammations, I cannot say that my own experience leads me to promise any advantage. On the contrary, they have often increased the frequency of the pulse very considerably, and the irritation in the system at large.

Besides, I have more than once known the effect of the cantharides absorbed to be that of evidently producing an inflammation in the kidneys, along the whole course of the ureters; in the bladder and meatus urinæ, attended with great pain, in addition to the other symptoms. On these accounts, I am not sure of the propriety of using blisters in this disease; nevertheless, as they are of great use in many other cases of internal inflammations, as in pleurisies and peripneumonies, &c., I would not too strongly discourage their use, although I have not been so fortunate as to find much benefit from them.

Neither can I recommend a course of purging as serviceable in the inflammation of the uterus, which follows delivery. It is always, I believe, right in the first instance to procure two or three evacuations from the intestines; but afterwards it will be enough to preserve the regular motions of the bowels, by giving from time to time small quantities of castor-oil, or a little rhubarb mixed with other medicines, which may be proper. The objection which I have found to long-continued purging is, that it has always the effect of prevent-

ing that gentle perspiration which, if it can be produced and kept up, will do more towards curing the disease than any remedy which I know.

This practical opinion may seem to militate against an observation which I have made above, that a spontaneous diarrhœa sometimes relieves the patient; but I beg leave to observe, that there may be a considerable difference between the effects of a natural and an artificial diarrhœa. In the first, a determination being produced from some action in the constitution which we do not understand, the inflammation in the uterus ceases; but in the second, though we may bring on a purging, yet, as the evacuation may not be the only change which is wrought, where the diarrhœa is spontaneous, so that alone may not necessarily cure the patient, and if it do not, then it may do harm, both by its effect on the perspiration, and by its determining the circulation to the interior parts of the body.

Next to the diminution of the action of the vascular system, it is of consequence to produce, if it be practicable, a gentle perspiration, which is eminently advantageous, as has been remarked above. Small doses of antimony and opium, with the addition of a little rhubarb in a pill, which may be followed by a saline draught every six hours, answer this purpose very well. The opium tends to quiet the pain, and the rhubarb secures a regular action of the intestines, without violently purging. About three grains of the antimonial powder, with the same quantity of rhubarb, and half a grain of purified opium, for a dose, will commonly succeed. The dose of the antimony should not be so great as to bring on vomiting. The opium may be increased both in quantity and in the frequency of repetition, so as to quiet the pain, which alone will aggravate the disease. Besides, unless relief from pain be procured, the patient will be entirely prevented from sleeping, and will fall into symptoms of irritation.

Indeed, except where there is reason to suspect the existence of undigested or indigestible substances in the stomach, the action of vomiting should always be avoided, inasmuch as it constantly adds to the pain by the agitation which it occasions, and the pressure made by the muscles on the inflamed uterus.

If, during the course of the disease, a spontaneous diarrhœa should come on, it should not be interfered with farther than by taking care that the strength of the woman be not reduced too much by it. If, however, the evacuations should be very frequent and copious, it will be proper occasionally to administer some of the cretaceous mixture, with a very small quantity of ipecacuanha and opium, so as to moderate without stopping the diarrhœa.

If, by any of the means recommended above, the violence of the disease should have been subdued, the plan is to be continued through the whole course of it, or till we believe that the patient is free from danger.

But if, notwithstanding the use of the remedies advised above, the symptoms should continue with unabated force, it will be best to wait, as has been recommended in another case by Sydenham, and trust to

the powers of the constitution; since, if we do not succeed at first, we shall not be likely to gain much ground by the pursuit of the same plan for any great length of time, and we may interrupt the efforts of nature.

In the course of this disease, I need hardly mention that the food of the patient should be of a mild nature, and such as is of very easy digestion. Animal food of all kinds, and every sort of fermented liquor, should be strictly avoided.

If, after the symptoms have continued for several days, shiverings should attack the patient, it is almost certain that suppuration has taken place. Here, I fear, little is to be done by medicine. Many, under these circumstances, will necessarily die. If the suppuration be in the veins of the uterus, or in the fallopian tube, the pus may possibly escape into the cavity of the uterus; but if it should be situated (as I have seen it) in the ovaria, the only modes of evacuation will be either by absorption of it, or by its breaking into the general cavity of the abdomen, or by adhesions forming between the ovarium and the parietes of the abdomen, and so, absorption going before the matter, it may be discharged externally. Of the former we can have no positive evidence, and I much doubt if it often happens. Of the second, I never met with an instance. Many cases are recorded of the latter.[1] My own experience has only furnished me with a single instance of a circumscribed abscess following any inflammatory affection in the cavity of the abdomen of a puerperal patient. This broke at the navel some months after delivery, but the event of the case never fell within my knowledge.

I am apt to be of opinion that the suppurative stage of the disease most commonly destroys the unfortunate patient, as I have opened several bodies with confined suppuration in the uterus and ovaria.

As the effect of matter, under such circumstances, is to excite irritation, such sedative means as are usually employed in internal suppurations, as the decoction of sarsa with opium, may be had recourse to; but little, I believe, is to be expected from their exhi-

[1] [I do not think these cases of inflammation and abscess of the uterine appendages are so rare as has been supposed. The reader will find some cases collected in an essay of mine in the Dublin Journal for September, 1843, and since then I have seen about a dozen. I have seen them in unmarried women, in married women unconnected with pregnancy, and after delivery. I have, in a few cases, found the inflammation subside, the enlargement and hardness disappear, and the patient recover without abscess. I have never seen the abscess open into the peritoneal cavity, but either into the bladder, the vagina, or the rectum; more frequently the latter. In two cases, where matter could be distinctly felt above Poupart's ligament, the abscess was opened in that situation. Deep-seated pain and throbbing, with tumefaction and tenderness on pressure through the abdominal parietes or vagina, quick pulse, thirst, fever, &c., are the chief symptoms. If the swelling be low in the pelvis, the patient is unable to straighten the thigh of that side; but this difficulty is not felt when the swelling rises above the pelvis. Leeches, constant poultices, hip-baths, vaginal injections, enemata, with gentle purgatives, and, in many cases, calomel and opium, are the means I have found most successful for their treatment. I ought to add, that none of the cases I have seen proved fatal.—Ed.]

bition. The woman evidently loses flesh and strength, the countenance becomes pale and sallow, unless when it is flushed with hectic patches of red; the palms of the hands and soles of the feet are affected with burning heat, the pulse becomes small, frequent, and of a wiry hardness; the eyes become hollow, and the face anxious; colliquative sweating ensues; at length the extremities become cold, and the patient sinks and dies.

Sect. III.—*On the inflammation of the peritoneum or investing membrane of the cavity of the abdomen.*

For some reason or other, there seems to be a great aptitude in the peritoneum to be inflamed in women after delivery, so that causes applied to the body, which generally have a tendency to excite inflammation of internal parts, seem to be peculiarly directed in their operation to this part during the time of childbed. Hence, this disease is very frequent, and has also been called puerperal fever.

It has been conceived that this predisposition might depend upon some change in the state of these parts, or of the cavity of the abdomen succeeding to the act of labour, or the contraction of the uterus. Yet it seems not to be conformable to the wisdom of nature, to construct parts so that the circumstances to which they must necessarily be exposed in a state of health should either prove a predisponent or an immediate cause of disease. Moreover, the alteration of the state of the cavity of the abdomen is so frequent an occurrence, and this complaint is comparatively so uncommon, that it is hardly credible that so many should escape, and so few be liable to its influence.

In some cases the pressure made by the child's head, in entering the upper aperture of the pelvis, against the peritoneum, either covering the cervix uteri or the bladder, may predispose to, if it do not actually produce, the disease; and I believe that it is often an occasional cause. It may be said that this, also, would more frequently produce the disease than we find, in fact, that it does. But, on the other hand, it should be remembered that it is only in cases where the head is comparatively large that so great a degree of pressure can happen as to occasion disease. Where the head is small in proportion to the upper aperture of the pelvis, or is of the usual size, any violent degree of pressure can hardly take place, which is the reason why the disease does not occur after every labour.

Besides this cause of peritoneal inflammation, the application of cold externally is another, which, added to any slight injury which may have been occasioned by labour, and which alone would not have produced disease, will be very likely to bring on inflammation of the peritoneum. Tight binding of the belly after delivery has, in many cases, brought on the disorder; as, also, large quantities of

heating liquors drank after delivery, against the use of which I have already given some cautions.

If one may be allowed to judge from the sensations of the patient, the inflammation begins, in some cases, in a small part of the membrane at first, and is afterwards communicated to the whole; in others, it would appear to attack the whole at once. In the first instance, pain in some particular part of the abdomen is the earliest symptom; whilst in the last, we commonly find, in the commencement of the disease, a general tenderness of the whole cavity of the belly. This tenderness of the abdomen usually increases very rapidly when it has once commenced, and as the pain increases tumefaction begins, and extends till the swelling, in the course of the disease, is nearly equal to the size of the belly before delivery.

Various local and constitutional symptoms arise in the progress of the disease, which strongly characterize it, and distinguish it from other affections. The constancy of the pain distinguishes it from after-pains, and the universality of it discriminates it from inflammation of the uterus. All the internal lining of the abdomen being in an inflamed state, the pain of the woman becomes, to a violent degree, increased by the smallest pressure made upon it, even by the bed-clothes. All motion disturbs her very much, especially active or voluntary motion, so that she is entirely incapable of turning herself from her back to her side, or from one side to another, and is, therefore, absolutely confined to one posture.

Many particular local symptoms arise from the affection of the peritoneum, investing particular parts, such as constant sickness and vomiting of bilious matter, when the stomach is attacked. This matter seems to be greatly increased beyond the natural quantity secreted in health. The state of the action and secretion of the intestines is very various. Sometimes their actions appear to go on naturally; at others, violent diarrhœa comes on, and the fæces are evidently mixed with a considerable portion of bile. The functions of the bladder, too, become affected, especially by a constant inclination to evacuate urine, which comes away frequently, and in small quantity.

A difficulty of breathing will be found most commonly, especially in the violent states of this complaint, which depends upon the great distension of the whole abdominal cavity, which consequently encroaches upon the thorax, presses on the diaphragm, and impedes the free action of the lungs.

In consequence of the general derivation to the bowels, the secretion of the milk, as in the disease already described, becomes diminished or entirely stopped, and the breasts, which before the onset of the disease had been tumid with milk, become flaccid and empty.

The lochial discharge, for the same reason, undergoes an alteration, and this commonly consists in a suppression of it altogether.

The constitution soon becomes affected with this disease. A general heat of the whole body, with flushing of the face and redness of

the eyes, come on. The tongue becomes very white and dry, attended with insatiable thirst; the skin is dry, parched, and hot. The heart and arterial system show themselves to be affected by a considerable increase in the frequency and quickness of the pulse, which is, also, for the most part small, and very seldom hard.

In the progress of the disease towards the destruction of the patient all the symptoms become aggravated. The pain in the belly becomes hourly more and more violent. She is compelled to lie entirely upon the back, from the pain becoming excruciating on any attempt to move. For the same reason the legs are drawn up towards the belly. The pulse increases in frequency, the respiration in difficulty, and at length, when the patient has been suffering the most acute pain for many days, there is at once a total cessation of it. From this time the pulse is more frequent, and loses its strength; paleness, coldness, and clammy sweats appear in the extremities and about the face; the urine and fæces come away involuntarily; the mind becomes unstable without any violent delirium, and the patient almost insensibly slides into death.

It may be considered almost as a mortal symptom when the pain in this disease suddenly vanishes.

When the woman is likely to recover, either from the efforts of nature or the assistance of art, it is generally indicated by a gradual diminution of the pain in the abdomen, and particularly by her having changed her posture, than which there can scarcely be a stronger evidence of the decrease of the inflammation. Another very favourable symptom is the return of the milk into the breasts, and of the lochial discharge; but it is also to be noted, that in some cases the latter never come on again, having been once suppressed, though the patient may recover. The pulse becomes less frequent and more free, and even apparently fuller, than in the violent stage of the disease.

The tongue is more moist, and gradually loses its whiteness, usually becoming clean first at the edges; the urine is voided in in larger quantity; the skin is found moister and more cool. The respiration gradually is less laborious till it becomes natural. Towards the end of the complaint, whilst the other symptoms are subsiding, a considerable diarrhœa sometimes supervenes, and now and then carries off the disease.

This complaint, like the former, has not been known to be epidemic; but it is found much more frequently in the country, very rarely in large towns, and particularly in hospitals, indeed never but in the most robust and plethoric habits, or after violent or instrumental delivery.

When the disease has produced any great degree of tumefaction of the belly, it is not very common for the patient to recover. Upon the whole, it will be found a more fatal disease than that which was treated of in the former essay, and for a very obvious reason.

The former attacks only one part, and that not engaged in any

function necessary to life; whereas this, in its extent, affects a great variety of parts, the functions of some of which are indispensably necessary to the well-being and even existence of the frame.

The appearances upon examining the bodies of women who have died of the disease have been those of inflammation of the peritoneum covering the different viscera. Upon the whole, that of the neck of the uterus and bladder will be found more generally inflamed than of other parts, nevertheless there is no part on which inflammation is not sometimes found. The surface of the stomach, liver, spleen, omentum, great and small intestines, uterus, the internal peritoneal lining of the muscles of the abdomen, will in their turns, or altogether, be found to partake of the disease, and as far as my experience leads me to judge, no part more than another. I think it particularly necessary to remark this, because different authors who have treated of this disease have laid great stress upon a supposed exclusive affection of particular parts, especially the omentum. I am satisfied, from a very extensive experience, that this is an error, and that the affection is general, at least not confined to any particular part. A very large quantity of a fluid generally is collected in the cavity of the abdomen, resembling serum mixed with pus; but it differs from both of them in this respect, that it is not homogeneous in its texture, but intermixed with portions of a solid matter, resembling pieces of the same solid matter as is found on the surfaces of the peritoneum, the nature of which will be more particularly taken notice of hereafter.

I never, in any patient who died of this disease, found any marks of gangrene and mortification of any of the viscera of the cavity of the abdomen.

Respecting the manner of treating this disease, I can point out no difference from that which has been recommended in the preceding essay. But it is to be observed, that the remedies to be employed will be found generally to be much less successful, particularly if they have not been employed very early in the disease. Where a great degree of tumefaction has taken place in the abdomen, especially if from the fluctuation it has been clearly ascertained to be from a fluid extravasated there, the patient will, I believe, very rarely recover.

Where it is possible, the use of bleeding, both generally and topically, is to be employed, and repeated according to the judgment of the attending practitioner, regulated by all the circumstances attending the disease, such as the constitution of the woman; the nature of the then prevailing epidemic, if there be any; her usual habits of life, whether she be in an hospital, in a large town, or in the country.

All these considerations should enter into our determination, and direct our conduct; and in this, as in most other cases of medicine, few general rules can be laid down which must not frequently admit of exceptions. It very often happens, immediately after the bleed-

ing, that the pulse becomes more free and the pain less. The blood drawn always has a very thick crust upon the surface of it.

I do not mean to add anything further on the manner of treating this disease, because it is the same with that already described in the former essay; and I therefore beg to refer my readers to what I have there said upon the subject.

In the preceding account I have described the inflammation of the uterus, and of the peritoneum, distinct from each other, as they sometimes exist. Mixed cases, however, occur, where, from the same causes, both the substance of the uterus and the peritoneal surface of it, and the other viscera, become affected with inflammation. Under such circumstances there will be a combination, or complication, of the symptoms of both diseases. I considered it proper in the two former sections to treat of the states of inflammation of the uterus and of the peritoneum separately, as they are sometimes found. But it is right that I should observe here, that they are often mixed together, insomuch, that the mixed case is that which we most commonly meet with, in which will be found a complication of the symptoms arising from the two different affections. This is a very dangerous state to the patient, and the degree of danger must be estimated by the violence of the symptoms described already, always remembering that it will be aggravated as the quantity of parts inflamed is greater.

Before I close this part of my subject, I must beg leave to caution those of my readers, whose experience may have been short, to be very careful in distinguishing these diseases from cases of fever consequent to labour, occurring in debilitated constitutions, in large towns and hospitals, more particularly when there is any disposition to epidemic complaints which have a low tendency. Under all these circumstances we should be particularly cautious in the use of the lancet. Nothing but extreme necessity will justify it, and that necessity very rarely occurs.

Sect. IV.—*On cases of inflammation of the uterus, ovaria, and fallopian tubes, or of the peritoneum, connected with inflammatory affection of the system.*

Cases of inflammatory fever have been described by authors as occurring sometimes in puerperal women; and it has been conceived that this fever takes place first, and that an inflammatory affection of the abdomen comes on afterwards.

This idea has taken its rise from a rigor, in many cases being one of the first apparent symptoms of disease in some patients. When this happens, especially when it is violent in its degree, as it is a proof of the system sympathizing with the local affection very early in the disease, the patient generally is in greater danger than where there had been no such preceding rigor, or where it had been slight.

Perhaps the extent of the local disease may be the reason why the constitution is so soon affected in some cases. Whether the fever, however, takes place first (if it be of the inflammatory kind), and the inflammation succeeds it, or the inflammation precedes, and the inflammatory affection of the system be only a consequence of it, the state of the patient will be nearly the same.

When, however, the disease at its outset is attended with this rigor, it is, for the most part, accompanied throughout (if in a robust phlethoric habit) with considerable marks of the whole frame being acted upon. The eyes are apt to become blood-shot, a throbbing pain is often felt in the head, attended with a noise in the ears; the face becomes red, and the eyes appear wild and prominent. The heat over the whole body becomes greater. Sometimes the patient bursts out into a profuse sweat, especially about the head, which, nevertheless, does not mitigate the symptoms. Rambling of the mind succeeds, and to this a delirium of the violent kind, in which the patient sometimes dies. At others, if the local disease do not destroy her, the delirium terminates in mania, but this is a rare occurrence.

All these symptoms strongly indicate not only the presence of a local complaint, but also of an increased action of the heart and throughout the whole of the body. Now, although at the time there seems to be a greater exertion, it is to be remembered that there will be a much greater waste of absolute strength than when there is only a disease accompanied with an increased action of a part of the body, just in the proportion as the whole is greater than such part.

This will make a difference in the treatment which ought to be pursued. When only a part of the body is attacked by inflammation, and when this is unattended with any great affection of the system, it will be right to attempt immediately to reduce the disease by bleeding largely from the system, and repeating it at short intervals; and no disadvantage will arise from such conduct, because as the whole frame is not disordered, when, by such a plan, we have cured the local malady, the patient is well; but if on a false idea of the necessity of pursuing the same treatment in this case, we should reduce the patient beyond a certain point, the increased action will, indeed, continue; but in a body whose powers being exhausted, is incapable of supporting it, the patient will in consequence fall into a state of extreme irritation, and a fatal termination of the disorder will be thereby ensured.

Here then, although blood must be taken away early in the disease, the quantity should be smaller, seldom more than eight or ten ounces; and unless this should seem (from the diminution of some of the symptoms) to have given considerable relief, it should be with great caution repeated; or, if it be, it will be better to take it away from small than from large vessels; and that by leeches, or by scarification and cupping. By this means the patient will be less weakened, whilst the bleeding will be equally efficacious. Opium, too, must be

employed with more caution, because it is very liable to increase any disposition which there may be to delirium. Where there is such a disposition, it will be found advantageous to apply cataplasms to the legs and feet, which, I believe, are better than blisters, because they do not irritate the constitution so much as the use of cantharides.

Shaving the head and applying volatile alkali on the outside of it, will sometimes afford relief, and in cases of great urgency should never be neglected.

The treatment, in other respects, resembles that which has been already recommended in the second section of this essay, therefore need not be repeated in this place.

This is a form of disease which frequently appears in the country, and is much more generally met with than either of the states described in the two former parts of this essay. It sometimes also occurs in large towns, but much more seldom, because there the constitution is more apt to be affected with symptoms of irritation than of general inflammation. None of the three preceding diseased states appears to be at any time epidemic or even endemic, unless that, on the whole, they will be met with more frequently in constitutions and under circumstances favourable to inflammatory complaints rather than in those of an opposite tendency.

But none of them, as far as I am warranted by experience in judging, is in any degree infectious under any circumstances.

Sect. V.—*On the affection of the uterus, and of the system arising from portions of the placenta left in the uterus.*

There is another and different affection of the uterus from that which I have described above, and which produces different effects upon the constitution.

In a former part of these essays, I have taken occasion to point out the importance of so conducting a labour that the placenta shall be expelled altogether, and by the powers of nature. It sometimes, however, will happen, notwithstanding all the care which can be taken, that there will be a necessity (though it occurs but seldom) for bringing it away by art, on account of its unnatural retention, or by reason of a flooding. When such a necessity exists, it has happened that practitioners from timidity, and an idea that it could do no mischief, have left parts of the placenta adhering to the uterus, if they have found any difficulty in separating the whole. This I know may often be done with impunity, and the portions left will come away; but I beg to observe, that I have known some fatal cases arising from this practice, and from this circumstance I am of opinion that, whensoever the hand is introduced to detach the placenta, the whole ought to be brought away if possible, even though it should be with some little difficulty; as, if care be taken, no harm can arise to the uterus from doing it.

For the first three or four days the woman seems to suffer no inconvenience from that which remains, except that there is rather a larger discharge of the lochia than there ought to be.

The next visible alteration is, that the discharges become of a bad colour, very large in quantity, and abominably offensive to the smell.

The patient now begins to complain of pain in the back and in the region of the uterus; the pulse will be found exceedingly frequent, quick, contracted, and of a wiry hardness.

The countenance assumes a pale and sallow cast, and the woman loses flesh daily. The eyes become glassy, and the inner canthus of the lids becomes pale, as do also the tongue and lips. The palms of the hands and soles of the feet burn with heat.

To these symptoms sickness and vomiting succeed, and these are followed by a constant yawning first, and then hiccoughing. In this way the patient goes on for a few days, till at last she can keep nothing on her stomach; the extremities then become cold, and at length, in a fortnight or three weeks after delivery, she is cut off by these symptoms of irritation.

If it be known that any part of the placenta remains behind, it may sometimes be picked away, at least partially, in a putrid state. But if this cannot be done, then we must endeavour to prevent the constitution from being affected by its retention, or remove the ill effects which have already taken place.

An injection of the decoction of bark into the vagina (and uterus, if it be possible) will be found useful, if it be only by washing away any matters which may be there. Internally bark, wine, and other cordials should be given in as large quantities as the stomach will bear. If, however, vomiting has already come on, then the effervescing saline draughts, with opium, should be first given every hour; and when the stomach is quieted, then bark and wine may be exhibited.

Both medicine and food should be employed in very small quantities, and often repeated; because if too much be introduced into the stomach at one time, it will certainly be rejected, and we shall have done more harm than good. The food should be simple at the same time that it ought to be nutritious. Broths, bread and milk, sago-milk, or any similar food, may be given.

This plan will allay the irritation, and support the strength, till the whole of the putrid matters are discharged, and then the patient may recover.

But if the complaint have been long neglected, no remedies will avail to avert the death of the woman.

SECT. VI.—*On the low fever of childbed connected with affection of the abdomen, which is sometimes epidemic.*

When we reflect upon the nature of child-bearing; when we con-

sider the comparative size of the child's head to the pelvis; the violent exertions employed to expel it; the great agitation which these occasion in the system; and the acuteness of the pain which attends upon the whole process, we must of course admire the preserving care of a good Providence in protecting women against those injuries, which we should expect must inevitably be produced thereby.

In a former part of this work I have taken occasion to observe by what means the Author of nature has contrived to counteract all mischiefs, so that very rarely women fall victims to this laborious process. The infrequency of death in childbed has induced mankind at large to assume it as a fact, that a man who loses many patients must be a bad practitioner. This, to a certain extent, may be considered as true, because most probably no person can uniformly be unsuccessful in midwifery, and for a great length of time, without some kind of misconduct. Yet, nevertheless, there have been seasons and situations when the mortality of puerperal women has been more particularly alarming, and where it would appear that human prudence could not foresee or avert, nor human skill relieve, one of the most fatal diseases to which our nature is subject.

One of the first accounts which we have of any epidemic in lying-in women may be found in the "Mémoires de l'Académie Royale des Sciences" for the year 1746, which, as it is very correct and very analogous to what has fallen under my own observation, I shall take the liberty of transcribing, to save my readers the trouble of referring to the work in which it is contained.

"Il a régné pendant l'hiver de 1746 une maladie épidémique parmi les femmes en couche. M. de Jussieu a le premier observé cette maladie: elle commençoit par le dévoiement ou par une disposition au dévoiement qui continuoit pendant la couche; les eaux qui accompagnent ordinairement la naissance de l'enfant sortoient pendant le travail de l'accouchement; mais après ce temps la matrice devenoit sèche, dure et douloureuse, elle étoit enflée, et les vidanges n'avaient pas leur cours ordinaire.

"Ensuite, ces femmes étoient prises de douleurs dans les entrailles, surtout dans les parties qu'occupent les ligamens larges de la matrice; le ventre étoit tendu, et tous ces accidents étoient accompagnés d'une douleur de tête, et quelquefois de la toux.

"Le troisième et le quatrième jour aprés l'accouchement les mammelles se flétrissoient, au lieu qu'elles durcissent et se gonflent naturellement dans ce temps par le lait qui s'y filtre alors en plus grande quantité; enfin, ces femmes mouroient entre le cinquième et le septième de l'accouchement. Cette maladie n'a attaqué que les pauvres femmes, et elle n'a pas été aussi violente, ni aussi commune parmi les pauvres femmes qui ont accouché chez elles que parmi celles qui ont été accouchées à l'Hôtel-Dieu; on a remarqué que dans le mois de février de vingt de ces femmes malades en couche à l'Hôtel-Dieu, à peine en échappoit-il une; cette maladie n'a pas été si meurtrière dans le reste de l'hiver.

"Messieurs Col de Villars et Fontaine, médecins de cet hôpital, nous ont rapporté qu'à l'ouverture des cadavres de ces femmes, ils avoient du lait caillé, et attaché à la surface externe des intestins; et qu'il y avoit une sérosité laiteuse épanchée dans le bas-ventre; ils ont même trouvé aussi de cette sérosité dans la poitrine de quelques-uns, et lorsqu'on en coupoit les poumons, ils dégorgeoient une lymphe laiteuse et pourrie.

"L'estomac, les intestins et la matrice bien examinés, parroissoient avoir été enflammés, et il est sorti des grumeaux de sang à l'ouverture des canaux de la matrice.

"Dans plusieurs de ces femmes les ovaires paroissoient avoir été en suppuration."

In the "Medical Commentaries," published by Dr. Duncan of Edinburgh, for the year 1790, are contained some observations by Dr. Joseph Clarke of Dublin, on the periods at which epidemics have occurred among lying-in women, since they have been taken notice of at all, and from which I shall take the liberty of making some extracts, chiefly as to the time when they have prevailed.[1]

* * * * *

In the year 1787 and 1788, the same year in which the disease seems to have been prevalent in Dublin, it was also exceedingly general through the whole of this country, but more especially in London, and in hospitals; and made wonderful havoc among lying-in patients, which gave occasion to great alarm in the minds of women, and of persons engaged in that department of medicine. From the number of deaths among people of rank in that state, some kind of estimate may be formed of the ravages which it must have committed among those of whom less care was taken, and who had fewer of the comforts and conveniences of life.

Finding that those medical men whose age and experience were great in the diseases of puerperal women were staggered at the fatality, and embarrassed and perplexed in the treatment of the disease, I thought that I should perform a duty not unacceptable to the profession, by delineating the prominent features of it, so that at least it might be known; and by describing what means had been employed without effect, in order that others might be tried, in the hope of succeeding better.

My observations were at that time very hastily thrown together, and published on the spur of the occasion; but I am much flattered by finding that the short account written by Dr. Joseph Clarke, of the same epidemic (though it appears, from his not quoting it in his History of Epidemics, that he had never seen my Essay, which had been published two years before), corresponds so nearly in most points with my own. This may be considered as a strong proof that the nature of the epidemic and its fatality, here and there, were the same.

[1] [See pp. 304–5, paragraphs 7 to 19, of this volume.]

The contents of this section will consist of some of the materials of my former Essay, together with such additional observations as have occurred to me since the time when that was published.

Towards the middle of the year 1787 a disease made its appearance among parturient women in London, which proved fatal to a great number of patients.

In many of its symptoms, and through its whole course, it seems to differ materially from any disease which has been described by authors as attacking women in a parturient state; and notwithstanding that, in some respects, it is analogous to the diseases described in the former sections of this essay, yet still there is so material a difference in the nature of its attack, in its general progress, and in the manner of its termination, that I think an essential difference will be found to exist between them.

Instead, therefore, of endeavouring to rank the disease under any particular class described by nosologists, I shall rather confine myself to the result of my own observations, and such hints as I have received from others, who have seen patients labouring under it, and shall not trouble my readers with more reasoning on the subject than is necessary, being well satisfied that more advantage is likely to accrue to society generally, and especially to the cultivation of medicine, from a faithful, impartial, and unprejudiced relation of facts, than from any speculative opinions, biassed, perhaps, by attachment to some system.

It has been usual, before the description of any epidemic complaint, to relate the previous state of the air, as it has been found to affect the thermometer or barometer; from this kind of observations, however, little light has been hitherto thrown upon the cause or nature of epidemics.

There cannot be much reason to doubt that climate, or (which is very analogous to it) a long succession of seasons in any climate, has certain effects upon human bodies. Such varieties as heat, cold, moisture, or dryness being very obvious alterations or differences in the state of the atmosphere, the effects of such varieties may be readily seen and observed; but the peculiar properties of these states of air, which subject the body to the influence of disease, may be, and most probably are, infinitely too subtle for our investigation, and incapable of being detected by those means which lead us to judge either of the heat or weight of the atmosphere.[1]

For these reasons I shall avoid entering into a very minute and particular account of the constitution of the air. Nevertheless it

[1] "Profecto quicquid nobis de hac omni quæstione scire, conceditur, angusta admodum metitur circumscriptio, et laboribus quibuscunque frustra exantlatis, fateamur tandem necesse est cum optimo Sydenhamo: "Quæ qualisque sit illa acris dispositio, nos pariter, ac complura alia, circa quæ vecors, ac arrogans philosophantium turba nugatur, plane ignoramus.' Neque sane virum philosophum dedecet nescire ea fateri quæ nesciat, adhibita modo prius ad res rite perpendendas diligentia: at incognita pro cognitis habere, eaque incertissima quæ sint, pro certis venditare, id vero dedecet."—Sir George Baker's Opuscula Medica. 8vo, Lond. 1771.

may not be superfluous barely to observe that the two winters of 1785–6 and 1786–7, although there was in both some frost, yet in neither was the cold weather of long duration; on the contrary, they were upon the whole mild, with frequent rains; neither were the two preceding summers very hot, but in both there was more rain than is customary in this climate at those seasons. The connection which there is between certain seasons and the actions of an animal body, though the mode of their action is very imperfectly, if at all, understood, yet is sufficiently established to be admitted as a fact in medicine. Perhaps to some peculiarity in the succession of seasons mentioned above, we are to attribute the sort of diseases which had been lately prevalent before the appearance of the epidemic. Inflammatory diseases had been extremely infrequent, or, if they occurred at all, they were principally of the erysipelatous kind. Eruptive diseases, particularly those which are attended with great depression of strength, had attacked great numbers of patients. The ulcerous sore throat, with or without the scarlatina, had been very general, both in London and also in the country at a distance from the capital. Most of the fevers had been of the low, nervous, and malignant kind, approaching to that type which has been by some called putrid, and had swept off a very large number of people of both sexes, but especially children and those of more delicate constitutions.

About the same period also, in some situations in the country, especially in low and marshy places, the generality of patients under inoculation had recovered with great difficulty. Abscesses formed in the axilla; large ulcers and sloughs took place, both there and at the place of insertion of the matter, and the number of patients who died far exceeded any former proportion, even in the same situation.

Dr. Joseph Clarke has given some account of the state of the air and prevailing diseases in Ireland about the same time; but his observations are confined to the spring of the same year in which the disease made its appearance; and he says, that "the temperature of the air was in general very cold, with sharp winds from the east and north-east, and that inflammatory diseases were more prevalent among our patients than usual, particularly acute rheumatism. Some were affected with severe pains in the thorax, and difficult respiration. In consequence of these complaints, we were obliged to have recourse to venesection more frequently during February and March of this year than during the twelve preceding months."

This I find it difficult to reconcile with that which directly follows: "Our patients recovered slowly; or, to use the language of the nurses, it was much more difficult to get them out of bed than usual." In another place Dr. Joseph Clarke writes: "Most of our patients attacked in the year 1787 were admitted in a weakly state, or had tedious and fatiguing labours. As a considerable time had elapsed since our wards had been painted and whitewashed, I thought it probable that these circumstances might contribute to the slow

recovery of our patients." As Dr. Joseph Clarke has not mentioned the state of the atmosphere for any considerable length of time before the approach of the complaint, I am apt to think that the general effect of continued seasons had been there, as it was here, to debilitate the constitution, and increase the irritability, especially as he informs us that most of the patients attacked were admitted in a weakly state. If that were the case, we can hardly expect that the effects, which might have arisen in the spring from cold winds, could have much power in subverting a predisposition to disease, the foundation of which had been laid by a long succession of seasons. And, indeed, this appears to have been the case; because, although the sharp winds for the time seem to have so far counteracted the previous disposition for low diseases that pneumonic complaints had been the consequence of them, yet still the predisposition continued to exert itself, as we find proved by the "general weakly state of his patients."

It is a curious circumstance, that before the attack of the epidemic of lying-in women at Paris, in the year 1746, in the month of January there had been an epidemic low fever, with an ulcerous sore throat. But in February, cold north-east winds, which had brought on pleurisies and acute rheumatism, had not overcome the predisposition to low diseases, as was proved by the puerperal epidemic coming on afterwards; from the account of which, published in the "Mém. de l'Acad.," it is evident that the complaint was of a low kind.

Having written thus much on the seasons and the nature of the diseases which had been prevalent in the period of this constitution of the air, I shall now proceed to describe the disease under our consideration. In this description I shall avoid the recital of every individual case, which would only confuse and tire the patience of my readers; instead of which I shall, in as clear a manner as I am able, collect the result of the whole, and enumerate the symptoms which characterize the disease, taking notice occasionally of any varieties which occurred in particular patients.

The first case which I met with was in the month of July of the year 1787, in which I was astonished to observe the rapidity with which it ran its course, and the very extraordinary manner in which the woman was destroyed by it. Since that time I have had an opportunity of seeing a great number of cases of the disease, by which means I have at least acquired a more perfect knowledge of the symptoms which attend it.

In the early cases, the short duration of the whole complaint hardly gave me time to discover the real nature of it; but by an attentive observation of those which I have since seen whilst the patients were alive, and by the examination of the bodies of many of those who died, I hope that I have derived some practical information, and a better knowledge of the disorder.

The most common time of the attack has been on the second or

third day after delivery; but in some instances the patient has never recovered from the fatigue of her labour, and in others, though very seldom, she has been seized so late as the eighth day. In cases where patients have been attacked immediately after delivery, it would seem probable that either the predisposition must have been very strong, or that they must have been actually exposed to the infection of fever before delivery. This last supposition may, perhaps, account for the introduction of the disease into hospitals.

It has hardly occurred to me to see a case in which the disease began with a shivering fit, which is common in the commencement of many other fevers, and in the cases where the constitution sympathizes with local inflammations, which have been already treated of. If there was any degree of rigor, it has been so slight as to have escaped the attention of the patient, and the observation of her attendants. Indeed, so great a diminution of the general sensibility and irritability accompany the whole complaint, that even if a slight rigor should take place the patient might not observe it, or being sensible of it at the time, might not afterwards remember it.

A symptom which I have noticed in many of the women who have been afflicted with the complaint, has been a refusal to suckle, and a carelessness respecting their children. At first I did not consider this as any part of the disease, and even thought it probable that it might not; but as it has occurred so frequently, I am inclined to set it down in the catalogue of symptoms, believing it to make a part of the disease.[1]

There cannot be any doubt that nature intended that all women should give suck to their own children. The custom of employing hireling nurses has been introduced by luxury, and is certainly unnatural. Particular situations of life, however, as has been before observed, render the office of suckling inconvenient to some, and a regard to the preservation of character impossible to others. If the dislike to suckling had only been observed in patients of these descriptions, it would not have engaged my attention so much; but it has occurred under all circumstances, and in women of strong affections, so as to make it extremely probable that it is a symptom of the disease.

Whence it arises, or upon what it depends, it may be very difficult to ascertain; whether it may be that the properties of the milk may be so far changed as to make it unfit for the nourishment of the child, or whether we ought not rather to consider it as a proof of a slight degree of affection of the brain in the beginning of the complaint, it would be not easy to determine. With regard to the

[1] A circumstance, of which I have lately been informed by Dr. Garthshore, seems further to prove that this may be esteemed a symptom of disease. A favourite animal in his house, immediately after whelping, became violently ill. Dr. Garthshore was desired by one of his servants to see her, when, upon inquiring for the puppies, he was told that the animal had lost her milk, and that she had pushed them away, refusing to suckle them. At this time the extreme parts were becoming cold, and she died the next morning.

former, I have not, from observation, been able to detect any alteration in the apparent properties of the fluid; but the quantity of it is certainly, in most cases, diminished. In some cases little or none ever is secreted in the breasts, and they never become tumid, especially where the accession of the disorder is early after delivery; in others, where the disease has begun after the secretion of milk has taken place, the milk soon disappears, and the breasts become soft and flaccid. It is probable that the secretion of the milk in the gland, and the desire of suckling, may be in some way connected with each other, and the existence of the desire may depend upon the presence of the secretion in like manner, as the power of secretion in the testicles produces the passion for propagation; and the passion, in its turn, affects the disposition for secretion. This is rendered further probable by this consideration, that women, when in health, consider suckling their children as a pleasure, independently of its being a duty.

Generally, at the very outset of this disease, the countenance has a particular appearance, long before we can conceive the absolute strength of the patient to be exhausted: the visage becomes pale and rather ghastly, and there is the appearance of a general relaxation of all the muscles of the face; the lips and the angles of the eyes lose their florid red colour, the cheeks and the rest of the face acquire a cadaverous hue, and there is that general cast of features which is so well known in patients who have been worn out by some long disease; a clammy dew or moisture commonly appears upon the face, not amounting to sweating; the pupil of the eyes is usually much dilated, but contracts upon exposure to a strong light; the eyes themselves, in a very short time, lose their lustre and quickness, and acquire a glassy appearance; they seem vacant, and are inattentively turned towards any object, and even then are not long confined to it, but in a little while wander to some other.

In the course of this complaint the tongue undergoes many changes, nor is the appearance of it by any means uniform in all cases. Most frequently in the beginning it is quite pale, but not dry, and this state of it often continues through the whole progress; but it is more common for it to become dry afterwards and white, and in some instances very rough. When the disease is in a more malignant form, and has lasted for some days, it almost constantly becomes brown; whensoever this happens, the surface of the teeth will, for the most part, be found to be incrusted with a fur of the same colour.

In some instances aphthæ will appear over the whole internal surface of the mouth and tongue, the hard and soft palate, the uvula, tonsils, and pharynx, so that they will all become perfectly white and much swelled. The irritation from this cause produces a constant disposition to cough, which is also partly occasioned by the secretion of a thick mucus about the pharynx, which chokes up the trachea, keeping up a perpetual difficulty of breathing. In some

instances similar aphthous appearances will be found about the anus. This has given occasion to a very general opinion, that the aphthæ go through the whole track of the intestinal canal. Dissection, however, has not given sanction to this idea, and I am disposed to think that it is not so, because I have never seen anything like aphthæ discharged by stool. The irritation, also, about the pharynx sometimes brings on sickness. The aphthæ usually continue for a long time, particularly about the uvula and tonsils.

The skin of the rest of the body, like that of the face, is not hard or tense, but frequently appears to the feeling more relaxed than it is found even in a natural state, and is sometimes covered with the same sort of clamminess which has been mentioned as observable on the face.

The heat of the patient is seldom increased, either to her own sensation or that of her attendants; even in those cases where it has appeared to be rather greater to the feelings of others, it has not been complained of, or expressed by the patient herself. Thirst, which is very common in fevers, and in the affections described in the former essays, is generally little complained of in this disease.

The action of the heart and arteries is affected at a very early period of the disorder, insomuch that the frequency of the pulse is often the first symptom which is observable in the complaint. In some patients, who before the attack of the disease were strong and plethoric, the pulse will be found, for a few hours, apparently more strong than before, but in a short time it will become weak.

In most of the cases which have fallen under my observation, the frequency of the action of the heart and arteries has been increased in a surprising degree, the number of pulsations in a minute being commonly from 110 to 130 in the very beginning of the disease. In the course of it, it will become more and more frequent, irregular, intermitting, weak, and tremulous, till the pulsation can hardly be numbered or perceived.

In some cases purple spots have appeared before death, as in petechial fevers, probably depending either on great weakness of the vessels, which allow the fluids to escape into the cellular membrane, or upon some alteration in the state of the fluids themselves, by reason of which they are not so easily retained; or partly on the one and partly on the other.

From the circumstance alone of the great frequency of the pulse without any apparent reason, I have been often able to detect the attack, when the woman herself has made little or no complaint. Here I cannot refrain from observing, that it is very uncommon to find a pulse beating to the number of 110 or upwards, after a reasonable time allowed for refreshment and recruit from the fatigue of labour, without strong reason for suspecting that there is some latent disposition to disease, even though none should appear. It will at least be a sufficient reason to the medical attendant to be upon his guard, and narrowly to watch, so that he may detect the insidious and treacherous encroachments of a disease, which, when once

it has fairly fastened upon the constitution, seldom loses its hold till it has effected the destruction of the unhappy patient.

The cavity of the abdomen very largely participates of disease; sometimes it is affected at the beginning, in other cases not till a more advanced period. A general swelling of the belly comes on, at first hardly perceptible by the patient. This is soon followed by a sense of pain upon the slightest motion, in consequence of the compression made upon the parts by the muscles, which pass over the cavity during their state of contraction. The swelling having once begun increases very rapidly, insomuch that the belly will become as large as it had been before delivery. The pain, however, is not proportioned to the quantity of swelling. I have even seen some cases where, although the tumour has been very considerable, the pain has been but slight. This I have commonly accounted for on the idea of a diminished sensibility making a part of the disease, especially as it has occurred most in those cases where the prostration of the muscular strength has been most manifest early in the disease, and where the pupil of the eyes has been most dilated. In such cases, where there has been little complaint of pain, at the same time that there has been great distension of the cavity of the abdomen, their termination has usually been very unfavourable. When the swelling is in a great degree, the breathing becomes prodigiously affected, the respiration becoming short and laborious. This is occasioned partly by the diaphragm encroaching upon the chest, in consequence of the distension of the abdomen, and partly, in some instances, from an organic affection of the chest itself, similar to that which has been already described.

The functions of the primæ viæ are generally much disturbed in this disease. In the beginning they often go on very well; but in the progress purging most commonly, and often in an excessive degree, comes on, especially in those cases where the abdomen has been most distended, in some of which the fæces have even been discharged without the consciousness of the patient. The evacuations from the intestines in this complaint are generally of a bad colour, and very offensive to the smell.

The state of the urine I cannot describe, as it is commonly mixed with some portion of the uterine discharges. This, as well as the fæces, is also frequently passed involuntarily, more particularly in the last stages of the disease. The uterine discharges usually are suppressed or diminished in quantity. When they are not, they generally acquire a very offensive and putrid smell.

Vomiting not unfrequently attacks the woman about the same time, and sometimes to such a degree, that scarcely any kind or the smallest quantity of food or medicine will remain upon the stomach. The matters vomited are generally of a porraceous colour, sometimes nearly black, and have often a very disagreeable smell.

The purging has, in most cases, appeared on the third or fourth day of the disease, but in some instances later.

The brain and nerves seem to have a considerable share in the dis-

ease. The energy both of the one and the other is manifestly diminished. Hence, in an early stage we find the muscular powers very much depressed, and in the more advanced stages the sensibility with regard to stimuli evidently impaired. To this last circumstance we ought perhaps to attribute it that persons who labour under this disease make so few complaints, often scarcely any, insomuch that practitioners, little conversant with it, would be surprised to observe how soon they will be cut off, having complained hardly at all. Early after the attack, if they are asked respecting their sensations, their common answer is that they are very well; or if they make any kind of complaint, it is only that they are low; and this state of apathy (if I may be allowed the expression) seems to continue through almost the whole course of it. As an instance of this I saw one patient, who, on the seventh day of the disease, at two o'clock in the afternoon, begged that she might be allowed to rise out of bed (which, however, was not permitted), alleging that she was nearly well, and she died at three the next morning. I have known the swelling of the abdomen enormous in degree, and yet the patient has scarcely uttered any complaint, unless when it was firmly pressed.

Violent delirium very seldom appears in this complaint; but the patient more commonly falls into a low, stupid, or comatose state, wishing not to be disturbed; yet, if roused, she will to the last moments give tolerably clear and rational answers to any questions which may be made to her.[1]

There is another symptom which sometimes comes on early in the disease, and continues through the whole course of it, which is a constant noise (which patients call a singing) in the ears.

Perhaps there is scarcely any disease which we are acquainted with whose consequences are more fatal than this. As far as I have observed, three-fourths of those who have been seized with it have fallen sacrifices to its severity. In private practice, however, patients have a much better chance than in hospitals.

The danger seems to be greater in proportion as the accession is sooner after labour.

Those who have had the disease at a later period have not been attacked with the same violence; the depression of strength has been less considerable, the tumefaction of the abdomen less extensive, and their chance of recovery has been consequently better.

It has not occurred in my sphere of observation to see any recover in whom the swelling of the belly has been in any very great degree. Indeed it is hardly possible, when we consider the great injury which all the contents of it must suffer from the effusion of extraneous matter poured into the cavity, as will be hereafter described.

The increase of danger is marked by the increasing frequency of

[1] Dr. Joseph Clarke, in his account already referred to, comfortably to what I had before remarked, but which it appears that he had never read, says, "Such insensibility we always considered in an unfavourable light, as marking great derangement in the functions of the nervous system."

the pulse, by its increasing weakness, and by the irregularity of it, which frequently comes on before death. The increasing size of the abdomen is also another very dangerous symptom.

It is also worthy of remark, that those patients are always in the greatest danger who make the fewest complaints in the course of the disease, especially if at the same time the pulse be very frequent, and the swelling of the belly considerable. Whether this circumstance arises from some degree of delirium, or that the sensibility is so impaired that the distension (which in other cases, as in inflammation of the uterus or peritoneum already described, is attended with great pain (conveys no impression to the mind, I cannot absolutely determine; but I lean to the latter opinion, from having often heard these very patients answer all questions made to them very sensibly and rationally. And I am the more inclined to it from its general correspondence with the character of the disease, in which nothing is more apparent than the diminution of sensibility.

The rapidity with which this disease sometimes runs through its whole course is most alarming. I have seen a patient destroyed in thirty-six hours from the first attack, apparently by the mere depression of strength. Many have died on the third day; some, however, have lingered on in a state of stupid existence for eight days or more, and then have sunk and died.

I have never known the act of dying attended with much struggling or pain, except in those cases in which the tumefaction of the abdomen has made respiration very difficult and laborious.

The extremities before death generally become cold; the pulse beats weakly and irregularly; the whole body is covered with a clammy moisture, the patient appears careless and indifferent to all external objects, and then dies often without a groan.

The extraordinary and rapid destruction in this disease led me, at the time when it was last epidemic in London, to inquire whether the dissection of such as died in it would throw any new light upon the subject, or point out any rational or probable method of cure. The opportunities, therefore, which have occurred to me of investigating the appearances in the dead body, have not been neglected. I have opened a great number in all stages of the complaint, and as appearances are often alteted at some distance of time after the patient has died, I have examined some at very short periods afterwards, in order that if there was any difference, it might be detected.

The first thing which in the greater number of cases presents itself, is a collection of fluid in the general cavity of the abdomen, sometimes very large in quantity, insomuch that I have often absorbed, by means of a sponge, several quarts of it. It is of the same nature with that which I have described in a former section, as far as can be ascertained by its sensible qualities. There is something very remarkable in the smell of this fluid, which is peculiar to itself, and distinguishes it from any other fluid which I have ever met with in the human body, either in health or disease. Where it is in large

quantity, all the surfaces of all the viscera and of the peritoneum generally will be found covered with a crust formed of a solid part of this matter, resembling coagulating lymph. Its particles cohere but slightly, so that by a little agitation it will mix with the fluid matter. The parts however lying under this coat or crust are not always inflamed. If there be any interstices between the intestines or the other viscera of the cavity of the abdomen, they are frequently filled with large masses of the same, making an accurate cast of such interstice. The quantity of fluid extravasated, and of the solid part floating in it or incrusted, is prodigious sometimes when the disease has been of short standing, not exceeding two or three days. They seem, also, as far as I am able to judge, to bear no proportion to the degree of inflammation or the extent of inflamed surface, since we often find a large quantity of both, where the redness of any surface has been very inconsiderable, and by no means general. In most instances there has been some slight degree of inflammation in some part of the cavity of the abdomen; but it has not been confined invariably to any particular part. Sometimes the peritoneal surface of the intestines, sometimes of the stomach, sometimes of the liver, and sometimes the investing membrane lining the muscles have been found partially inflamed; but I have scarcely seen any extensive degree of inflammation in any case, and in some I could hardly say that there was any. The uterus and ovaria I have seen sometimes partake of the inflammation, but not more frequently, or in a greater degree than other parts. The inside of the uterus or of the intestines has not been found to be inflamed in any of those whom I have had an opportunity of examining after death; much less have I found any signs of gangrene, or mortification.

Sometimes one or both sides of the thorax will be found containing a quantity of fluid of the same kind with that which has been described, and a solid part floating in it, and attaching itself to the surfaces of the pleura. In the pericardium, too, I have found a large quantity of water with some floating pieces (of coagulating lymph apparently) in it, but I never met with any of the yellow fluid (already described) in that cavity.

Being desirious of ascertaing the nature of the fluid and the solid matter found on the cavity of the abdomen, and not beirg sufficiently acquainted with chemistry to depend upon my own experiments, I wished them to be made by some person well acquainted with chemical subjects, and, therefore, entreated the favour of Dr. Pearson to examine them. This he has obligingly done, and has allowed me to insert his experiments in his own words.[1]

"Leicester Square, Dec., 1792.

"Dear Sir,—I can only send you the following imperfect account of the properties of the animal fluid, which you left with me a few days ago.

[1] The woman died the night before she was opened, and the fluid and solid matter, by shaking, had become somewhat mixed with each other by carrying.

1. "When first delivered to me, it was a cream-like fluid of a yellowish cast, and had a very strong fleshy smell like that of meat which has been kept several days, but was not at all fetid.

2. "After standing a few hours a deposition took place of a very copious opaque and somewhat curdy fluid from a brown and almost clear fluid.

3. "The brown fluid and sediment (2) being thrown upon a filter of three folds of paper, about seven-eighth of the whole fluid passed through slowly, leaving upon the filter a very thick yellowish and somewhat curdy matter."

Properties of the filtered Fluid (3).—*a.* "It had the fleshy smell above mentioned—was viscid—was slightly turbid—had a very salt taste.

b. "It coagulated in nearly the same degree of heat, and in the same manner, but less firmly than the serum of blood.

c. "It betrayed no alkali to the test of turnsole and juice of violets; on the contrary, the former indicated the presence of acid, being evidently reddened.

d. "Lime-water occasioned no clouds nor turbidness.

e. "Acid of sugar instantly produced muddiness, and on standing a deposition of whitish matter that adhered closely to the bottom of the glass.

f. "Fixed alkalies occasioned no change.

g. "Muriated barytes occasioned immediately turbidness.

h. "Being triturated with lime, the smell of volatile alkali was just perceptible, and slight white clouds were seen on holding over this mixture a bit of glass wetted with muriatic acid.

i. "Nitrated silver instantly rendered this fluid white and opaque, and in a few minutes there was a copious white sediment.

k. "With the addition of phosphorated soda there was no alteration.

l. "Nor with prussic acid.

"The above filtered fluid (3) therefore appears to contain coagulable matter like that of the serum of blood; acid in a free state, which is not the phosphoric or carbonic acid; calcareous earth combined probably with phosphoric or vitriolic acid; marine acid united either to fixed or volatile alkali, or to both, and volatile alkali in a combined state, but no metallic matter.

"It therefore resembles much the serum of blood, in which, however, I do not find, in the experiments which I have made, any vitriolic acid or calcareous earth, or acid in a disengaged state.

"This filtered fluid (3) is essentially different from watery liquid found in the ventricles of the brain, in hydatids, and in the cellular membrane in anasarcous dropsy, inasmuch as in all these cases, the fluid is transparent and colourless as spring water, contains phosphoric acid preceptible by lime-water, which has been mistaken for carbonic acid,[1] and does not contain any coagulable matter, nor per-

[1] See Medical Transactions, vol. iii., my Paper on a case of Anasarcous Dropsy.

haps vitriolic acid, but all these fluids are impregnated with marine salt.

"The watery fluid in cases of dropsies of the cavities of the thorax and of the abdomen agrees with the above liquid (3) in containing coagulable matter, though in much less proportion, in being viscid, in containing marine salt; but the liquids differ inasmuch as the dropsical fluid often is impregnated with phosphoric acid precipitable by lime-water, and I do not find that it contains calcareous earth or vitriolic acid, or acid in a disengaged state; on the contrary, sometimes alkali.

"Urine differs essentially from the above fluid (3) because it contains a great proportion of phosphoric acid precipitable by lime-water, and no coagulable matter.

"Dropsical fluid in all cases, serum of blood, and muscular parts have a fleshy smell, but not nearly so strong as that of the fluid under examination."

Properties of the thick matter (3) *which could not pass through the filter.*—"I mixed this substance with six times its bulk of rectified spirit of wine, by which it was apparently more coagulated than before, and by this means I separated completely the serous fluid, which now passed readily through the paper along with the spirit of wine, leaving behind a whitish curdy matter. This being dried, it weighed about one sixty-fourth part of the whole fluid (1), in which it was originally contained.

a. "This dried matter was of a yellowish colour; close in its texture, brittle; had no taste and scarcely any odour; was readily detached in flakes from the paper on which it was dried.

b. "Under the blowpipe with a gentle heat, it first turned black, emitted a strong empyreumatic smell, like burning cheese, or resembling still more a burning oyster; and melted: with a stronger heat it burned with a flame, and emitted white fumes on withdrawing the heat suddenly; and by continuing the flame, it left only a carbonaceous substance, which by a farther application of heat went off totally in vapour."

Conclusion.—"The above cream-like animal fluid appears to be a mechanical mixture of, in appearance, a slightly coagulated matter and a fluid like serum in many properties, in the proportion of one part of the former to sixty-three of the latter. But as to the difference in qualities between this seemingly coagulated matter, and the coagulated lymph of the blood and lymphatics, caseous matter, pus, mucus, and other animal mucilages, we cannot distinguish them without farther experiments.—I am, dear sir, yours, &c.,

"GEORGE PEARSON."

As the brain and nerves have seemed to be affected in some cases soon after the attack, I did not fail to open the head also, but its contents have always been in a natural state.

I have now endeavoured to describe the symptoms which com-

monly characterise this complaint, and the appearances on dissection, and shall next attempt to lay before my readers, as probable a statement as is in my power, of the predisposing and occasional causes; and here I wish that I could throw farther light upon the subject than I fear that I shall be able to do, because then, if we could not cure, we might at least have some chance of preventing the disease.

With respect to the predisponent causes of the epidemic disease of lying-in women, as dependent upon constitution, I must observe that it has invaded patients of every variety in that respect. The strong and the weak, those of the plethoric and of the opposite state of body have been the subjects of its attacks, and have fallen a sacrifice to its violence. Married women, too, have often been attacked with it as well as unfortunate single women, but the latter in by much the larger proportion, at least in the cases which I have seen, even where they were apparently under similar circumstances. It is observable, too, that the complaint is much more prevalent among the lower than the higher orders of women, yet not so that the former have been exempt from it.

The inferior and laborious orders of people in London, and all large manufacturing towns, are too much crowded in a small space. The streets and lanes in which they live are usually very narrow, and the air is of necessity very much confined, besides being rendered impure by filth, or at least a very general inattention to cleanliness. To this it must be added, that these quarters of the city, at least, are scarcely ever free from low, or what have been called putrid fevers. This renders it a much less frequent disease in private practice than in public hospitals, in which last it has rarely appeared without committing very considerable damages.

In the first place, then, I am inclined to rank all that train of external circumstances, which gives rise to epidemics of a low tendency, among the predisposing causes. What these are we scarcely know except by their effects. Whether it consists in a considerable succession of warm or damp seasons, or both or neither, we are scarcely at present in possession of facts sufficient to determine. Upon the whole we are apt to believe that these, added to particular local disadvantages, such as a marshy soil, a confined air, and many other circumstances, which tend to exhaust or weaken the body, and to render it irritable, give occasion to the production of diseases of the low description, such as that kind of fever called typhus, the ulcerous sore throat, with scarlatina, &c. Such a state of atmosphere, or the tendency to such diseases, has, if we may be allowed to judge from what has been already taken notice of in the early part of this section, a very great aptitude to disposing the bodies of lying-in women readily to fall into a fever of the low kind, if any cause of fever should be applied.

All the depressing passions of the mind, such as grief, fear, disappointment, and anxiety, have a wonderful effect in weakening and rendering irritable the body, and so particularly inclining it to be

acted upon by the prevailing epidemic; or, in other words, to fall into diseases of great action with diminished strength.

The combination of these two causes become emphatically a reason why women in hospitals are peculiarly predisposed to this disease, whether they be married or single.

The General Lying-in Hospital in Store-street, Tottenham-court Road, much to the credit of the institution, admits not only married, but single women also, if it be their first pregnancy. And however the supercilious and fastidious, or mistaken morality of some may object to such an extension of charity, it ought to be remembered that human distress in any form has a demand upon our pity and a claim upon our relief. The charities for delivering only married women are entitled to praise; but those which extend their beneficence further, may evidently lay claim to more, and the perfection of character of that man should be very complete indeed who would exclude from relief those of his species who are in distress, even though it may have arisen from their own imprudence or folly.

The previously distressed state of mind of females, whether married or single, who are admitted into hospitals, is frequently extreme, and probably disposes them to this disease, which, as observed above, may perhaps be assigned as a reason for the greater frequency of it in hospitals. The patients, if married, are either such as have been deserted by their husbands, or they are widows; and if single, they are such unfortunate young women as have been not only seduced, but also not unfrequently abandoned by those who have debauched and should have protected them. Under such complicated misfortunes their minds in the latter part of their pregnancy are wholly employed upon the calamity of their situations. Hence, the body becomes enervated, and the powers of the system exhausted, so that they both become more liable to the attacks of disease, and less able to withstand it.

It has been remarked, in the way of objection to lying-in hospitals, that the disease has not been so frequent among the poorer classes of women, who are delivered at their own habitations; but it is to be remembered that their situation is hardly ever so distressed as that of those who are the general objects of charity in hospitals;—women without a home, without friends, without husbands, without protection, and without the common necessaries of life before they were admitted; and when they leave the hospitals, often without a prospect of subsistence for themselves and their children in future. Nothing is before them but a miserable looking-forward to the consequences of a stained character, poverty, and want.

From this difference of situation a great disparity will most probably exist, both in the state of the bodies and minds of women delivered in hospitals from that of women delivered at their own houses, sufficient to account for the fact, why the last should not become the subjects of disease, except in a few rare cases, and why, if an occasional cause be applied, the first can hardly escape it.

In confirmation of this, I may observe that one woman, whom I knew to die in private practice, was a person whose mother had formerly died in childbed when she was born. During the whole of her pregnancy her mind was constantly prepossessed that she, too, should die in her lying-in. From the time that she was delivered her pulse was never slower than 120. This was, most probably, owing to the irritability produced by her previously distressed state of mind. The stimulus of her labour brought on a degree of fever, which degenerated, in consequence of the nature of the then prevailing epidemic constitution, into a low type, with the affection of the belly, and destroyed her in a few days.

Another predisponent cause of the disease is, most probably, too great indulgence in improper kinds of food, and too little attention to regularity in the mode of living towards the conclusion of pregnancy.

Moderate exercise is certainly not to be discouraged at this time, but violent exertions, a life of constant hurry and fatigue, an unvaried pursuit of pleasure, broken rest, irregular hours, and other intemperances, as they at least introduce a state of irritability into the habit, cannot but be injurious to the natural order of labour, and should, therefore, be studiously avoided. Women, therefore, in the latter part of their pregnancy ought to pay particular attention to their manner of living, so as at least not to be in a state of disease when they fall into labour. This has been so strongly insisted upon in a former part of these essays, that it would be superfluous to repeat it here.

I was desired to see another patient who had been delivered two days before, and from that time had never been well; her pulse was, when I saw her, very frequent, and this frequency of the pulse was followed by the other symptoms above enumerated. This woman had been much distressed in mind, and had been employed in violent exercise for two days preceding parturition, and in a state of great fatigue fell into labour. It is most likely that on these accounts she became more liable to the disease.

In addition to the presence of these last predisposing causes, that of the epidemic disposition of the season must, likewise, be taken into the account;[1] otherwise, under these circumstances, the same

[1] [I should wish most earnestly to impress upon all my readers the importance of an accoucheur taking cognizance of concurrent epidemics as acting upon lying-in women. I am certain they are fully as susceptible to their influence as other persons, and unless we act cautiously, we may do mischief in our efforts to do good. For example, when diarrhœa is epidemic even the ordinary dose of medicine will not be borne, and we must prescribe accordingly. During the prevalence of influenza I had two patients attacked with it the day they were confined, and the results were very serious. If erysipelas be prevalent, we ought to adopt extra precautions, and watch over our patients with more care and caution than usual, because of the connection between erysipelas and puerperal fever. In short, we should be prepared to see our patients in childbed affected by whatever be the prevailing epidemic, and our precautions and treatment should be framed with this view. In conclusion, I would earnestly recommend Dr. Clarke's Essay to the reader's attention; it is the production of a man of no ordinary acuteness and of great experience. It contains by far the best description of the disease up to his time, and is not diminished in value by erroneous physiology or hypothetical explanations.—Ed.]

disease would always arise if the same occasional causes were applied, which is not the case.

Now, the nature of the epidemic constitution, which had prevailed at the time when this disease was prevalent at Paris in 1746, and in London in 1787–8, was a disposition to diseases of debility, as has been remarked above, with such a predisposition, if any diseased state, especially fever, should appear in a parturient woman, it would almost certainly put on that character which the preceding history of this disease fully justifies.

The immediate cause, in many cases, would appear to be the act of parturition; at least it is often very difficult to trace any other.

It is very well known that during the strong exertions of labour every woman suffers a kind of temporary fever, or, in other words, the action of the heart and arteries is very considerably accelerated. Now, if this should happen to a woman under the influence of the causes adverted to above; and if, under these circumstances, any occasional cause of fever should occur, such as exposure to cold or infection, the disease thence arising will be most susceptible of that type, to which the system has the greatest aptitude, which here will be that of the low or irritable kind. Or, perhaps, an action having once originated simply from the violence of labour, is continued from the acquired irritability already described.

In those examples, where the attack does not immediately follow delivery, it is generally about the third or fourth day. If there had been, in the generality of patients, much previous distention of the breasts, or disturbance in the system from the milk flowing into them, we might have considered these as the occasional causes; but I have observed above that frequently little or no milk is secreted, or if it had been before secreted, the breasts soon became flaccid and empty.

In two cases I have reason to believe that the disease was caused by the patient having secretly, and very imprudently, taken a considerable quantity of wine and spirits, by which a fever was induced.

But after all I have seen several in which I could not trace any occasional cause, except the act of parturition was to be esteemed such. When the attack has been at a great distance of time from delivery, the effects of which one would expect to be immediate, if that were the occasional cause of the complaint, we must attribute it to some other cause of fever.

It has been suggested to me that, perhaps, sometimes the disease has really commenced before the act of labour; but this I cannot absolutely determine from my own experience, although it is not improbable.[1]

Another circumstance ought not to be omitted, which is the question how far this complaint may be propagated by infection.

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[1] Dr. Joseph Clarke has, in his paper above quoted, mentioned a case which renders it rather probable.

That it is sometimes brought on by the mere stimulus of labour, in a constitution ready to receive such an impression, is very evident, because it has arisen as an original disease in patients who had not been in the way of communication with any persons labouring under it.

Nevertheless, it appears to me that there is good reason for believing that, when the disease is once generated, it is capable of being propagated by infection, like malignant fever; and thence, when it has once begun in a lying-in hospital, it is very apt to make considerable progress, and to prove fatal to a great number of women.

Another question also arises, which is, whether the affection of the abdomen should be considered as the primary disease, and the fever symptomatic, or the fever the disease and the affection of the abdomen symptomatic. I own that I am inclined to favour the last supposition.

To explain my meaning a little more particularly, I consider that the peritoneal surfaces are after delivery in a different state from that in which they are found at another time. If no disease occurs, no inconvenience results from it, and after some days or weeks it returns to its former state. But if, in the meantime, a fever should arise, either from the irritation of labour, the coming of the milk, infection, or any other cause; and if the tendency of such fever should be to a low type, tumefaction and the other affections of the belly will almost certainly come on. At the very time when I am writing this, I have seen a case where a patient, immediately before delivery, had been seized with scarlatina, combined with soreness of the throat. The disease had not disappeared when she was delivered, after which time her pulse became amazingly frequent, and the abdomen became affected on the second day with the usual symptoms.

Upon the whole, as far as my experience goes, the same degree of fever would not destroy, in the same length of time, a patient not in the puerperal state. Indeed we scarcely know any fever, except the plague, which has killed so rapidly. And yet I have never seen any evident marks of putrefaction in the disease, such as mortification of parts, &c. As to the offensiveness of the matters thrown up by vomiting or discharged by purging, these make no part of the living animal, and at most only show that in this disorder the contents of the primæ viæ, not being completely digested, quickly putrefy. With regard to the blood itself, at all stages of the disease when I have ever seen it drawn, it presents a buff upon the surface after coagulation.

Another object for investigation is to determine what is the nature of the affection of the abdomen.

It has been usual to call it inflammation, and the solid substance adhering to the parts inflammatory crust. But the examination of great numbers of bodies after death does not justify either the one or the other. At least, we have often found little or no inflamma-

tion, at the same time that there have been many pints of the fluid in the cavity. Neither are the parts lying under the crust necessarily inflamed; on the contrary, they frequently are not, or if any inflammation has existed, it has only been in a small portion of the membrane covering some particular part, perhaps not two inches square.

Does the fever then, in a puerperal woman, dispose the peritoneum to effuse the fluid, which being of a coagulating nature, forms a coat on different surfaces?

Does an inflammation of a small part dispose the whole of the peritoneum to throw out the coagulating fluid?

Does the inflammation precede or follow the effusion? If the latter, is the inflammation excited by any stimulating quality of the matter itself?[1] Or, lastly, are the fever, the inflammation, and the effusion of fluid entirely independent of each other as to cause and effect; and are they only parts of one whole, which is a disease *sui generis?* There seems to be good reason for believing that the action in the vessels of the peritoneum is of a peculiar nature, since the matter found there (as appears from Dr. Pearson's experiments) is different from any other animal fluid.

It has been already observed, that some authors who have written on puerperal fever have confounded all cases under the same general name, where there has been any affection of the abdomen; and have, in consequence of this false idea, recommended in all the same method of treatment. When I was first engaged in the practice of midwifery, I am free to acknowledge that I fell into the same error; and it was not till my mind had been corrected by experience and more observation, that I began to see the necessity of attending more particularly to the symptoms of discrimination, upon finding that the treatment, which is proper in inflammation of the uterus or peritoneum, or both, connected with an inflammatory state of the system, is exceedingly detrimental in the epidemic disease, or where there is an affection of the abdomen along with a low fever.

I trust that I have already shown the fallacy of this doctrine, and I am sure that the distinctions which I have made will be found to be true in practice, because they are not founded on hypothesis or fancy, but have been drawn from nature.

This disease is less obedient to the powers of medicine than almost any which I know. Its attack is so very insidious, and often entirely unperceived, and its fatal termination is frequently so sudden, that the time when medicine could be useful has often elapsed before it has been even known that the disease existed at all.

If anything can be effected with a reasonable expectation of success, it must be very early in the disease. If we delay, so much

[1] I have known two instances in which gentlemen opening the bodies of women who had died in this disease, accidently wounded their hand. The consequence of which was, swelling of the whole limb and of the axillary glands, and low fever, with a very frequent pulse.

mischief will have been done, either locally or generally, as almost to put it beyond the power of any medicine to be of service.

In the first place, then, let me caution (especially younger) practitioners not to be misled by the tumefaction of the abdomen, so as to employ the lancet with the expectation of curing a supposed inflammation.

Bleeding from the system has been always attended with manifest disadvantage, although it has been tried in patients who have been apparently strong and plethoric before. It has in some instances, for a short time, diminished the pain, and the buffy appearance on the blood taken away has been supposed to justify the operation; but it generally lowers the patient extremely, and in some cases I have known it evidently hasten death.

Bleeding from the skin of the belly by leeches, though it do not produce the same degree of debility, yet has in no instance within my knowledge contributed in any degree to the cure of the patient.

The objections which, in a former section, I took against blistering the abdomen I beg leave to repeat here more strongly. In inflammation of the uterus and peritoneum, I stated that blisters might possibly be useful, though I had never seen such decided advantages from them myself as we often find in cases of pleurisy, peripneumony, &c., but that my experience was not sufficient to be conclusive; but in this disease blisters certainly increase the irritability in a wonderful degree, and render the pulse more frequent than it was before. Now and then they seem for a short time to relieve the sensation of pain; but this relief is only temporary, and is not enough to warrant their use, as their ill effects are generally sufficient to counterbalance this one advantage. In one case, a repetition of blisters to different parts was proposed, and the patient recovered; but a similar conduct pursued in others failed of the desired effect, and destroyed those hopes which the event of a solitary case had raised.

A repetition of vomits on the plan suggested by Monsieur Doulcet as been attended with obvious disadvantages. The agitation of vomiting by the necessary pressure made on the contents of the cavity during their operation has always aggravated the pain, and tended farther to exhaust the powers of the woman, already sufficiently reduced.

The exhibition of relaxants, such as antimony in different forms, though employed in the beginning in some cases where the apparent strength of the patient favoured their use, has also failed of success. They have usually the effect of producing or increasing the disposition to vomiting and purging, which, when once brought on, are with great difficulty restrained.

All the medicines which have been employed with a view to the diminution of inflammation have, in the course of my experience, failed in curing the disease. It became, therefore, next an object to try whether such as have a tendency to support the strength and diminish the irritability would be attended with better effects.

I am very loath, upon any practical subject, to offer anything which is likely to mislead, especially where my own experience may not have been sufficiently extensive to warrant a very decisive opinion; yet I must say, that as far as my judgment goes, this plan will, on the whole, be most successful.

As soon, then, as any very considerably increased frequency of the pulse is discovered, I believe that it is right to begin immediately with exhibiting Peruvian bark very freely, and in as large quantities as the stomach will bear. In substance with opium, in the proportion of a drachm in two or three hours, I have given it with advantage. If, however, there should be any tendency to sickness, we must be contented with employing the decoction, along with some tincture of bark and opium, every two or three hours. If a disposition to diarrhœa should come on, some aromatic confection may be added.

Opium is so efficacious in relieving the pain, that it is hardly to be dispensed with, and it may be given in large doses, or frequently repeated; as, for example, a grain may be given every six or every four hours, if no inconvenient consequences should arise from its use; but the precise dose will depend so much on age, strength, and constitution, that no general rule can be offered. A sufficient quantity should be given to appease the pain, and procure sleep.

A moderate quantity of wine, diluted with water or mixed with such food as sago, panada, tapioca, rice-gruel, &c., may be taken, provided that it do not disorder the head. In the course of the disease it will often be necessary to support the strength by wine. Broth, or milk with bread, may be employed also for food, and barley-water, with some wine, for drink.

Very frequently, about the third or fourth day of the disease, a diarrhœa coming on prevents a continuance of the use of the Peruvian bark.

Under these circumstances, if the pain of the cavity of the belly should be not very considerable, a gentle emetic of ipecacuanha may be given; but if it should, then the exertions of vomiting will more than outweigh any advantages to be expected from it. Here we must be satisfied with giving a dose of rhubarb, and afterwards an opiate. If there should be vomiting with the purging, we must give an emetic first, and then some rhubarb and opium. The effervescing saline draught has much efficacy in allaying vomiting; but in this case the quantity of vapour extricated during the combination of the acid with the alkali, adds to the distension, and increases the pain of the abdomen.

Should the diarrhœa have been violent, we can seldom with advantage return to the Peruvian bark in any other form than that of decoction, and sometimes even that will disagree. As a substitute for it, and still pursuing the original intention, a bolus, composed of half a drachm of powdered columbo root, with a grain of opium, may be given once in three or four hours. The decoctum cornu

cervi may be used for common drink, and occasionally the mistura cretacea, with some aromatic tincture, may be taken. If with diarrhœa there should be much tenesmus, clysters with opium will be necessary, but not otherwise.

Where there is much purging, emollient clysters may be thrown up with advantage once or twice in twenty-four hours; they will wash away any impurities within their reach, and sometimes bring away with them any air in the lower part of the bowels, which is often very distressing to the patient.

Besides this general outline of the treatment proper to be pursued, cataplasms applied to the legs and feet are useful on the principle formerly stated, and are, I think, to be preferred to blisters; cataplasms are only intended to be recommended as rubefacients, not as vesicatories.

Anodyne fomentations to the belly, when there is much pain, will be found at least to relieve for a time, though I have often doubted whether their relaxant effects afterwards are not an objection to their use. Dry fomentations are not attended with the same inconvenience, but they seldom relieve the pain so much.

The advantage of such a treatment will, it is acknowledged, be only negatively proved; yet if it should be found that, in cases where the pulse has been very frequent, its frequency is thereby diminished, and the strength improved, we shall have sufficient encouragement for pursuing it; and if in some instances it should be even unnecessarily tried, it does not appear that any disagreeable consequences can arise from it; on the other hand, should it succeed in preventing the farther progress of so fatal a disorder in some cases, it will amply compensate us for having administered it, where it was not absolutely required in others.

After all which is contained in this section respecting the treatment of this disease of lying-in women, and after all which can be done, it will be found to be very fatal in a great many instances. I have offered the result of my experience, and I hope that those of my profession who have not met with the complaint, will not hastily condemn these essays because I cannot point out a certain method of cure. Those who have, will, I trust, acknowledge my description to be accurate, whilst they lament with me that there are cases which baffle the art, and seem to be almost beyond the reach of medicine.

If we hope to be able to prevent this disease, a very obvious thing to be attended to, is to keep the minds of all patients both before, during the time of labour, and afterwards, as free from every kind of anxiety and uneasiness as it is possible; since, as I have already observed, they seem to have a material influence in subjecting them to the attacks of the disease. They should also carefully avoid all exposure to the infection of fever before delivery, and to the occasional causes of fever afterwards, because, as I have already remarked, if a fever should be excited, it will be very likely to become of the nature of the epidemic or endemic constitution.

If the disease should occur in an hospital, the patient should be immediately removed from all others, and the bed, bed-clothes, &c., should be all washed and aired before they be again employed, and the wards should be scoured, painted, and whitewashed. This was the practice in the General Lying-in Hospital in Store-street, both before and since I had any appointment in the house. I mention this circumstance, because Dr. Joseph Clarke expresses his surprise that it has not been done in England. It may have, and probably has, been done in other hospitals, because it is agreeable to the dictates of common sense, that nothing is so likely to prevent the progress of infection as giving new surfaces, or cleaning old ones.

Since the year 1788, this complaint has hardly made its appearance at all; or at most only in a few cases. But I think, from what has already happened, I may venture to foretell that if at any time there shall be a succession of warm and damp seasons, and of mild winters; and if the effects of this on the system shall be proved by the appearance of low fevers, or the ulcerous sore throat, under such circumstances it will be found that women in the puerperal state will recover slowly, or will be apt from very slight causes to fall into the state of disease described in this essay, especially in lying-in hospitals, and among single women, the distressed state of whose minds before their admission may have given greater force to the epidemic disposition.

Before I conclude I ought to observe, that violence occasioned during labour may produce (though rarely in such constitutions) inflammation of the uterus or peritoneum, which, existing along with a low fever, may sometimes make rather a mixed case. Here the greatest sagacity and judgment are required to determine what mode of treatment will best accord with these circumstances. The situation of the patient is so dangerous and so critical, that it is impossible to be too much upon our guard. An unwary practitioner under the idea of carrying off inflammation, might be seduced into employing evacuations; but he will discover too late, when this has been done, that his patient will sink sooner under the depression thereby occasioned. A prudent man will never fail to remember, that all remedies which reduce the strength much must be very cautiously admitted. This is a point which I wish particularly to impress, because I know nothing in the practice of medicine which requires more nicety of discrimination, since the very life of the woman hangs upon the decision.

A TREATISE

ON THE

EPIDEMIC PUERPERAL FEVER, ETC.[1]

BY DR. GORDON.[2]

CHAPTER I.

HISTORY AND SYMPTOMS OF THE DISEASE.

HISTORY.

THE disease, which I propose to describe, made its appearance at Aberdeen in the month of December 1789, and prevailed as an epi-

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[1] [A Treatise on the Puerperal Fever of Aberdeen. By Alexander Gordon, M.D., 1795.]

[2] [Dr. Gordon was born in Miltown of Drum, parish of Peterculter, in Aberdeenshire, some time in 1752, and died at Logie, in Aberdeenshire, October 19, 1799, at the early age of 47.

After completing the usual course of general education and taking the degree of M.A. at Marischal College, he began the study of medicine, which he pursued at the Aberdeen Infirmary and the University of Edinburgh. Receiving letters testimonial from the Corporation of Surgeons in London, he entered the Royal Navy as surgeon's mate in 1780, and in 1782 was advanced to the rank of surgeon. Three years afterwards, being placed on half-pay, he repaired to London, and became a resident pupil of the Lying-in Hospital in Store-street, then under the care of Dr. Ford, attending at the same time the joint lectures on midwifery of Drs. Denman and Osborn. He subsequently became a pupil at the Middlesex Lying-in Dispensary under Dr. Thynne, and attended the surgical practice and lectures on surgery and dissections at the Westminster Hospital under Mr. Justamond.

Returning to Aberdeen in 1785, he obtained the degree of M.D., from Marischal College, and settled in general practice in that city. He was soon after appointed physician to the Dispensary there, which office he held for ten years. He devoted himself particularly to midwifery, in which his practice became considerable, and on which, for several years, he gave an annual course of lectures to the medical students.

Soon after the publication, in 1795, of his Treatise on the Puerperal Fever, Dr. Gordon was called on active duty by the Admiralty. This order he reluctantly obeyed, —being unwilling to relinquish his prospects in private practice, but at the same time not finding himself in a position to abandon the emoluments and the ulterior advantages to his family accruing from the public service. What contributed, mainly, to his resolution of again entering the navy was the circumstance (which he feelingly alludes to in several of his private papers), that his connection with the puerperal epidemic which he wrote an account of, and the entire burden of which seems to have fallen upon him as physician to the Dispensary and the only professed accoucheur in town,—raised against him such strong prejudices in the public mind as materially to damage his professional prospects in Aberdeen.

In 1799, while on duty in the Navy, he caught a severe cold, which laid the found-

demic among lying-in women till the month of March 1792, when it finally ceased.

This epidemic seemed in every respect to answer the description of the puerperal or childbed fever, on which many authors have written, particularly Drs. Hulme, Denman, and Leake, who have described it with great ability.

The puerperal fever, according to the account given of it by authors, is more frequent and fatal in large towns and in hospitals than in the country and private practice. But that under consideration was not confined to the town of Aberdeen, but extended to the suburbs and contiguous country, where it proved as fatal as in the heart of the city. It was not peculiar to any particular constitution or temperament, but promiscuously seized women of all constitutions and temperaments; for the strong and the weak, the robust and the delicate, the old and the young, the married and the single, those who had easy, and those who had difficult labours, were all equally and indiscriminately affected.

It prevailed principally among the lower classes of women, and, on account of my public office and extensive practice in midwifery, most of the cases came under my care. But women in the higher walks of life were not exempted, when they happened to be delivered by a midwife or physician who had previously attended any patients labouring under the disease.

In the history of this disease, an account of the weather and state of the atmosphere will, no doubt, be expected; but though I paid particular attention to these, I have omitted any such account, because I discovered that the disease was occasioned by a cause very different from the sensible qualities or constitution of the air. What that cause was, shall be mentioned afterwards in its proper place. For the present I shall only remark, that, by observation, I plainly perceived the channel by which it was propagated; and I arrived at that certainty in the matter, that I could venture to fore-

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ation of pulmonary consumption. His health failing, he was invalided; and, returning to Aberdeenshire, he died on the 19th of October, 1799, at Logie, the residence of his twin-brother, Mr. James Gordon, an intelligent and enterprizing farmer, who died only a few years ago, at an advanced age, and was well known in this district as having introduced several valuable improvements in practical agriculture.

Dr. Gordon married, in 1783, Miss Elizabeth Harvey, by whom he had two daughters; of these, the younger died in childhood, the other married Robert Harvey, Esq., of Braco, who had formerly been Dr. Gordon's pupil, and is occasionally mentioned by him in his Treatise. Dr. Gordon's widow died in 1843, at the age of 82.

Dr. Gordon left behind him a large collection of manuscript papers on various professional subjects; among others are Lectures on Midwifery and the Diseases of Women and Children, which occupy three volumes, folio; and a Treatise, in four volumes, quarto, on the Practice of Physic, which last it was his intention to publish. These manuscript writings sufficiently indicate that Dr. Gordon was well informed in his profession, and possessed of excellent parts.

I am indebted for the foregoing interesting information to the kindness of Dr. Harvey, Lecturer on the Institutes of Medicine, Marischal College, Aberdeen, the grandson of Dr. Gordon; and I gladly take this opportunity of thanking him for his courtesy.—Ed.]

tell what women would be affected with the disease, upon hearing by what midwife they were to be delivered, or by what nurse they were to be attended during their lying-in; and almost in every instance my prediction was verified.

The disease was new and unknown in Aberdeen, and a very powerful prejudice prevailed against the treatment proper for curing it; for the cure depended upon bleeding and purging, and both were repugnant to popular opinion. The only disease supposed by the vulgar to be incident to lying-in women, is a disorder commonly called the weed, which is an ephemera similar to the paroxysm of an intermittent fever, and always terminates without any danger. Puerperal fever was a term and a disease to which they were total strangers. And, because its attack was always with a rigor or cold fit, it was, for that reason, confounded with the weed, and the same treatment recommended. On this ground, heating cordials were profusely exhibited by female practitioners, who are as numerous now in Aberdeen as they were formerly in London in the days of Sydenham; but they obtained no great credit by such a practice, for none who were treated in this manner recovered.

The disease was not only unknown to the vulgar, but even medical practitioners had very little experience in treating it, most of whom had no other knowledge of the disease than what they had derived from books; and the book most commonly read was a work which represents the puerperal fever as a putrid disease; the performances of Drs. Hulme, Denman, and Leake, the best writers on the subject, being in very few hands. For though a similar disease was epidemic in Aberdeen in the years 1760 and 1761, yet there was no physician alive, who practised at that time, to assist by his experience on this pressing occasion. Such was the situation of matters when the puerperal fever made its appearance in Aberdeen; and I thought proper to call in two of the oldest, most respectable, and most experienced practitioners of the city, who were men of no less candour than skill, and possessed minds perfectly open to conviction; so that if any doubts remained with respect to the nature of the disease, they were thoroughly removed upon seeing the cases, dissections, and method of cure.

SYMPTOMS.

With respect to these I may truly affirm, that there is scarce any disease more regular in its time and manner of attack, or more uniform in its appearance and symptoms. It most commonly commenced on the second or third day after delivery; for, except in two cases, it always seized the patient before the secretion of the milk; and three-fourths of the whole were taken ill on the day after delivery, in the afternoon or evening. Its attack was regularly with a violent rigor, or shivering fit, which was succeeded by a great degree of heat, rapid pulse, and severe pain in the abdomen, which was always very

tender to the touch, and when pressed occasioned great uneasiness. These were the principal pathognomonic or characteristic symptoms essential to the disease.

But, unfortunately for the patient, it too often happened that the cold fit, which ushered in the disease, was called a weed, and not considered as dangerous; and that the pain in the abdomen was, by nurses and midwives, mistaken for after-pains, and little attention paid to it. These were fatal mistakes for the patient, because, by the delay thereby occasioned, the disease was incurable before assistance was sent for. And this delay frequently happened, notwithstanding I was at particular pains to explain to all concerned in the charge of lying-in women the difference between them, which was by no means difficult to be understood. For the pain of the puerperal fever is constant, and after-pains periodical; in the puerperal fever the abdomen cannot be pressed without occasioning great pain, in the after-pains the abdomen is not painful to the touch; in the puerperal fever the pulse is always very quick, in after-pains the pulse is not at all affected.

The pain was generally seated in the hypogastric region, and in a few cases there was a pain which darted from the pit of the stomach down to the spine; but in three-fourths of the whole the principal seat of the pain was the right side, near the origin of the colon. The pain, in whatever part it was seated, was so excruciating that the miserable patients described their torture to be as great, or greater, than what they suffered during labour.

Some complained of a violent pain in the small of the back; and many complained of a severe pain in the lower extremities, which being too frequently taken for rheumatism, was another fatal cause of mistake.

The pulse was sometimes hard, but more frequently weak, and acquired an uncommon velocity at the beginning of the disease; for, except in two or three cases, in which the pulse was at the rate of 128, in all the rest it was not under 140 strokes in a minute, very early in the disease. And, unless the disease was early checked by proper remedies, it continued to increase in quickness, till it exceeded 160 strokes in a minute; and, before the fatal close, it generally became too quick to be numbered.

In most of the cases, especially those which had been neglected at the beginning, there was a considerable tumefaction of the abdomen, which, as the disease advanced, frequently became as much distended as before delivery.

The tongue in most cases was white, but soft and moist; in those, however, which were long protracted, it became dry and rough, having the same appearance as in typhus.

The urine was sometimes high coloured, but more frequently turbid, and was often passed with pain and difficulty.

The blood taken away in this disease had always a very thick inflammatory crust, and was exactly similar to that of patients in pleurisy and rheumatism.

The skin was generally hot and dry, but sometimes it was moist; and a universal sweat was diffused over the whole of the body pretty early in the disease, even in some cases which terminated fatally. Partial sweats, however, were very common, and when cold and faint, and confined to the face and breast, announced the approach of death.

A circumscribed crimson colour in the cheeks was a symptom which sometimes occurred towards the close of the disease, and was a mortal symptom.

A vomiting of bile, of a green colour, was a symptom which frequently occurred, especially when the patient was costive; and, when there were symptoms of mortification, what the patient vomited was black, and had a strong resemblance to the grounds of coffee.

A diarrhœa was a frequent symptom, and was a symptom rather to be desired than dreaded; for without a spontaneous or artificial diarrhœa, very few recovered. The stools were frothy, and of a yellow, greenish, or dark brown colour; and every discharge by stool seemed to give temporary relief; but, towards the end of the disease, they were frequently involuntary, and sometimes became black and very fetid, resembling moss-water, and were one of the symptoms of internal mortification.

The lochial discharge commonly continued to flow as usual, though in some the discharge was diminished; yet in few or none was it wholly suppressed. In those cases which terminated fatally, the secretion of the milk never took place; and in such as recovered, there was no secretion of it till after the crisis.

As the disease advanced, especially when the pain was great and the abdomen much distended, respiration was performed with great difficulty. This did not appear to be owing to any complaint in the thorax, but to the mechanical compression made upon the tender viscera of the abdomen by the diaphragm and abdominal muscles during respiration, which were too tender to bear the smallest pressure without occasioning the most exquisite pain.

The situation of the patient, at this period of the disease, was truly deplorable; for the pain of the abdomen, already excruciating, was aggravated by the act of respiration, and by the smallest motion of the trunk. The miserable patient, therefore, lay on her back incapable of turning on either side, and unable to breathe. Death, in such circumstances, was an event to be much wished for.

The intellectual faculties were sometimes, but not frequently, deranged; for I seldom observed a delirium, except in a few improperly treated or neglected cases, to which I was called late in the disease; but, in general, the patient retained her senses to the last.

In all of them the attack was sudden, without any previous complaint or indisposition.

This disease, when left to nature, or improperly treated by art, generally proved fatal. Nor was it commonly less regular in its

crisis than it was in its time of attack; for as it commonly seized the patient on the day after delivery, so it commonly proved fatal on the fifth day from the attack; and of such as died, more than a half died on the fifth day. Some died with great composure, others in great pain. For in some there was a total cessation of pain a few hours before death; and while the patient was transported with the sudden transition from extreme pain to perfect ease, and overjoyed with the thoughts of recovery, death came by surprise and carried her off, amidst the congratulations of her friends. To such patients death might be said to be rather pleasant than painful. Several, however, had a violent struggle, and died in great agony.

When called in the beginning of the disease, that is, within six or eight hours after the attack, I was often able to put an immediate stop to it, even when the pulse was at the rate of 140. But when the patient had been ill twelve or twenty-four hours before I was called, I was not able to bring the disease to an immediate conclusion; the most I could do in such cases was to check its violence and overcome it by degrees, for I could seldom bring it to a complete termination before the fifth day.

But when the patient had been ill for a longer space than twenty-four hours before I was sent for, I generally found that the disease was no longer in the power of art.

CHAPTER II.

CASES AND DISSECTIONS.

Before I proceed to the consideration of the nature and cause of the disease, it will be proper for me to give a narrative of the cases, and, likewise, a description of the appearances discovered by the dissection of such patients as died of the disease. On these, which are so many established facts and incontrovertible truths, my doctrine of the puerperal fever is grounded.

There was such a similarity in the cases of the several patients, that to give a minute detail of every individual case would be a tiresome tautology. I shall, for that reason, select only a few out of the whole as specimens.

But some general circumstances relating to every case are comprehended in the annexed table, which contains all the cases that came under my care. And to this table I shall have occasion frequently to refer in the course of the work.

A TABLE,—Containing an account of those Patients affected with the Puerperal Fever, who were attended by Dr. Gordon, from December, 1789, to October, 1792.

When taken ill.	No.	Name.	Age.	Residence.	Cured.	Dead.	By whom delivered.
1789.							
December	1	James Garrow's wife	27	Woolman-hill		5th day	Mrs. Blake.
Ditto	2	James Smith's wife	30	Ditto		23d "	Ditto.
Ditto	3	John Smith's wife	34	Green		11th "	Mrs. Elgin.
Ditto	4	Al. Mennie's wife	25	Hardgate		11th "	Ditto.
1790.							
January	5	John Anthony's wife	25	North-street		3d "	Dr. Gordon.
February	6	Christian Durward	36	Rottenholes		3d "	Ditto.
April	7	Al. Stuart's wife	30	Denburn	1		Mrs. Philp.
May	8	William Elrick's wife	34	Exchequer-wynd	2		Mrs. Blake.
Ditto	9	Elizabeth Murray	28	North-street		7th "	Ditto.
Ditto	10	Helen Mitchell	30	Ditto	3		Ditto.
Ditto	11	Janet Wier	34	Denburn	4		Mrs. Elgin.
August	12	Mrs. Johnston	36	Littlejohn's-st.	5		Mrs. Smith.
Ditto	13	Geo. Webster's wife	38	Fowler's-wynd	6		Mrs. Blake.
Ditto	14	Peter Paul's wife	32	Windmill-brae	7		Ditto.
Ditto	15	John Low's wife	25	Justice-mills		5th "	Mrs. Smith.
Ditto	16	Mrs. Milne	27	North-street	8		Mrs. Blake.
September	17	Isabel Allan	36	Birnie's-close		5th "	Mrs. Coutts.
Ditto	18	Robert Burr's wife	30	Gallowgate		2d "	Mrs. Irvine.
October	19	Al. Eddy's wife	36	Ditto		3d "	Mrs. Clark.
Ditto	20	Agnes Milne	24	Putachie-side	9		Ditto.
Ditto	21	Al. Stuart's wife	26	Green	10		Mrs. Blake.
Ditto	22	Elizabeth Jamieson	25	Windmill-brae		5th "	Dr. Gordon.
Ditto	23	Dundas Nicol's wife	25	Green	11		Mrs. Philp.
Ditto	24	Al. Brown's wife	27	Loan-head		5th "	Mrs. Elgin.
Ditto	25	Anne Smith	24	Denburn		5th "	Ditto.
Ditto	26	Mrs. Malcolm	25	Green		1st "	Ditto.
Ditto	27	Wm. Robertson's wife	30	Gilcomston		5th "	Mrs. Emslie.
Ditto	28	Jean Webster	17	Justice-port	12		Mrs. Anderson.
November	29	Anne Cumming	29	North-street	13		Ditto.
Ditto	30	Margaret Still	25	Ditto	14		Ditto.
Ditto	31	Janet M'Kay	38	Gallowgate	15		Mrs. Clark.
Ditto	32	Jean Laing	32	Ditto		7th "	Dr. Gordon.
Ditto	33	Mrs. Leitch	40	Carnegie's-brae	16		Ditto.
Ditto	34	Anne Barclay	20	Tannery-street	17		Mrs. Clark.
December	35	Mrs. Muffart	36	Hardgate	18		Mrs. Davidson.
Ditto	36	Jean Galloway	27	North-street	19		Mrs. Anderson.
Ditto	37	Janet Anderson	25	Putachie-side		5th "	Mr. Harvey.
Ditto	38	Mrs. ——	25	. . . . .		5th "	Dr. Gordon.
1791.							
January	39	Al. Main's wife	40	Poinernook		1st "	Mrs. Henderson.
February	40	Violet Thom	25	Green	20		Dr. Gordon.
Ditto	41	Mrs. Home	22	Carnegie's-brae	21		Mrs. Ogilvie.
Ditto	42	Mrs. Walton	25	North-street		11th "	Ditto.
Ditto	43	Elspet Riach	25	Ditto		5th "	Mrs. Balfour.
March	44	Janet Cormack	25	Back-wynd	22		Ditto.
Ditto	45	Andrew Duncan's wife	26	Ditto		5th "	Mrs. Blake.
Ditto	46	Anne Davidson	34	Justice-port	23		Mrs. Anderson.
Ditto	47	Elspet Fife	30	Windmill-brae	24		Mrs. Keith.
Ditto	48	Margaret Forbes	40	Footdee	25		Mrs. Anderson.
April	49	Janet Robertson	36	Correction-wynd	26		Mrs. Coutts.
Ditto	50	Wm. Gibbon's wife	27	Ditto	27		Dr. Gordon.
Ditto	51	John Duncan's wife	26	Woman-hill		7th "	Mrs. Keith.
Ditto	52	James Davidson's wife	25	Castle-street	28		Dr. Gordon.
Ditto	53	Rachel Gordon	36	Ditto	29		Mrs. Mitchell.

TABLE (*continued*).

When taken ill.	No.	Name.	Age.	Residence.	Cured.	Dead.	By whom delivered
1791.							
May	54	Mrs. Clark	25	Gallowgate	30		Dr. Gordon.
Ditto	55	George Duthie's wife	30	Torry		5th "	Mrs. Philp.
June	56	Anne Molison	27	Windmill-brae	31		Mrs. Emslie.
Ditto	57	Mrs. Henrie	30	Lodge-walk	32		Mrs. Elgin.
September	58	Elspet Robertson	25	Shoe-lane	33		Mrs. Blake.
Ditto	59	Rachel Leith	25	Back-wynd	34		Mrs. Taylor.
Ditto	60	Mrs. Thomson	25	Lodge-walk	35		Dr. Gordon.
October	61	Mrs. Ligertwood	30	Queen-street	36		Ditto.
Ditto	62	Widow Forbes		Printfield	37		Mrs. Taylor.
November	63	Mrs. Brown	42	Fintray		5th "	Mrs. Mitchell.
Ditto	64	Mary Meldrum	32	Windmill-brae		5th "	Mrs. Chalmers.
December	65	Jean Brown	36	Vennel	38		Mrs. Anderson.
Ditto	66	Margaret Yull	23	Castle-street	39		Dr. Gordon.
Ditto	67	Anne Hervie	23	Woman-hill	40		Mrs. Keith.
Ditto	68	Isaac Allan's wife	22	Windmill-brae	41		Mrs. Emslie.
1792.							
January	69	Mrs. White	30	Printfield		5th "	Mrs. Keith.
Ditto	70	Mrs. Byrn	27	Broadgate	42		Mrs. Philp.
Ditto	71	Christian Sangster	30	Green	43		Mrs. Ogilvie.
February	72	Al. Sim's wife	27	Printfield	44		Mrs. Chalmers.
Ditto	73	James Gordon's wife	28	Ditto	45		Dr. Gordon.
Ditto	74	Mrs. Mather	26	Drum	46		. . . . .
March	75	Tho. Wallader's wife	36	Printfield	47		Mrs. Keith.
Ditto	76	Mrs. Imlach	24	Pesly	48		Dr. Gordon.
October	77	Anne Skinner	36	Gallowgate	49		Ditto.

CASE I. John Low's wife, No. 15 in the table.—In the afternoon of the 19th of August, 1790, John Low, miller, at Justice Mills, came to my house, requesting me to go immediately to his wife, "who," he said, "had fevered after delivery, and was in great danger." I accordingly went, and found her in a dangerous situation; she complained of an acute pain in the lower part of the abdomen, attended with a very great degree of fever, the velocity of the pulse being at the rate of 140 strokes in a minute.

The disorder commenced with a violent rigor at six o'clock in the morning, being about thirty-six hours after delivery.

I had no difficulty in ascertaining the patient's disorder, having had previous opportunities of seeing it both in London and in the course of my practice in Aberdeen, for this was the fifteenth case I had attended since the epidemic began, though the first of which I kept a journal. And, in every respect, the disease answered the description of that known to practitioners by the appellation of the puerperal fever, a distemper which so frequently proves fatal to women in childbed, baffling the skill of the most eminent physicians. As, therefore, I had so often seen the disease, I could not be puzzled in regard to the proper method of treatment; though, at the same time, I was well aware that I could by no means promise success.

I accordinly ordered bleeding to the quantity of sixteen ounces, the abdomen to be fomented, and a clyster to be given; and, at the

same time, I ordered large quantities of diluting drink; I likewise directed an anodyne diaphoretic draught to be given at night, and a cooling laxative the ensuing morning.

On the 20th, when I visited the patient, I found the velocity of the pulse somewhat diminished, but no abatement of the other symptoms (the pain and tension of the abdomen remaining as before).

The laxative given in the morning had the desired effect; the blood drawn exhibited a very thick, inflammatory crust; the lochia were suppressed; the urine was scanty, and voided with pain; when recent it was high coloured, but when allowed to stand for a short time, it became exceedingly turbid.

The fomentations were continued, and an opiate given in the evening.

On the 21st, when I visited her in the morning, I was happy to find that she had been pretty easy throughout the night, and had enjoyed some hours' sleep. The pulse was 136. She was in a profuse sweat, which I hoped would prove critical, and, therefore, endeavored to promote it by small doses of tartar emetic in the saline mixture. But I was very sorry to find that I was disappointed in my expectation; for when I returned in the afternoon, I found that the sweat had disappeared, being succeeded by a diarrhœa.

The patient now complained of very great pain, and the swelling of the abdomen seemed to increase. I ordered an opiate in a large dose, and applied a blister to the abdomen.

On the 22d, I was sorry to find that the disease was making rapid progress, in spite of all the remedies employed; and as I perceived that the diarrhœa was not proving critical (for the pain and tension were extended over the whole of the abdomen), and that the patient's strength was sinking, all hopes of recovery were now totally abandoned.

The patient's agony was now extremely great, and called loudly for relief; I therefore thought proper to administer opium both externally and internally, on purpose to mitigate pain, and, if possible, to procure rest.

I went early in the morning of the 23d to visit my distressed patient, and found that the storm was lulled into a calm. The friends received me with transports of joy, vainly thinking that the danger was over.

The patient, supposing herself perfectly well, asked my permission to rise, for she seemed to feel no pain, and suffered me to touch and press the abdomen, without showing any signs of uneasiness; a proof that the parts were in a state of gangrene. For this sudden cessation of pain, in the puerperal fever, is a fatal symptom which announces the approach of death, and denotes that a mortification has taken place. The friends, ignorant of this circumstance, were quite overjoyed to see the patient so composed after such excruciating

pain. However, notwithstanding this composure and apparent ease, it was evident from the ghastly appearance of the countenance, from the tumefaction of the abdomen with the absence of pain, from the sunk state of her pulse, and from the coldness of the extremities, that death was not far off. Accordingly, in a few hours the scene was closed.

On this occasion my practice exposed me to the unmerited reproaches of the ignorant and illiterate. For though I had given an unfavourable prognosis, and desired a consultation early in the disease, yet that did not exculpate me, nor mitigate the severity of popular clamour. On this, as well as on many other occasions, I found that scientific practice and popular opinion very seldom correspond.

According to a vulgar custom in this country, the women came from all quarters to see the patient, and to offer their advice. Several ladies likewise joined the crowd, and though they neither knew the nature nor even the name of the disease, yet they gave their advice with great freedom! Some said it was wrong to bleed, others that it was improper to purge a patient in such a situation; some prescribed heating, and others astringent medicines, supposing the disease was what they call a weed improperly treated; and, seemingly actuated by other motives than the good of the patient, they proposed different practitioners, every one recommending her own favorite.[1]

To put an end to this unpleasant scene of discord and confusion, I called in Dr. Bannerman, a very respectable physician, and of great experience, whose opinion coincided with my own, both in regard to the nature of the disease, the treatment, and apparent danger.

We were both very solicitous for leave to inspect the abdomen after death, but the friends could not be prevailed upon to give their consent; however, from the foregoing detail of symptoms, it may be judged what was the state of the parts.

Case II. Isabel Allan, No. 17.—On the 24th of September, 1790, I was called to Isabel Allan, a married woman, aged 36 years, who, about twenty-four hours after delivery, had been attacked with a violent rigor, which was succeeded by an acute pain in the lower part of the abdomen, especially in the right side, attended with a great degree of fever. She had been thirty-hours ill when I was sent for. Before I saw her, the abdomen was considerably tumefied; her pulse was at the rate of 140, and hard; she likewise complained of sickness at the stomach, and vomited bile of a green colour. The lochia were suppressed, and the urine was high coloured. In short, she had all the symptoms of the puerperal fever.

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[1] So minute a detail might perhaps have been omitted, but I have given it to show the obstructions I met with in my practice.

I therefore ordered her to be freely bled, a purgative to be given, the application of fomentations to the abdomen, and an anodyne diaphoretic draught at night.

When I saw her on the morning of the 25th, I was happy to find her to appearance much better; her pulse was now only 124, the pain of the abdomen was much abated, and she was in a profuse sweat, which I endeavoured to promote by giving emetic tartar in small doses. But in the evening I was sorry to learn that there had been a return of the rigor, which lasted long, and was followed by a considerable increase of fever, with a very pungent pain, and tension of the abdomen.

I did not think it prudent to venture with a second bleeding, but I ordered a large blister to be applied to the abdomen, and a cooling purgative to be taken in the morning.

Next morning, when I visited her, I was concerned to find that all the symptoms were worse; the pain and swelling of the abdomen were increased, and the pulse was at the rate of 160. But I had not much reason to be surprised at this, as none of my orders had been obeyed. I therefore considered the case as hopeless. The miserable patient struggled for twenty-four hours, when she died, being the fifth day of the disease.

Dissection.—Leave being given to inspect the abdomen, I went on that business on the evening of the 28th, attended by Mr. Harvey, Mr. John Gordon, and Mr. Joseph M'Rae.

Upon opening the abdomen, I found the peritoneum and its productions, the omentum, mesentery, and mesocolon, in a state of inflammation. The omentum had lost about half its substance by suppuration; the mesentery and mesocolon, and that part of the intestinal canal with which they are connected, were very much inflamed. But the disease appeared more especially to occupy the right side; the right ovarium had come to a suppuration; the colon, from its caput along the course of the ascending arch, was much inflamed, and beginning to run into gangrene. A large quantity of pus and extravasated serum appeared in the cavity of the abdomen, which, when taken out and measured, amounted to two English pints. The peritoneal coat of the uterus was inflamed, and the organ itself not so compact and contracted as it ought to have been. Upon opening it, its cavity was found covered with a black coloured substance, which at first sight had the appearance of mortification, but, when wiped off, was found to be nothing else than the membrana decidua, in the state in which it naturally is about this time.

Case III.—Janet Anderson, No. 37.—Janet Anderson, a dispensary patient, aged 25 years, after an easy labour was brought to bed of a living child on the 3d of December, 1790, and had no complaint till the 4th, when about five o'clock in the afternoon, the puerperal fever made its attack, with a very long and violent rigor, and I was immediately sent for.

Before I saw the patient the cold stage was over, aad the hot commenced, the pulse was at the rate of 128, and hard. I ordered immediate bleeding, but before the gentleman could be got who was to perform the operation, about an hour elapsed, and what is very remarkable, the pulse, in that short space, rose from 128 to 140! a striking proof of the rapid progress of the disease.

I ordered her to be largely bled, but before the intended quantity was taken away the patient fainted, and for that reason the operator thought proper to desist. After the bleeding a purgative was given.

The next morning I was happy to hear that she had enjoyed a pretty good night's repose, though I was a good deal disappointed to be informed that the purgative had not answered my wishes. The blood had a thick inflammatory crust; she complained much of her belly, and her pulse continued at the rate of 140, and the lochia still continued to flow in moderate quantity.

The feebleness of the pulse deterred me from repeating the bleeding; the next design, therefore, was to excite a diarrhœa, and to endeavour to determine to the skin by sudorifics. In order to answer these intentions, I prescribed the powder of jalap in the saline mixture, to be given at proper intervals till it answered the end. When I returned in the evening I was informed that she had slept a good deal throughout the day, and that the purging medicine had produced two or three motions. I ordered the same medicine to be continued.

On the 5th, when I visited her, I was informed that she had enjoyed a pretty good night's rest; the medicine had procured some stools, but not so many as I could have wished; the pulse was about 136, the pain of the abdomen was not exquisite, and chiefly confined to the right side.

In the evening when I returned, I was happy to find the patient in a gentle diaphoresis, which extended over the whole body, and I was in great hopes that it would prove critical; but I was unhappily disappointed, for next day being the fourth from the attack of the disease, I was sorry to find that all the symptoms were aggravated. The diaphoresis had continued for a short time only, and she had a bad and a restless night. The pain in the side was now very exquisite, and the abdomen tumefied; there was, likewise, a great difficulty of breathing, and oppression about the præcordia; the velocity of the pulse was greatly augmented, the tongue very white, the thirst great, the lochia were now suppressed, and the patient began to be delirious.

These alarming symptoms induced me to avail myself of the assistance of another practitioner; I therefore thought proper to call in Dr. Skene, who readily accompanied me to the patient, and, with his approbation, a blister was applied to the side affected, the laxative medicine was continued, and an anodyne diaphoretic draught given at night.

On the 7th, being the fifth day of the disease, I found an increase of all the unfavourable symptoms; the pain and tumefaction of the abdomen were greatly increased, as was also the difficulty of breathing. A plentiful diarrhœa now came on; but it was too late, for nature, unhappily, was refractory at the time when her efforts were likely to have been of service.

In the evening when I visited her, there was every sign of approaching death; the pulse was sunk, and the extremities cold, and in a few hours the scene was closed.

Dissection.—Many arguments were ineffectually used to persuade the friends to permit an inspection. However, at last, very unexpectedly, they gave their consent, and this circumstance obliged me to go on that business at a very late hour, attended only by my principal pupil, Mr. Harvey, who always accompanied me on such occasions. I was sorry that the lateness of the hour deprived me of the pleasure of Dr. Skene's company, whose presence is desirable on these occasions, on account of his anatomical knowledge.

When the abdomen was opened, the omentum presented itself perfectly entire, and very little diseased, only somewhat more of a red colour than it is in a natural state; the stomach was sound, but all the intestines were much inflamed, and distended with air, particularly the colon. The left ovarium was sound, but the right was almost totally wasted by suppuration. There was about half a pint of pus and extravasated serum in the cavity of the abdomen. The uterus was lying above the brim of the pelvis, and was considerably more enlarged and distended than it ought to have been. Upon cutting into it, its internal surface exhibited the same appearances already mentioned in the case of Isabel Allan.

The lateness of the hour prevented me from proceeding to the dissection of the thorax; and I was the less solicitous about the matter, as I had seen in the abdomen the cause of the patient's death.

Case IV.—Mrs. ——, No. 38.—This lady thought herself secure because she was to be delivered by me, and I shall ever regret that her expectations were disappointed.

She had an easy labour, and remained perfectly well till the day after delivery, when about five o'clock in the afternoon, she was seized with a shivering fit, which lasted long, and was succeeded by a very quick pulse, and an acute pain in the right side of the abdomen.

I was sent for soon after the attack, and found the pulse at the rate of 140; I ordered sixteen ounces of blood to be taken away, and a purgative to be given, which unhappily failed to operate.

Next morning I called in Dr. Bannerman, a very skillful physician, and we agreed to repeat the bleeding to ten ounces, and to administer Dr. James's powder, which in a short time produced five or six plentiful motions, by which the patient was greatly relieved.

In the evening we were joined by Dr. Skene, a physician of great experience, who proposed to discontinue the purging plan, and to substitute sudorifics in its place. This, though a deviation from my usual practice, I did not oppose, because it was the proposal of a senior physician.

On the third day, in the morning, there was a remission, but in the afternoon the fever returned with greater violence than before, and the event of the disease was now too evident. Accordingly, the remainder of life was one continued conflict, painful to the patient, and distressing to the spectators.

A large blister was applied to the abdomen, which, instead of doing service, seemed rather to aggravate the patient's distress by the irritation it produced. Alarming symptoms seemed to increase every hour; the intellectual faculties began to suffer by a temporary delirium; convulsions were frequently interposed; the pulse became weaker and weaker, till at last it ceased altogether; the extremities grew cold, the sight failed, and death closed the melancholy scene.

Dissection.—This afforded a lamentable proof of the imperfection of our art; for we had the mortification to find that we had almost conquered the disease, and lost our patient for want of courage to carry evacuations to a proper extent. For there was but a slight degree of inflammation, and no inflation of the intestines; the right ovarium was enlarged to the size of a hen's egg, and was approaching to a state of suppuration; there was but little extravasation in the cavity of the abdomen, and what there was seemed to have proceeded from the inflamed ovarium. And I am fully persuaded, that if we had carried our remedies to a greater extent, the life of the patient would have been thereby saved. If either the quantity of blood, which was taken away at the two bleedings, had been taken at the first bleeding, or the purging been continued, which was exchanged for sweating, I am thoroughly convinced we should have been able completely to overcome the disease.

This was the opinion which I formed from the dissection, and its truth was confirmed by my success in all the succeeding cases to which I was called.

Thus, the loss of this patient was the means of saving many others.

Case V. Janet Cormack, No. 44.—On the 1st of March, 1791, I was called to Janet Cormack, a married woman, aged 25 years, and found her in imminent danger; for on the second day after delivery the puerperal fever made its attack with a very violent rigor, or cold stage.

She had been five days ill before I was sent for. When I saw her, I found the abdomen tumefied, and very painful to the touch; the patient's strength was much exhausted, and her pulse so much sunk, that I did not think it possible for her to survive many hours.

In such circumstances, there was scarce ground for any indication or rational method of cure; I therefore called in Dr. Skene to have his opinion, whose sentiments corresponded with my own, for we were both of opinion that her case was hopeless. However, we thought proper to give an opiate in a large dose, on purpose to mitigate pain. But what was given as a palliative, very unexpectedly proved a cure; for it both procured rest and produced a copious sweat, and the patient next morning was greatly relieved. A plentiful sweat continued for several days, and the pulse became less frequent.

Care was taken to keep the bowels open, and to procure rest by opiates, and I was now in hopes that Nature would perform a cure. However, she still remained in a very precarious state, for the fever never entirely left her. The tumour of the belly was at the same time large and hard, so that there could be no doubt of internal suppuration. Little hopes, therefore, could be entertained of the patient's recovery. But about a month after the attack of the disease, Nature, by a wonderful and an astonishing effort, relieved the distressed patient by an aperture at the umbilicus, through which a very large quantity of purulent matter was discharged, which continued to flow for the space of three weeks, when the tumour subsided, and the orifice closed.

The patient soon after began to menstruate, and in a little time recovered more strength than could have been well expected.

Thus, we have a very singular and uncommon termination of a very dangerous and deplorable case, which shows the wonderful powers of Nature, and what she is capable of performing even in the most desperate and hopeless cases.

And what is equally remarkable, the first case of puerperal fever which I had an opportunity of seeing in Aberdeen, terminated in the same extraordinary manner, though I was called early, and notwithstanding bleeding and other evacuations were carried to a great extent.

So curious a case deserves to be described, and the history thereof is accordingly subjoined.

Case VI. Thomas M'Robert's wife. (*Not in the table.*)—In November, 1788, I was called to the wife of Thomas M'Robert, in Belmont street, whose labour was attended with difficulty, owing to the presentation of the face; however, the child was expelled by the action of the uterus, and great care was taken to guard the perineum.

The woman had no complaint till the second day after delivery. when I was called to her at midnight: her husband being alarmed on account of a very long and severe shivering with which his wife had been seized.

When I went to the patient I found her labouring under a great degree of fever, attended with a violent pain in the abdomen. She

likewise complained of great sickness, and frequently vomited bile of a green colour; which symptoms clearly ascertained the nature of the disease.

I immediately bled the patient to the amount of sixteen ounces, and ordered a cooling purgative to be taken in the morning.

When I visited her next forenoon, I found no abatement of the disease; I therefore prescribed a repetition of the bleeding to ten ounces, and ordered the application of fomentations to the abdomen.

The lochia, which continued till now, were suppressed, the urine was scanty, high coloured, and passed with pain; I therefore ordered an infusion of linseed for drink, and nitre with crystals of tartar to be given in pretty large doses.

On the third day there was a remission, and on the fifth a complete terminatian of the fever.

The crisis was by a diarrhœa, accompanied with an erysipelas of one of the arms.

Dr. Bannerman was a witness of the treatment employed in this case.

About ten days after I had taken my leave of this patient, I was called to her again on account of a violent pain in the abdomen, accompanied with swelling and tension.

The pain was very excruciating, and was described by the patient as similar to those shooting pains attending inflammatory tumours which are approaching to suppuration.

These symptoms left no room to doubt that the disorder was the consequence of the puerperal fever, and that there was an internal suppuration. Every application was employed which had a tendency to mitigate pain, and alleviate the distress of the sufferer, till Nature brought relief in the same extraordinary manner, and by the same wonderful means already mentioned, in the case of Janet Cormack. For about six weeks after delivery, to the great relief of the patient, an outlet was made for the matter through the umbilicus. The discharge continued for several weeks, till the whole was exhausted, when the orifice closed. The patient again recovered perfect health, and has since been several times pregnant.

Case VII. Isaac Allan's wife, No. 68.—This case terminated in a similar manner with the two cases just described.

The disease attacked the patient on the eighth day from delivery, after she had been employed in washing clothes, and began with a cold stage, to which succeeded fever and pain of the abdomen.

She had neglected to have recourse to any medical assistance at the beginning of the disease; but the pain at last became so excruciating that she was under the necessity of sending for me. When I was called, I perceived that it was too late to attempt a cure by evacuation, and that all that art could do was to mitigate pain, and palliate the patient's sufferings by opiates, which were given in large doses.

The abdomen was swelled, and painful to the touch, and the poor woman's agony was very great for the space of two months; when the disease came to a crisis, by a discharge of purulent matter from the urethra, after which the pain and swelling of the abdomen subsided. Purulent matter continued to be discharged by this outlet for the space of a month, when it stopped, and the woman recovered strength sufficient to enable her to nurse her child, and she is now in perfect health.

The few foregoing cases may be said to contain the whole, for the history of all the rest is comprehended in them.

Nos. 18, 24, 25, 26, 27, 36, and 64 had symptoms similar to the case first described, with this difference only, that in them the bowels were costive, and, for several hours before death, they vomited a matter resembling the grounds of coffee; whereas she vomited none, but had a diarrhœa with stools not unlike moss-water. And most of the other cases which I attended, may be referred to one or other of those above described, and are, therefore, properly omitted.

CHAPTER III.

NATURE AND SEAT OF THE DISEASE.

THESE have been subjects of great dispute among writers on the puerperal fever. And I hope that the observations which an extensive experience has enabled me to make, will serve to illustrate the points in dispute. This I shall attempt, to the best of my ability, wishing to avoid all controversy, to which I have a great aversion; for I am fully persuaded, that if practitioners had observed more, and reasoned less, there would have been little dispute, either about the nature or seat of this disease.

NATURE OF THE DISEASE.

This is a point much disputed; for some maintain, that the puerperal fever is a disease of an inflammatory, while others as strenuously contend, that it is of a putrid nature. And I am very solicitous to establish this point, because it is a matter of the utmost moment, and has a direct and an immediate influence on the method of treatment; for inflammatory and putrid diseases are supposed to require remedies altogether different, and diametrically opposite.

Some, in my opinion, guided more by theory than observation, have endeavoured to settle the dispute by reasoning. But to show

how precarious reasoning is, and how little to be trusted, I think proper to mention, that the arguments employed by others, to prove that the puerperal fever is a putrid disease, appear to me, rather to prove that it is inflammatory. Since, therefore, different conclusions may be drawn from the same premises, no opinion, concerning the nature of a disease, is of great weight, which does not rest on a better foundation than that of reasoning.

Were I disposed to reason, *a priori*, concerning the nature of the puerperal fever, I would do it in the following manner:

Since the state of childbed is the conclusion of a great process, which begins with conception and ends with labour, and since an inflammatory disposition of body attends the whole process, from beginning to end, is it reasonable to think that there would be an immediate transition, a sudden change, from inflammatory to putrid, at the close of the process? It is surely much more natural to think, that the same disposition will be continued, and that the commotion excited by labour, and the cordials, so commonly given on that occasion, will rather increase than change the inflammatory state.

But there is no argument like matter of fact; I shall, therefore, relinquish reasoning, and have recourse to facts. And the doctrine, which I propose to deliver, concerning the nature of the puerperal fever, shall be grounded on the cases which I saw, and the dissections which I made.

The foregoing table contains seventy-seven cases of the disease, which are the foundation on which my doctrine is grounded, and which I defy any theory to shake.

Of that number forty-nine patients recovered, and twenty-eight died.

Of the former, the greater part owed their recovery to such evacuations as cure inflammatory diseases, carried to a very great extent; some, to the same evacuations spontaneously excited, and continued; some, to a translation of the inflammation to the extremities, or other external parts, in form of erysipelas or abscess; and a few, to an astonishing effort of nature, in discharging the abdominal suppuration by an external outlet, of which wonderful crisis I have given three remarkable cases.

Of the latter, or those who died, we have ocular demonstration of the nature of the disease in three dissections; and in all the rest there were evident symptoms, either of mortification or suppuration of the parts contained within the cavity of the abdomen.

And if to these facts be joined this additional one, that of those who got wine and cordials, upon the supposition that the disease was putrid, none recovered, it may be considered as an established truth, that the puerperal fever is a disease of an inflammatory nature.

That it frequently puts on a putrid appearance in its progress, or in the advanced stages, I by no means refuse to admit; but observe,

that this putrescency is only the effect, or consequence, of previous inflammation neglected, or improperly treated. For, in the course of the disease, considerable extravasation takes place into the cavity of the abdomen; and the matter thus extravasated, by stagnation, must soon acquire an acrid and putrescent quality, and, being absorbed, will occasion putrid symptoms. And this explains why the puerperal fever puts on a putrid appearance, and accounts for the many mistakes of physicians, with respect to its nature, who have taken the effects, or consequence, for the cause, and confounded the different stages of the disease.

But the puerperal fever is putrid in its progress only, and not in the beginning; and such putrescency is the effect, or consequence, of previous inflammation; for when the disease is properly treated at the commencement, or soon after the attack, that is, at the beginning of the inflammatory stage, no symptoms of putrescency ever appear.

Having proved that the puerperal fever is an inflammatory disease, I shall next endeavour to investigate the specific nature of the inflammation, or inquire whether it be of the nature of phlegmon or erysipelas?

That the puerperal fever is of the nature of erysipelas, was supposed by Pouteau forty years ago, and has been the opinion of Drs. Young and Home, of Edinburgh, since that time. I will not venture positively to assert, that the puerperal fever and erysipelas are precisely of the same specific nature; but that they are connected, that there is an analogy between them, and that they are concomitant epidemics, I have unquestionable proofs. For these two epidemics began in Aberdeen at the same time, and afterwards kept pace together; they both arrived at their *acme* together, and they both ceased at the same time.

That the erysipelas accompanied the epidemic disease of lying-in women, of the years 1787 and 1788, described by Dr. Clarke, of London, appears from the following words: "Inflammatory diseases have been extremely unfrequent, or, if they have occurred, they have been principally of the erysipelatous kind."[1]

The analogy of the puerperal fever with erysipelas, will explain why it always seizes women after, and not before delivery. For, at the time when the erysipelas was epidemic, almost every person admitted into the hospital of this place with a wound, was, soon after his admission, seized with erysipelas in the vicinity of the wound. The same consequence followed the operations of surgery; and the cause is obvious, for the infectious matter which produces erysipelas was at that time readily absorbed by the lymphatics, which were then open to receive it.

Just so with respect to the puerperal fever; woman escape it till after delivery, for, till that time, there is no inlet open to receive

[1] See Dr. Clarke on the Epidemic Diseases of Lying-in Women, p. 11.

the infectious matter which produces the disease. But, after delivery, the matter is readily and copiously admitted by the numerous patulous orifices, which are open to imbibe it, by the separation of the placenta from the uterus.

And thus a question, which has given rise to various speculations and conjectures, is solved, in a very simple and satisfactory manner.

The connection of the two diseases is still further confirmed by the great extent of the inflammation, and rapid progress of the disease.

And the same connection is evident from this circumstance, that a very frequent crisis of the disease is by an external erysipelas; which is a proof that there is a metastasis, or translation, of the inflammation, from the internal to the external parts.[1]

From these facts the reader may draw his own conclusion concerning the nature of puerperal inflammation. At the same time I am aware, that this investigation will afford argument against the treatment recommended in the sequel, to those who have been taught that bleeding and purging are improper in erysipelas, and that it is most successfully treated by cordials and tonic medicines. This is the doctrine taught at present in some of our schools, and will of course be adopted by many young practitioners.

But I combat opinions on the certain ground of practice, and not on the uncertain ground of theory; for which reason, the highest authority upon earth could not persuade me to admit a doctrine which disagrees with my own experience. And, therefore, I shall only briefly observe, that if such practitioners had lived in Aberdeen during the epidemic season, and seen the success of bleeding and purging, and the fatal consequences which followed the exhibition of wine and cordials in erysipelas, they must have altered their sentiments, or disbelieved their own eyes.

Having investigated the nature of the puerperal fever, I next proceed to inquire into the

SEAT OF THE DISEASE.

With respect to the seat of the puerperal fever, writers have differed very much.

That the omentum is the seat of the disease is a supposed discovery, the merit of which has been claimed by two different authors,[2] each of whom has asserted his right to that honour.

It is, indeed, very true that the omentum is affected in the puer-

[1] This critical erysipelas most commonly fixed on the extremities, but in a few instances on the external surfaces of the abdomen, which happened in a case of puerperal fever which I attended in the year 1788. The case alluded to is the wife of William Walker at Newbridge, whom I attended at the same time with Thomas M'Robert's wife, whose history is given in Case VI. In both cases the crisis was by an erysipelas, which, in the latter, fixed on one of the upper extremities, and in the former, on the integuments of the abdomen.

[2] Drs. Hulme and Leake.

peral fever; but it does not appear to be more especially affected than the other productions of the peritoneum, which are all equally and indiscriminately affected.

The dissections which I made prove that the puerperal fever is a disease which principally affects the peritoneum and its productions, and the ovaria.

The peritoneum, or investing membrane of the abdomen, was inflamed; and the extensions or productions of the same membrane, which constitute the omentum, mesentery, and peritoneal coat of the intestines, were all promiscuously affected.

In all the subjects which I dissected, the right ovarium was diseased, and the left sound. Now, it may be asked, was this accidental, or was there some other reason for it? I observed, that in all the three cases, that ovarium was affected in which impregnation had taken place.

Does the disease universally fix upon that ovarium in which conception had taken place, or is the right ovarium more commonly affected than the left, from some cause not yet discovered?

I would, therefore, recommend this matter to the observation of future dissectors.

Thus, I have proved that the puerperal fever is an inflammatory disease, and that its seat is in the abdomen; it may, therefore, be considered as consisting in abdominal inflammation.

CHAPTER IV.

CAUSE OF THE DISEASE.

VARIOUS causes have been assigned by writers for the production of the puerperal fever. I am unwilling to repeat the observations of authors, which are, or ought to be, in the hands of every practitioner who pretends to female practice.

I shall, therefore, take no notice of the numerous causes mentioned by authors, but proceed to investigate the cause of the epidemic puerperal fever under consideration.

That the cause of this disease was a specific contagion, or infection, I have unquestionable proof.

When the puerperal fever is frequent and fatal, that is, when it prevails as an epidemic, its cause has been referred to a noxious constitution of the atmosphere.[1]

But that the cause of the epidemic puerperal fever under consideration was not owing to a noxious constitution of the atmosphere,

[1] See Leake on the Puerperal Fever, p. 97.

I had sufficient evidence; for if it had been owing to that cause, it would have seized women in a more promiscuous and indiscriminate manner. But this disease seized such women only as were visited or delivered by a practitioner, or taken care of by a nurse, who had previously attended patients affected with the disease.

In short, I had evident proofs of its infectious nature, and that the infection was as readily communicated as that of the smallpox or measles, and operated more speedily than any other infection with which I am acquainted.

With respect to the physical qualities of the infection, I have not been able to make any discovery; but I had evident proofs that every person who had been with a patient in the puerperal fever became charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere. This is not an assertion, but a fact, admitting of demonstration, as may be seen by a perusal of the foregoing table.

The midwife who delivered No. 1 in the table, carried the infection to No. 2, the next woman whom she delivered. The physician who attended Nos. 1 and 2, carried the infection to Nos. 5 and 6, who were delivered by him, and to many others. The midwife who delivered No. 3 carried the infection to No. 4, from No. 24 to Nos. 25, 26, and successively to every woman whom she delivered. The same thing is true of many others, too tedious to be enumerated.

It is a disagreeable declaration for me to mention, that I myself was the means of carrying the infection to a great number of women. But happily, before I knew that the disease was infectious, I had discovered a remedy which would certainly cure it, if early applied. This discovery was a consolation, which, in a great measure, compensated for the uneasiness which the knowledge of the above-mentioned fact would have otherwise occasioned.

The midwife who delivered Mrs. K.—— carried the infection to No. 55, in Nigg, a country parish not far from Aberdeen, from whom it spread through the whole parish.

The servant of Sir William Forbes, Bart., carried the infection from his sister in Aberdeen to his wife in the parish of Fintray, six miles from town; and the midwife who delivered her infected two others in the same parish soon after, both of whom died.

The midwives from Aberdeen carried the infection to the Printfield, or great cotton-works, two miles from town, where a great number of lying-in women was affected; while, at the same time, the women in the neighbourhood, who were delivered by country midwives, escaped.

The infection was carried, by practitioners of midwifery, from Aberdeen to Gilcomston and the Hardgate, villages in the suburbs of the city; while women in the adjacent country, who were delivered by midwives on the spot, escaped.

Now, it may seem remarkable, that the puerperal fever should prevail in the new town, and not in the old town of Aberdeen, which

is only a mile distant from the former; that it should prevail at the Printfield, in Gilcomston, and the Hardgate, villages in the parish of the old town of Aberdeen, and not in the old town itself. But the mystery is explained when I inform the reader, that the midwife, Mrs. Jeffries, who had all the practice of that town, was so very fortunate as not to fall in with the infection, otherwise the women whom she delivered would have shared the fate of others.

Why it prevailed in the parish of Nigg and of Fintray, and not in the adjacent parishes, I have already explained.

These facts fully prove, that the cause of the puerperal fever, of which I treat, was a special contagion or infection, altogether unconnected with a noxious constitution of the atmosphere.

That the infection, which produces the puerperal fever, is not a specific contagion, but of the same nature with synochus or typhus, has been asserted by a late writer on the puerperal fever. This author says, "that the disorder is not one, *sui generis*, confined to lying-in women, but merely an unusual form of a very common disease, and is in reality no other than the common infectious fever, complicated with a more or less extensive inflammation of the peritoneum."[1]

"We look on the puerperal fever as a form of the common synochus or typhus."[2]

The cause of both is undoubtedly infection, but the two infections are of a very different nature. For the circumstance which excites the infection of the puerperal fever seems to prevent typhus. The former always takes place after, and not before delivery; but the latter (if pregnant women are exposed to the infection) takes place before, and very seldom after delivery.

The public office, of which I have the charge, has afforded me an opportunity of attending an immense number of pregnant women affected with fevers occasioned by infection; and the result has been, abortion in the early part, and labour in the latter part of pregnancy. Which events, so far from proving fatal, for the most part brought the disease to an immediate termination, the flooding of abortion, and the lochia of childbed proving critical.

But the contagion producing typhus is not only of a different nature from that which produces the puerperal fever, but the diseases thereby occasioned have very different symptoms. The principal symptom of the puerperal fever is pain in the abdomen; whereas, the principal symptom of typhus is pain in the head, without any complaint in the abdomen.

The difference is well illustrated by a case in point related by Dr. Kirkland:

"A young woman very lately had, as I was informed, an extreme good time of her first child; but she was unfortunately put into a bed out of which her sister, my patient, was removed, who had long

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[1] Walsh on the Puerperal Fever, p. 13. [2] Ibid., p. 23.

lain ill of a slow nervous fever. If we except her not having a stool, she went on very well for five or six days, the lochia being properly discharged; she slept well, and her breasts were filled with milk: but about the conclusion of this period, probably when the miasma received from the curtains and bedclothes began to take effect, she complained of a pain in her head, was feverish, and her fever increasing with want of sleep, I was desired to see her on the eighth day of her lying-in. I then found her in a hot sweat, with an excessive quick weak pulse, and exactly the same kind of symptoms which accompanied her sister's fever. A clyster was immediately given with good effect; other remedies were ordered, and her breasts had been and still continued to be carefully drawn, till they became flaccid from milk not being secreted: but the parents of this woman, having lost another daughter in childbed, were firmly persuaded that this would die also. Thus, she continued in the same bed, remedies were entirely neglected, she soon became delirious, and did die on the twelfth day from her delivery; but she had neither diarrhœa, pain, soreness, nor swelling in any part of the abdomen, &c."[1]

CHAPTER V.

PROGNOSIS OF THE DISEASE.

In so dangerous a disease the prognosis must be precarious, and for the most part unfavourable; for of all acute diseases, the plague excepted, the puerperal fever is perhaps the most dangerous.

Indeed, one of the best writers on the puerperal fever has represented it to be as destructive as the plague itself.

"The pestilence," he says, "like a fierce and untamed enemy, spreads his hostile banners in open day, and feasts on carnage and destruction, till, glutted with slaughter, he himself sinks down and dies! But the puerperal fever, like a secret revengeful foe, stabs in the dark to the very vitals; and though he kills one only at a time, yet he is privately slaying every day, and never satiated, thus making up by length of time what the other does by a sudden devastation."[2]

The celebrated Dr. Hunter gives a very unfavourable account of the event of the puerperal fever. And, by the same gentleman, we have a melancholy history of its fatality in one of the lying-in hospitals in London; for in that hospital, in the space of two months, thirty-two patients were affected with it, and only one of that number recovered.

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[1] Dr. Kirkland on Childbed Fevers, Case xvi.
[2] Hulme on the Puerperal Fever, p. 29.

In 1746, at Paris, none recovered.

According to Dr. Leake, thirteen patients out of nineteen died of this distemper, during the epidemic season.[1]

And, according to Dr. Young, all the women died who were affected with this disease in the lying-in ward at Edinburgh, not one of them recovering.

In my practice, of seventy-seven women who were attacked with the puerperal fever, twenty-eight died; so that very near two-thirds of my patients recovered, which proves that I have been much more successful than any other practitioner.

But it will be proper to mention that I was too late in being called to many of the cases, and that I had a fair trial only in fifty of the above number: of these fifty, only five died.

Nothing, therefore, can be a stronger proof of the truth of my doctrine, than the success of my practice; for according to this account, if the cure be early attempted, and conducted according to the method which I propose, only one in ten will die, if we calculate according to my success in the above-mentioned fifty cases. And it deserves to be remarked, that all these five died before the third dissection, from which I discovered the certain method of curing the puerperal fever. The time when the third dissection was made, may be reckoned the era from which we are to date the discovery of the cure of this disease; for, after that time, of thirty patients who were treated in the manner to be afterwards mentioned, not one died.

The course of the disease is pretty uniform, but in this there is some variation, depending principally upon the time of attack; for the earlier it begins after delivery, it will prove the sooner mortal; and the later it seizes a patient, it will be the longer protracted.

Two died in the space of twenty-four hours after the attack, one in thirty-six hours, three on the third day of the disease, fifteen on the fifth day, three on the seventh, three on the eleventh, and one on the twenty-third.

Thus, more than one half of the deaths happened on the fifth day. The fifth, therefore, may be reckoned the principal of the fatal critical days, and it is likewise the principal critical day when the crisis is salutary. By attention to this circumstance, I was enabled to give a prognosis which frequently surprised the patient's friends; for they were astonished to find, that the event corresponded in point of time with my prediction.

The salutary symptoms are a diarrhœa coming on early, especially if the tumefaction of the abdomen be thereby diminished, the pain relieved, and the pulse rendered slower. Indeed it is so far a good symptom, that without a natural or artificial diarrhœa, few or none recovered. A gentle moisture on the skin, a flow of milk to the breasts, a plentiful discharge of the lochia, are all favourable symptoms. It is, likewise, a favourable sign when the patient can turn her-

[1] Leake on the Childbed Fever, p. 246.

self; for, in dangerous cases, the patient generally lies in one posture, unable to turn herself in bed. But one of the most favourable symptoms is an erysipelas on the extremities, or abscesses on different parts of the body, for such are certain signs of a salutary crisis.

The dangerous or unfavourable symptoms are, a very quick pulse, violent pain and tension of the abdomen, laborious respiration, a violent rigor, and the progress of the disease very rapid, a dry, rough tongue, delirium, black vomiting, black stools, and a circumscribed crimson colour on the cheeks. Cold clammy sweats on the face and breasts, involuntary stools, a fluttering pulse, and a cessation of pain, were the immediate harbingers of death.

CHAPTER VI.

CURE OF THE DISEASE.

THERE is, perhaps no disease in which less is done by nature, or more may be done by art. For though I have mentioned a few wonderful cures performed by Nature, yet, in general, her efforts were ineffectual; whereas, when early recourse was had to the skilful assistance of art, the disease, in most instances, was very speedily and effectually cured.

And the method which I found most successful was by 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. And what Botallus says of the plague is strictly applicable to the puerperal fever. That author says:

"Bleeding proves more beneficial than all other remedies, provided it be seasonably used in due quantity; but I am of opinion it sometimes does no service, either because practitioners are too late in having recourse to it, or use it too sparingly, or commit some error in both these particulars. For if a disease which requires four pounds of blood to be taken away in order to cure it, and only one is taken away, destroys the patient, it does not prove destructive because bleeding was used, but because it was performed in an improper, and perhaps in an unseasonable manner."[1]

Now, nothing can be more applicable to the puerperal fever than the observations of Botallus; for 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,

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[1] Botallus, cap. vii. De curatione per sanguinis missionem.

as was the case with Nos. 23, 28, 33, 35, 36, 40, 41, 52, 53, 54, 56, 58, 60, 61, 62, 67, 70, &c., in the foregoing table.

If, therefore, a practitioner is called to a patient in the beginning of the puerperal fever, he must never take away less than twenty or twenty-four ounces of blood at one bleeding, otherwise he will fail in curing the disease.

I know that this will be thought too large a quantity by those who never take away more than eight or ten ounces of blood from their patients, but such practitioners would never cure the puerperal fever. For unless a practitioner venture to take away the quantity mentioned, it would be much more prudent in him not to bleed at all, because his patient will certainly die, and the bleeding will be blamed; for among the vulgar and illiterate there is a strong prejudice against the practice of bleeding women in child-bed, it being a popular opinion that bleeding stops the lochia, and proves certain destruction to every one that undergoes it.

And I felt this prejudice in its full force, when I had not courage to take more than twelve, or fourteen, or even sixteen ounces of blood from my patients. But when I had resolution to take twenty or twenty-four ounces at one bleeding, I disregarded it, because I was sure that the quantity taken away within six or eight hours after the attack, would certainly cure the disease, and that of course there would be no clamour against bleeding. But when I was not called at the beginning, or soon after the attack of the disease, when the success of bleeding was uncertain, I did not bleed at all.

In this manner, at last, I fairly got the better of a prejudice which I thought invincible; for, when people saw that all who were bled recovered, and that almost all who were not bled died, even those who were most prejudiced against bleeding were compelled to be silent. And thus I had the satisfaction to see the voice of clamour effectually silenced.

But twenty or twenty-four ounces, which I have limited as the quantities requisite for the cure of the puerperal fever, will not be thought too large a bleeding, by such practitioners as have been accustomed to see the large quantities of blood which pregnant women sometimes lose with safety in cases of flooding. In such cases, I have frequently seen women lose from two to upwards of four pounds of blood in the space of a few hours; and yet these patients had good recoveries, and were the only women delivered by me who escaped the puerperal fever in the epidemic season.[1]

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[1] Since this work was finished, I was called to the wife of Thomas Paterson, in Gilcomston, who, at the commencement of labour, had lost four pounds of blood before medical assistance was desired. Being engaged with a case of difficult labour, I sent Mr. Booth and Mr. Morgan, my pupils, on purpose to deliver her; but she would not allow them to proceed before I visited her. In the mean time she lost about two pounds more; so that, before she was delivered, this woman lost six English pints of blood; and yet, notwithstanding this profuse hemorrhage, in three weeks she was able to walk to my house, the distance of a mile, to return thanks when she was perfectly recovered, and had a thriving infant on the breast.

Besides, the quantity of blood necessary for the cure of the puerperal fever is not near so great as that recommended by some practitioners of the first rank, for the cure of other diseases. Both Hippocrates and Galen bled very largely, when occasion required, the latter sometimes taking away six pounds of blood with manifest advantage; and he and other ancient physicians did not hesitate to bleed *ad deliquium* in fevers. The illustrious Sydenham says that he has seldom known a confirmed pleurisy cured in grown persons without the lost of about forty ounces of blood; and both Cleghorn and Huxham used to take away a still greater quantity in the same disease. Dr. Cullen says, that a man of tolerable strength may lose from four to five pounds of blood in the course of two or three days for pneumonic inflammation.

Now, when I was called early to patients in the puerperal fever, and had courage to take away twenty-four ounces at one bleeding, I never failed at once to cure the disease. Nos. 58, 60, 62, 70, 72, 75, and 77, are instances of the truth of this.

I was called to Elspet Robertson, No. 58, a few hours after the attack of the puerperal fever, which took place on the day after delivery. This patient complained of a very acute pain in the abdomen, which had succeeded a severe rigor or shivering fit, and the pulse was at the rate of 160. She was bled to the extent of twenty-four ounces, and got a purgative at two o'clock in the afternoon immediately after the bleeding, which produced six or seven plentiful motions. And when I saw her at eight o'clock in the evening, to my great surprise the pulse had come down from 160 to 108, and the pain of the abdomen was gone. Next morning, when I called, I found her without fever, pain, or any other complaint.

I was called to Mrs. Thompson, No. 60, in similar circumstances. She was treated exactly in the same manner, and the same success attended the treatment.

An express came for me one night to go to the Printfield to Mrs. Forbes, No. 62, who had been seized with the puerperal fever, which made rapid progress, and was attended with symptoms which alarmed the patient's friends, and made them send for me. I despatched Mr. John Gordon and Mr. Joseph M'Rae, with instructions how to act; and they managed the case with great propriety, for, when they had taken away about twelve ounces of blood the patient fainted; but the young gentlemen were not alarmed at that, but waited till she recovered, when they took away other twelve ounces; and, after the bleeding, they gave a brisk purgative, which operated well, producing ten or twelve plentiful motions.

When I visited the patient next day, I found that both the fever and pain of the abdomen were totally gone.

The attack of the puerperal fever in this case was on the day after delivery in the afternoon, when she was bled, and got the purgative within six or eight hours after the commencement of the ease.

Thus, I found that twenty-four ounces of blood taken away at one bleeding, within six or eight hours after the attack of the disease, together with a single purgative, never failed at once to cure the puerperal fever. But when a less quantity was taken away, I either failed in curing the disease, or could not accomplish a cure without a course of purging.

Next to bleeding, therefore, purging constitutes a principal part of the cure of the puerperal fever, and this is the outlet by which Nature, when left to herself, attempts her own relief.

After bleeding, therefore, it was my practice to give some active purgative, on purpose to bring on a diarrhœa, which, when excited, I found necessary to continue through the whole course of the disease till it was entirely conquered

When the disease was early combated, and treated in the manner mentioned, I either cured it at once, or brought it to a remission on the third day. Now, this remisssion on the third day is very ready to impose upon inexperienced practitioners, inducing them to give a favourable prognosis, and to desist from further purging, upon a supposition that the danger is over. But the event will convince them of their mistake; for, unless the advantage thus gained be improved by a continuation of purgatives, it will be found that the remission is only a respite, during which the disease is preparing strength to return again, in order to renew the conflict with redoubled vigour, when it will not be in the power of art to check its impetuosity: like an enemy who retreats, on purpose to take the first opportunity of rallying on more advantageous ground, when the contest is renewed with tenfold fury.

The purging, therefore, is to be early excited, and to be continued without intermission, till there be a complete termination of the disease, which generally happens on the fifth day.

And here again new difficulties presented themselves, for I met with as much opposition in regard to purging as bleeding, for popular opinion was as much against the one as the other. I was, therefore, under the necessity of giving my purgatives in a concealed way. For some time I gave powder of jalap or syrupus de rhamno, in the proportions of a drachm of the former, or two ounces of the latter, in six ounces of the saline mixture, of which the patient took an ounce at proper intervals. But this medicine I found to answer better for continuing, than for introducing the diarrhœa; for which reason the preference was given to others which I found more effectual. And it is a matter of the utmost moment to prescribe such purgatives as will operate with all possible speed. After trying a great variety, I found that most dependence was to be put in calomel and jalap; three grains of the former and two scruples of the latter were mixed with conserve of roses, and made into a bolus, which I always administered immediately after bleeding, without giving the least intimation of the intention of the medicine either to the patient or her friends. This medicine commonly operated

speedily and briskly, and never disappointed me, as other purgatives frequently did; and the diarrhœa thus begun was afterwards continued by the purging mixture already mentioned, which was given in such proportions as to produce five or six motions every day without intermission for the first three days of the disease; after which I diminished the dose, but still continued the medicine, till the disease totally ceased. Every night I administered an opiate, in order to give a respite to nature and strength to the patient, to enable her to bear the evacuations which she must necessarily undergo the ensuing day.

In this manner I treated my patients, and the same method, if followed by others, will, I am confident, be attended with equal success. It may, perhaps, be thought a severe method of cure, but I can affirm, from extensive experience, that no other method will cure the puerperal fever. The cure is severe, but it is only short, for the patient is cured in a few days, or not at all.

"Cita mors vinit, aut victoria læta."

All the patients who were early and largely bled and plentifully purged, recovered. On the contrary, all died who were sparingly bled, and in whom we could not excite a diarrhœa in the beginning of the disease, as in Nos. 1, 2, 3, 5, 6, 9, 17, 18, 19, 22, 24, 25, 26, 27, 32, 37, 38, 42, 43, 45, 55, of the cases in the foregoing table.

The propriety of purging in the puerperal fever was clearly pointed out to me by nature, in the case of Janet Wier, No. 11.

I was called to this patient about twenty-four hours after she had been attacked with the fever. She told me that the disease began the day after delivery with a severe shivering. The abdomen was tumefied and painful to the touch, but the pain was most severe in the right side; her pulse was at the rate of 140, and hard. Sixteen ounces of blood were immediately taken away, which gave her great relief, and a purgative was also given. The blood had a thick inflammatory crust, and the purgative operated well. The cure which was begun by art was carried on by nature; for a diarrhœa continued without intermission for seventeen successive days, and was extremely violent, being at the rate of twenty or thirty stools every day. The violence of the diarrhœa made me endeavour to restrain it, but to no purpose; for nature, bent on conquest, and disdaining the impediments of art, seemed determined to continue her career till she came off victorious. And if it be admitted that disease is a conflict of nature fighting for her safety, this was one of the warmest contests I ever had an opportunity of witnessing. I frequently thought that the patient was irrecoverably sunk, and ready to expire; but still she revived again, and the conflict was renewed. And, after an unparalleled struggle of seventeen days, the fever ceased and the diarrhœa abated. But though the diarrhœa abated, it did not entirely cease, for it continued, though in modera-

tion, for the space of six weeks; and having completely carried off the disease, it then ceased spontaneously. And what is very remarkable, after all she had milk in her breasts, and nursed her child, which she kept at the breast for the long period of fifteen months.

Bleeding and purging are the two great hinges upon which the cure of the puerperal fever turns. Sweating is both uncertain and difficult to be excited; blisters seem rather to do hurt than good by the irritation they occasion; warm fomentations, which are so commonly used by practitioners, are of no great service, and when applied too hot they evidently increase the pain and quicken the velocity of the pulse. In short, the only proper method of curing the puerperal fever is by large bleeding early in the disease, and plentiful purging with the interposition of opiates.

But though bleeding be the principal and most effectual of all remedies, yet its efficacy is limited to the beginning of the disease. However, I think that it may be successful, and ought to be tried at a later period than I could venture, on account of the prejudices of the people among whom I practised, which compelled me to be extremely circumspect.

After much experience in the disease, and mature deliberation concerning the conduct most proper to be pursued in my peculiar situation, I came to the following resolution: if called to a case within twelve hours after the attack I insisted on bleeding the patient, and promised for its success; but if at a later period, viz., from twelve to twenty-four hours after the attack, in that case, like Sydenham with the same remedy in the smallpox, I thought it incumbent on me to propose it as the only effectual remedy, but I neither insisted on it nor promised for its success.

Purging, the other principal remedy for curing the puerperal fever, is not so circumscribed in its application as bleeding; for it is well adapted to all the different stages or periods of the disease, and is the evacuation to which nature herself gives the preference, being the only proper critical or salutary discharge that takes place in the puerperal fever.

If the disease has been neglected or improperly treated in the beginning, the event is, for the most part, fatal; for the inflammation continuing to increase, terminates in suppuration or gangrene. At any rate, considerable extravasation takes place in the cavity of the abdomen, and the disease, which was inflammatory in the beginning, becomes putrid in its progress.

In this stage of the disease most authors have recommended the use of tonic and antiseptic medicines; but my experience authorizes me to put little confidence in them. For the source of the poison is in the cavity of the abdomen, for which there is no antidote in the *materia medica*.

"Dic, quibus in terris, et eris mihi magnus Apollo."

This deep-seated poison cannot be corrected in any other way

than by being carried out of the body. But there is no direct outlet from the cavity of the abdomen, and the only channel is by a long circuit, or indirect course through the absorbents into the circulation, and out of the system by the common excretories. For the absorbents are capable of imbibing the extravasated poison, and carrying it into the system, from which it is most readily discharged by the intestinal canal. Now, this method nature frequently attempts by exciting a diarrhœa, and the practitioner, in imitation of nature, must pursue the same intention, by giving purgatives, if a spontaneous diarrhœa has not taken place.

That nature sometimes succeeds in this way, we have a remarkable instance in the case of Janet Wier, already described.

Before I finish this chapter, I think proper to mention the event of this disease in the hands of those who treated it with wine and cordials, without bleeding or purging their patients. And I took particular notice that all the women died who were attended by such practitioners. Yet their practice was praised, though it always failed, because it was pleasant, and corresponded with popular opinion; whereas my practice was blamed, though always successful, because my method of cure had the appearance of severity.

I wish the reader to take notice that I do not assert this on purpose, or in such a way as to injure the character of any individual; for I mention no name. But I consider it as a sacred duty, a matter of conscience, to mention every circumstance relating to the subject. And as the lives of thousands are at stake, the less apology is necessary. The maxim of every author ought to be the same with that of Aristotle, who says: "Plato is my friend, but truth much more." And, in this instance, I esteemed the men, though I disapproved of their practice.

I shall finish the chapter with observing, that though the cure turns upon bleeding, yet it is to be done *early* and *largely*, or not at all; that purging can never be omitted with impunity; and that if any one neglect to excite an artificial, or venture to restrain a spontaneous diarrhœa,[1] or give cordials early in the disease, he will certainly lose his patient.

[1] [I cannot agree with Dr. Gordon that we are not to restrain a spontaneous diarrhœa, provided it be excessive, for in some epidemics of puerperal fever diarrhœa is epidemic also, and in all cases fearfully aggravates, in some really appears to originate, the more fatal affection. In such cases I have no scruple whatever in recommending that our efforts should be directed to surmount and control the intestinal disorder by means of chalk mixture and opium, acetate of lead and opium, &c.—Ed.]

CHAPTER VII.

PREVENTION OF THE DISEASE.

CONSIDERING the many difficulties and the opposition which I met with in curing the puerperal fever, it will be readily believed that I should be extremely solicitous to discover a preventive for the disease. And though I was very diligent in this search, yet my endeavors were for a long time unsuccessful. For those means which have been recommended by authors were found altogether inadequate to the purpose. And, for this reason, I hope I shall be pardoned for considering them as the suggestions of theory, which will not stand the test of experience; my experience authorizing me to say that those who trust to them will be greatly disappointed.

Those who propose to prevent the puerperal fever must have two intentions in view. The one is, to prevent the infection from being communicated, and the other is, after the infection has been communicated, to prevent its action.

My endeavours were entirely directed to this last purpose; for the puerperal fever had prevailed for some time before I discovered that it was infectious: and after this discovery was made, I saw the danger of disclosing the fatal secret.

With respect to the most effectual means of preventing the infection from being communicated, I must speak with great uncertainty, because in this matter I have not experience for my guide. When treating of the cause, the nature, and cure of the disease, I spoke with the utmost confidence, because I had experience and facts for my guide; but here those sure guides are wanting, and therefore I speak with diffidence.

Whether the infection of the puerperal fever is capable of being destroyed by the same means as that of other fevers, I cannot affirm with certainty, but think it very probable, and that they ought to be tried.

That fresh air and cleanliness are insufficient for the destruction of contagion, and that there is no certain antidote but fire and smoke, has been demonstrated by the ingenious Dr. Lind. This excellent author has proved that fire and smoke are the most powerful agents for annihilating infection; and, as he thinks, even the plague itself.

The methods which he recommends for the purification of infected chambers, and for the fumigation of infected apparel, may be seen by perusing his ingenious papers on fevers and infections, to which I refer the reader.

The same means ought to be practised for preventing the infection of the puerperal fever. The patient's apparel and bed-clothes

ought either to be burnt or thoroughly purified; and the nurses and physicians who have attended patients affected with the puerperal fever, ought carefully to wash themselves and to get their apparel properly fumigated before it be put on again.

So much with respect to the method of preventing the infection of the puerperal fever from being communicated. I shall next consider the means of preventing the action of that infection after it has been communicated; and on this head I speak with proper confidence, because I speak from experience, the surest test of medical truth. And, as I have already mentioned, I found myself disappointed when I trusted to those means which have been recommended by some authors of considerable respectability. For neither antiseptic nor tonic medicines, nor such as obviate sensibility or irritability were found effectual. Consequently, bark, wine, opium, &c., will disappoint those who put their confidence in them.

I found, likewise, that neither the greatest care, the best of management, nor the strictest attention to regimen, were sufficient to prevent it.

After many unsuccessful trials, I began to think that those means which cured the puerperal fever would *à fortiori* prevent it. Bleeding, therefore, occurred to me as the most probable means of preventing the puerperal fever; but I was unwilling to have recourse to it as a preventive, because, if it failed, I was by that means deprived of the only certain remedy for the cure. And such was the prejudice against bleeding, that if I had used it as a preventive, and it had failed, I should not have been permitted to repeat the operation afterwards at the attack of the disease, when it was indispensably necessary.

I was, therefore, compelled to rest contented with purging; and the purging bolus, which was so effectual in the cure, was equally efficacious as a preventive. This bolus was given the day after delivery in the morning, and it either prevented the disease altogether, or answered this good purpose, that the cure was anticipated before the attack of the disease.

In short, all who got the medicine, either escaped the disease, or were easily cured if they did not. Indeed, all who got it escaped, except James Davidson's wife, No. 52, who got the bolus the day after delivery, which purged her briskly; but she was, notwithstanding, seized with the fever on the third day, about five o'clock in the afternoon. Being in the country, I did not see her till eight, when her pulse was 140, attended with the usual symptoms of pain in the abdomen, &c. The bolus was repeated, and twenty-four ounces of blood taken away, by which the disease was at once cured.

APPENDIX.

I.—PRACTICAL REMARKS ON THE PUERPERAL FEVER.

THAT popular opinion and the doubts of many practitioners, with respect to the propriety of bleeding women in childbed, are ill founded, I have proved in the preceding treatise.

This opinion seems to have arisen from an idea that the system after delivery is in a state of inanition. But that the system on this occasion, so far from being in a state of inanition, is, on the contrary, in a plethoric state, must appear evident to every attentive observer; for, during pregnancy, the menses are retained, and there is a great quantity of blood derived to the uterus, which if not discharged after delivery, must be redundant, and occasion plethora. Now, in order to obviate this plethora, or superabundance of blood, Nature, in her wisdom, has thought proper to excite the lochial discharge, and to determine to the breasts by the secretion of milk. And as, in the puerperal fever, the latter is frequently diminished, and the former wholly suppressed, these circumstances undoubtedly indicate, *à priori*, the propriety of bleeding. But it is unnecessary to reason upon a point which is ascertained by experiment.

The propriety of bleeding in the puerperal fever being established, does it follow that it ought to be practised in every case?

This question is the more pertinent, because there are many rules and cautions laid down by practitioners on the subject; and a celebrated writer on this disease tells us, that "there are some cases where bleeding is very necessary, and others where it is highly improper."[1]

Now, in my judgment, bleeding is proper in every case; for whenever the disease is distinctly marked, I hold bleeding to be indispensably necessary in every case, being decidedly of opinion that it can never be omitted with impunity.

Bleeding I consider as proper in all cases at the beginning of the disease, and the indications for it are more urgent than in pneumonic inflammation, where its propriety has never been questioned.

And it is strange that there should be any doubts about the propriety of the same remedy in abdominal inflammation, which is much more dangerous than the other. For in pneumonic inflammation there is a direct outlet, whereby the matter can be discharged, supposing a suppuration to take place; but there is no direct outlet, whereby purulent matter can be discharged from the cavity of the abdomen. Consequently, bleeding is, *à fortiori*, much more pressingly indicated in the puerperal fever than even in pneumonic inflammation.

[1] Hulme on the Puerperal Fever, p. 76.

We are directed by Drs. Hulme and Leake to form our judgment from the pulse.[1] But I assert, in the most peremptory manner, that if practitioners allow themselves to be guided by the pulse they will run into a fatal error, because the pulse is more frequently weak and feeble than strong and full, even at the beginning of the disease. Yet I bled, notwithstanding, with great success; and, contrary to what might have been expected, the pulse instead of being thereby weakened, became more full and strong than before.

The conduct of practitioners must be governed by the stage of the disease, and not by the state of the pulse. And I have found Huxham's observation with respect to the pulse in pneumonic inflammation, strictly true in the puerperal fever. "Pulsus enim haud-quaquam in hoc morbo hujus satis fidus est index."[2] For when the pulse seems to sink in the beginning, that circumstance depends upon oppression, and not weakness, and therefore urgently requires bleeding.

Practitioners must beware of being imposed upon by the state of the pulse; for, as Dr. Leake has very properly observed, there is a great difference between nature oppressed and nature exhausted.

Bleeding must, therefore, be performed without regard to the state of the pulse, if the other circumstances of the case require it, and the stage of the disease admit it. The circumstances of the case which require it may be known by the presence of those symptoms described in the sixth chapter, which are so unequivocal that they can scarce be mistaken. The stage of the disease which admits it is likewise very explicitly described in the same chapter, where the reader will find it restricted to the beginning.

The propriety of bleeding being admitted, the quantity proper to be taken is a great desideratum in practice. This, though a matter of the utmost importance, has not been determined by writers; and I have attempted to supply this deficiency in the preceding treatise. It is true, Drs. Denman and Leake have both recommended large bleeding in the puerperal fever, but the former has left the quantity undetermined; and though the latter, in his writings, has recommended copious bleeding, yet in practice we find him taking away only eight or ten ounces. It, therefore, by no means surprises me that he lost so many patients; for till I took away more than double that quantity I had no better success than Dr. Leake. And Dr. Hulme has given us a precept in regard to this matter, which my experience authorizes me to reverse. The precept is, "rather to err in point of bleeding too little than of bleeding too much."[3] For I am thoroughly convinced, from much experience, that there is far greater danger to be apprehended from bleeding too little than from bleeding too much. The first error would be fatal, whereas the last would produce only a temporary weakness unattended with danger.

[1] Hulme on Puerperal Fever, p. 76; Leake on Puerperal Fever, p. 105.
[2] Huxham, De Aere et Morb. Epidem., vol. ii., p. 67.
[3] Hulme on Puerperal Fever, p. 77.

The quantity of blood proper to be taken away in the puerperal fever I have limited to twenty or twenty-four ounces. Now, any any woman of tolerable strength can very well bear the loss of twenty-four ounces of blood, and twenty ounces will not materially hurt even one that is weak. And I found that all those who were bled to that extent in the beginning of the disease had speedy and perfect recoveries.

In short, my experience with respect to bleeding in the puerperal fever corresponded with that of Cleghorn in pleurisy. "It was remarkable," says that author, "to observe how quickly the sick recovered their usual health and strength, notwithstanding the great loss of blood they had sustained; while many, who had been bled more sparingly, continued in a languid, infirm state for months."[1]

This was precisely the case in the puerperal fever, with this difference only, that those who were sparingly bled, instead of having slow recoveries, did not recover at all.

Besides, the quantity of blood, which I have limited as necessary for the cure of the puerperal fever, added to that lost by the lochial discharge, does not exceed the quantity directed by Sydenham for the cure of pleurisy, and falls short of that recommended by Huxham, Cleghorn, and Cullen, for the same disease, and far short of the quantity taken away by Galen and the ancients in fevers.

I have been the more particular in regard to bleeding, because the propriety of it has been much questioned, and its promiscuous use highly censured by some practitioners.

"It is allowed that these fevers sometimes arise even after large uterine effusions; ought we, then, to expect to cure a disorder by bleeding, which bleeding would not prevent?" says one.[2]

"It is an axiom in physic, that a remedy which cures any disorder will always prove a prophylactic against it; and, therefore, if bleeding were the proper cure in the puerperal fever, the disease ought to have been prevented by a large evacuation of blood, when that happened previous to its seizure," says another.[3]

Those gentlemen themselves know best on what foundation their opinion is grounded; but, for my part, I found that large uterine effusions invariably prevented the epidemic puerperal fever, which I have described. For I was called to several cases of flooding in time of labour, and I observed that those were the only women delivered by me who escaped the puerperal fever in the epidemic season. This was too remarkable to escape my notice, and it may be easily accounted for.

The common lochial discharge does not prevent, but occasion it, by opening a channel for the infection to enter. But when the same discharge proceeds to a flooding, or when that has happened during

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[1] Cleghorn on the Epidemic Diseases of Minorca, p. 261.
[2] Mr. White on the Management of Pregnant and Lying-in Women, p. 219.
[3] Dr. Manning on Female Diseases, p. 371.

labour, it obviates the effects of that infection, by preventing inflammation, which is the immediate consequence of such infection.

The circumstances which seem to have deterred practitioners from bleeding are, apprehension of putrefaction, and the dread of debility. But that such fears are groundless, I am warranted to assert from extensive experience. For those who were bled most largely had the most speedy and perfect recoveries; and as to putrescency, it never appeared but when the disease had been neglected or improperly treated; for, as I have already observed, the puerperal fever is always inflammatory at the beginning, and becomes putrid only in its progress. And if we cure the inflammation by early bleeding and purging, we infallibly prevent the putrescency, because we prevent the abdominal suppuration, on which the putrid symptoms depend.

But the foregoing work treats only of the epidemic puerperal fever; and it may be said, that the treatment proper for it is improper in the other sorts of that disease, of which there is a great variety, each of which will require a different method of cure.

In regard to this matter, I shall observe, that various causes may produce the puerperal fever, and that it differs in degree in different patients; but still it ought to be considered as the same inflammatory disease, differing only in the degree of inflammation. I am, therefore, of opinion that all the different varieties of the disease require, if not the same, at least a similar method of treatment. For though a few cases may be so mild as to require nothing more than purging, yet most are so violent as to be manageable only by copious bleeding and purging, early in the disease. But in all doubtful cases it is better to use both than to trust to one of these remedies.

I have seen several cases of puerperal fever arising from different causes, both before the commencement and since the cessation of the epidemic constitution; and I have invariably found that it was most successfully treated by the method recommended in Chapter VI., viz., by bleeding and purging.

I have added one case to the table, though it occurred after the epidemic was at an end.

The cause of the fever, in this case, was the application of putrid matter to the uterus from a fœtus which had been retained for a considerable time after death, and was in a very corrupted state.

This patient was seized with a shivering fit the third day after delivery, to which succeeded a violent pain in the abdomen, with a very quick pulse, which did not beat less than 140 strokes in a minute.

She was bled to the amount of twenty-four ounces, and got purging medicines, which were continued till the disease was brought to a crisis, which happened on the fifth day.

That putrid matter is capable of producing an inflammatory disease is a position which, perhaps, will be questioned by many readers.

Be that as it will, its truth is proved both by dissection and inocu-

lation for the smallpox; for if matter be taken from the most malignant smallpox, and applied to the arm of a person who never had the disease; it produces inflammation in the part to which it is applied, and afterwards (provided the patient has been properly prepared) a distinct smallpox of the mildest kind.

And if in the dissection of a putrid body a surgeon scratch his finger, the part festers, that is, inflames and suppurates; and if a fever should be the consequence, it is inflammatory in the beginning, and only ultimately putrid. And further, if such a fever be properly treated in the beginning it never becomes putrid at all.

In like manner, if putrid matter be applied to the uterus, it inflames that organ and the contiguous viscera; that is, it gives rise to the puerperal fever, which is ushered in with a cold stage, and succeeded by a very rapid pulse and acute pain in the abdomen.

I have had an opportunity of seeing many cases of this kind, and all of them were successfully treated by bleeding and purging; the blood constantly exhibiting a very thick inflammatory crust, with other symptoms of inflammation.

We find the greatest variety of puerperal fever in Dr. Kirkland's Treatise on this Disease, and accordingly the treatment, which varies with the cause, is so complicated that it cannot fail to perplex inexperienced practitioners.

But if I were permitted to give my opinion, I could prove, from an observation made by the author himself, that all the different varieties which he describes require the same treatment.

This author's words are,

"I believe it is a certain fact, whatever may be the cause of a puerperal fever, that within a limited time the whole abdomen is more or less inflamed, because the belly always turns green and putrid in a very short time after death, in the same manner as we find it happen to those who have died of an inflammation of the bowels."[1]

Thus, whatever be the cause of the puerperal fever, the cause of death is the same in all its varieties, viz., abdominal inflammation; and, therefore, the cure must be conducted on the same principle, or that which is calculated to obviate this inflammation, for which reason all of them require the same or a similar treatment.

If young practitioners think proper to be guided by my experience, which I am inclined to think will not mislead those who trust to it, I would lay down the following brief rule for their direction:

Whenever a lying-in woman complains of a fixed pain in the abdomen, attended with a quick pulse, a practitioner ought immediately to bleed and purge his patient, without perplexing himself about the cause of the disease.

I have had an opportunity of attending a great number of cases

[1] Dr. Kirkland on Childbed Fevers, p. 55.

of puerperal fever, arising from various causes besides contagion; for I have seen it produced by cold, by fear, by errors in diet, by too early fatigue, and premature endeavours to appear well, by the application of putrid matter to the uterus, &c. But I attended to the symptoms without being solicitous about the cause. And whenever a patient complained of a fixed pain in the abdomen, attended with fever, I bled and purged her without regard to the cause. And I found this treatment equally successful in every case, when those symptoms were present, whatever was the cause of the disease.

In order, therefore, to treat the puerperal fever in a successful manner, practitioners must be guided more by the symptoms than the cause.

But besides the propriety of bleeding, the diarrhœa which so frequently takes place in the puerperal fever has been, in like manner, the source of no little controversy among physicians, some considering it as critical, and others as symptomatic.

Were I permitted to interpose my opinion, I should not hesitate to assert that the diarrhœa which takes place in this disease is entirely critical.

I am decidedly of opinion that the diarrhœa, in the puerperal fever, is always either critical ,or an effort to a crisis. It is an attempt made by nature to cure the disease, which, in the beginning, has a tendency to carry off the abdominal inflammation, and, in the progress of the disease, to evacuate the serum that may happen to be extravasated in the cavity of the abdomen. And though it may fail in these purposes, yet the salutary tendency of the discharge is sufficiently obvious. My opinion, in this matter, is supported by an extensive experience.

A spontaneous diarrhœa proved completely critical in the case of Janet Wier, No. 11, and in several others. And by this lesson, which nature taught me, I profited very much; for, after bleeding at the beginning, it was by an artificial diarrhœa alone that I was able to bring the disease to a favourable termination. And in all the cases in which I could not excite a diarrhœa by purgatives at the beginning of the disease, the event was fatal.

In this point I differ in opinion from Drs. Leake and Home, who maintain that the diarrhœa which takes place in the puerperal fever is symtomatic. The opinions of Drs. Leake and Home are, no doubt, very respectable; but I am authorized to differ from them, not only on the ground of my own experience, but even on that of theirs. For though both of these physicians assert, that the diarrhœa in the puerperal fever is symtomatic, yet any one who reads Dr. Leake's cases will see that four of six, who were the only survivors out of nineteen in the epidemic season, owed their recovery to a critical diarrhœa.

And of the two cases recorded by Dr. Home, Myrtle, who recovered, owed her recovery to a critical diarrhœa, while Reid died for want of it. Dr. Home's words are: "Myrtle had a diarrhœa from

the beginning. Reid, on the contrary, was costive, and a diarrhœa could not be excited even by purgatives for some days."[1]

An artificial diarrhœa proved critical in the soldier's wife, mentioned in Dr. Denman's Essay on the Puerperal Fever; for, after getting the antimonial powder, "she had seventeen stools, like yeast in appearance, within six hours after the repetition of the powder."[2]

And a spontaneous diarrhœa proved critical in the tradesman's wife mentioned in the same Essay, after continuing six days.[3]

With respect to the efficacy of emetics in curing the puerperal fever, as practised by M. Doulcet of Paris, I can say nothing from my own experience. The success of this method has been so much extolled, that I had a strong inclination to try it; but popular opinion was so much against this practice, that I could not venture without running the hazard of universal opposition. And there was no temptation to run any risk, or to try the effects of doubtful medicines, because I had already discovered a certain remedy for the disease in bleeding and purging.

Besides, the success of emetics is confined to the very instant, or moment of attack, at which I never happened to be present in any case. And so powerful were the prejudices of the people in this city against the practice of exhibiting vomits to lying-in women, that there would not have been found a nurse or midwife to give such a medicine if it had been proposed. At the same time I can readily believe that emetics are not only innocent, but may be given with advantage at the beginning or during the cold stage which ushers in the disease, when the blood is accumulated in the internal parts. The effort of vomiting, therefore, at that time, by determining the circulation to the surface of the body, unloads the internal parts, and thereby prevents the abdominal inflammation, which would otherwise take place. But after the disease has subsisted for some time, and inflammation taken place, emetics, by agitating the system, have a tendency rather to aggravate than mitigate the malady.

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[1] Dr. Home's Clinical Experiments, pp. 68, 87.
[2] Dr. Denman on the Puerperal Fever, p. 31. [3] Ibid., p. 36.

II.—AN ACCOUNT OF THE ABERDEEN DISPENSARY.[1]

THE Aberdeen Dispensary was instituted in the year 1781, for the purpose of attending, at their own houses, such patients as could not be admitted into the Infirmary. It is supported by the bounty of the public, and under the management of contributors. Dr. Gordon, the present physician, has had the charge of it for ten years.

The utility of the institution to the poor will appear from the following abstracts.

But it is calculated to be extremely useful in other respects, namely, as being an excellent school for the education of medical students; and, on account of the ample field it presents for observation and the acquisition of practical knowledge, affording, of course, the best opportunities for improving the science of medicine. To make it useful in all these respects, has been the study of the present incumbent, and the public will judge of his success from the annexed Tables.

His success is most conspicuous in acute diseases; but especially in fevers. What led to this success was the frequent occurrence of

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[1] [Dr. Harvey has favoured me with the following account of the Aberdeen Dispensary, drawn up by Mr. Gordon himself (for Sir John Sinclair's Statistical Account of Scotland), which I think worthy of being appended to his Treatise.

Upon this account Dr. Harvey makes the following very apposite remarks:

"The only information of any apparent moment, in relation to Dr. Gordon's Treatise, which I have as yet met with in looking over his papers, is that furnished by a set of Tables exhibiting an abstract of Dr. Gordon's dispensary practice in Aberdeen from 1786 to 1794 inclusive, and embracing the period of the epidemic described by him in that Treatise.

These Tables might, perhaps, form a not inappropriate appendix to the reprint of Dr. Gordon's book, as exhibiting the relation—both in point of prevalence and of mortality—which the puerperal fever bore to other diseases. They show, for example, the precise extent to which erysipelas prevailed simultaneously with the puerperal fever (referred to by Dr. Gordon at pp. 55, 56 of his Treatise), and also the simultaneous prevalence (in 1790 and 1791) of what is often seen in connection with erysipelas, viz., inflammatory sore throat. They also embrace some additional cases of puerperal fever not included by Dr. Gordon in his Treatise, viz., the cases for 1793 and 1794, in the latter of which years the fever is entered as "epidemic."

Again, on comparing the deaths with the number of cases of several of the diseases specified in the Tables, the mortality seems singularly small. That the Tables are trustworthy I am persuaded of, because I know that Dr. Gordon's character for integrity and intelligence stood high; and that his success in the treatment of febrile and other acute diseases was remarkable, I have been assured of by my late father and others who had ample opportunities of knowing. Still, making every allowance for this, one cannot help inferring, from the Tables, that the acute diseases which prevailed during the nine years, embraced in them, had a much less severe or virulent character than they have often exhibited since, in this and other parts of the kingdom. And this conclusion may be thought to illustrate the general character of the particular epidemic described by Dr. Gordon in his Treatise; and so far, at least, to explain its amenity to the active antiphlogistic treatment practised by him, as compared with other epidemics of the same disease, both before and since the time that Dr. Gordon wrote. (A. H., *Aberdeen, May* 30, 1849.)—ED.]

that class of diseases; for other diseases occurred only occasionally, but fevers constantly. The human body is liable to be affected with many diseases only once in life, but it may be, and often is, repeatedly affected with fevers. The study of fevers, therefore, engaged Dr. Gordon's particular attention; and the numerous cases, which every day occurred, afforded ample scope for observation.

He was mortified to find that the method of treatment commonly practised and recommended by the most celebrated modern professors so frequently failed of success, and that many more recovered when left to the efforts of unassisted nature than when treated according to the most approved rules of art. He was, therefore, naturally led to entertain suspicions with respect to the propriety of those rules, and was soon convinced, by observation and experience, that it was impossible for him to be successful, in the treatment of fevers, without imitating the method by which nature cured them. For which purpose he made it his business to pay particular attention to nature's operations and method of cure, in order that he might make that method the model of his practice. And his practice, when thus regulated, was attended with great success, and enabled him to make some very important discoveries with regard to the nature and treatment of fevers. These discoveries he purposes to lay before the public, as soon as he has fulfilled his engagement to his pupils, who have urged him to publish a Text-book, which he is preparing, and will soon have finished.

The method which was found so efficacious in the cure of fevers, was applied to many other acute diseases, upon the same principles and with similar success, as may be seen from a perusal of the Tables already referred to. This shall also be laid before the public as speedily as possible.

At present we shall only observe, that the general principle which pervades and guides the whole of his practice is, to imitate and follow the footsteps of nature, to make art subservient to nature, and theory to practice. This method is not new, though of late too much neglected; for the same principle has been the guide of all great practical physicians, both of ancient and modern times. And it is by this method only that the art of physic can be improved and brought to perfection. It is not to be improved by hypothesis and ingenious theories formed in the closet, but by observations accurately made in the chambers of the sick.

The annexed Tables are extracted from the records of the Dispensary, which contain every patient's name, date of admission, age, residence, disease, cure or death, with the names of the recommenders; and all the recommendations are numbered, preserved, and presented, along with the books, to a general meeting of the subscribers for examination, by whose orders the returns are annually printed and dispersed among the citizens of Aberdeen.

The returns for 1794 afford a melancholy proof of the power of prejudice, for in that year thirty-five, or more than half, of the deaths

were of the natural small-pox, notwithstanding Dr. Gordon had given public notice of his readiness to inoculate gratis the children of the poor.

TABLE I.—Containing an abstract of the Patients admitted to the benefit of the Aberdeen Dispensary for nine successive years.

Year.	No. admitted.	No. cured.	No. dead.
1786	1338	1277	61
1787	1410	1348	62
1788	1437	1379	58
1789	1309	1217	92
1790	2048	1915	133
1791	1591	1537	54
1792	1489	1441	48
1793	1150	1116	34
1794	1153	1089	64
Total	12,925	12,319	606

TABLE II.—Showing the state of the Diseases which occurred in the years 1786 to 1790.

DISEASES.	1786.				1787.				1788.				1789.				1790.			
	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.
Fevers	290	284	6	1 in 48	382	367	15	1 in 25	348	340	8	1 in 43	235	233	2	1 in 117	623	608	15	1 in 42
Scarlet fever	61	58	3	1 — 20	13	11	2	1 — 6	30	26	4	1 — 7	3	3	..	....	28	25	3	1 — 9
Childbed fever	..	..	..	....	..	..	..	....	..	..	..	....	6	3	3	1 in 2				
Epidemic childbed fever	..	..	..	....	..	..	..	....	..	..	..	....	..	..	..	....	23	15	8	1 in 3
Erysipelas	20	20	..	....	2	2	..	....	6	6	..	....	7	7						
Epidemic erysipelas	..	..	..	....	..	..	..	....	..	..	..	....	..	..	..	....	52	52		
Inflammatory sore throat	23	23	..	....	24	24	..	....	25	24	1	1 in 25	25	25	..	....	98	98		
Malignant sore throat	..	..	..	....	3	2	1	1 in 3	6	6	..	....	60	37	23	1 in 2	39	34	5	1 in 8
Auricular mortification	..	..	..	....	..	..	..	....	..	..	..	....	..	..	..	....	7	4	3	1 — 3
Influenza	2	2	..	....	3	3	..	....	55	55	..	....	1	1						
Influenza of infants	..	..	..	....	..	..	..	....	..	..	..	....	68	68	..	....	20	19	1	1 in 20
Smallpox	67	55	12	1 in 5	67	49	18	1 in 3	33	25	8	1 in 4	17	13	4	1 in 4	121	96	25	1 — 5
Chicken-pox	..	..	..	....	..	..	..	....	6	6	..	....	1	1	..	....	6	6		
Measles	9	9	..	....	..	..	..	....	20	20	..	....	35	34	1	1 in 35				
Chincough	79	70	9	1 in 8	9	8	1	1 in 9	21	18	3	1 in 7	32	30	2	1 — 16	25	22	3	1 in 8
Fluxes	39	39	..	....	37	37	..	....	43	41	2	1 — 21	73	70	3	1 — 24	41	36	5	1 — 8
Mumps	..	..	..	....	..	..	..	....	..	..	..	....	..	..	..	....	1	1		
Rheumatism	27	27	..	....	26	26	..	....	15	15	..	....	16	15	1	1 in 16	33	33		
Pleurisy	15	15	..	....	7	7	..	....	7	7	..	....	4	3	1	1 — 4	24	23	1	1 in 24
Peripneumony	56	53	3	1 in 19	41	37	4	1 in 10	64	64	..	....	25	24	1	1 — 25	19	18	1	1 — 19
Cholera	4	4	..	....	..	..	..	....	1	1	..	....	1	1	..	....	2	2		
Asthma	50	45	5	1 in 10	66	59	7	1 in 9	70	70	..	....	60	47	13	1 in 4	76	59	17	1 in 4
Dropsy	4	4	..	....	1	1	..	....	2	2	..	....	4	1	3	3 — 1	9	6	3	1 — 3
Stomach complaints	54	54	..	....	67	67	..	....	79	78	1	1 in 79	64	64	..	....	176	176		
Difficult detention	..	..	..	....	..	..	..	....	..	..	..	....	7	7	..	....	60	54	6	1 in 10
Worms	19	19	..	....	12	12	..	....	3	3	..	....	5	5	..	....	12	11	1	1 — 12
Accidents	49	40	..	....	65	65	..	....	45	44	1	1 in 45	27	27	..	....	63	61	2	1 — 31
Various other complaints	470	447	23	1 in 20	585	571	14	1 in 42	558	528	30	1 — 18	533	498	35	1 in 15	490	456	34	1 — 14

TABLE II (*continued*).—Showing the state of the Diseases which occurred in the years 1791 to 1794.

DISEASES.	1791.				1792.				1793.				1794.			
	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.	Admitted.	Cured.	Dead.	Proportion.
Fevers	350	349	1	1 in 350	200	198	2	1 in 100	228	224	4	1 in 57	86	82	4	1 in 21
Scarlet fever	7	7	..	.....	48	44	4	1 — 12	1	1	..	....	2	2		
Childbed fever	..	..	..	.....	5	5	..	.....	2	1	1	1 in 2				
Epidemic childbed fever	28	27	1	1 in 28	..	..	..	.....	..	..	..	....	9	9		
Erysipelas	..	..	..	.....	12	12	..	.....	12	12						
Epidemic erysipelas	41	40	1	1 in 41	..	..	..	.....	..	..	..	....	15	15		
Inflammatory sore throat	50	50	..	.....	22	22	..	.....	10	10	..	....	26	26		
Malignant sore throat	4	3	1	1 in 4	10	8	2	1 in 5								
Auricular mortification	2	2	..	.....	1	..		1								
Influenza	..	..	..	.....	60	60	..	.....	..	..	..	....	39	39		
Smallpox	48	41	7	1 in 7	70	61	9	1 in 8	3	2	1	1 in 3	138	103	35	1 in 4
Chicken-pox	..	..	..	.....	10	10										
Chincough	62	56	6	1 in 10	20	18	2	1 — 10	15	12	3	1 in 5	50	46	4	1 — 12
Measles	..	..	..	.....	..	..	..	.....	156	154	2	1 — 78				
Mumps	19	19	..	.....	..	..	..	.....	2	2	..	....	4	4		
Fluxes	36	36	..	.....	50	50										
Epidemic dysentery	..	.	..	.....	..	..	..	.....	84	80	4	1 in 21	80	80		
Rheumatism	4	4	..	.....	38	38	..	.....	25	25	..	....	57	56	1	1 in 57
Pleurisy	12	12	..	.....	11	10	1	1 in 11	3	3	..	....	10	10		
Peripneumony	60	59	1	1 in 60	60	59	1	1 — 60	36	35	1	1 in 36				
Asthma	116	107	9	1 — 13	80	73	7	1 — 11	47	42	5	1 — 9	62	58	4	1 in 16
Cholera	..	..	..	.....	10	10	..	.....	..	..	..	....	9	9		
Dropsy	19	18	1	1 in 19	11	11	..	.....	6	6	..	....	12	12		
Stomach complaints	126	117	9	1 — 14	88	88	..	.....	41	41	..	....	44	44		
Difficult detention	50	41	9	1 — 5	35	34	1	1 in 35	33	33	..	....	32	29	3	1 in 11
Epidemic peripneumony	32	31	1	1 — 32												
Worms	5	5	..	.....	10	10	..	.....	6	6	..	....	12	12		
Epilepsy	6	6	..	.....	..	..	..	.....	2	2	..	....	3	3		
Accidents	60	60	..	.....	50	50	..	.....	25	25	..	....	38	38		
Various other complaints	544	538	6	1 in 90	638	620	18	1 in 35	413	400	13	1 in 32	422	409	13	1 in 32

PART II.

MISCELLANEOUS ESSAYS.

MISCELLANEOUS ESSAYS.

I.—DR. FOTHERGILL ON THE MANAGEMENT PROPER AT THE CESSATION OF THE MENSES.[1]

THERE is a period in the life of females to which, for the most part, they are taught to look with some degree of anxiety, as a period on which depends their enjoying a good or bad state of health during the residue of their lives.

The various and absurd opinions relative to the ceasing of the menstrual discharge, and its consequences, propagated through successive ages, have tended to embitter the hours of many a sensible woman. Nor have these mistaken notions been confined to them only; they have occupied the minds of such who ought to have been better informed; some practitioners, in other respects able and judicous, if they have not favoured these erroneous and terrifying notions, seem not to have endeavoured to correct with the diligence and humanity which an object like this requires.[1]

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[1] [Of the Management proper at the Cessation of the Menses. By John Fothergill, M.D., F.R.S., S.A. Published first in Medical Observations and Inquiries, vol. v.; and in his Collected Works, by John Elliot, M.D., p. 442.

Dr. John Fothergill was born in the year 1712, near Richmond, Yorkshire. His parents were members of the Society of Friends; and their son, brought up in the same principles, was an honour to the society, by the consistency and benevolence of his life. He was apprenticed to Mr. Barclay, an apothecary at Bradford, but who afterwards removed to London. At the termination of his apprenticeship he repaired to Edinburgh, where he graduated in physic in the year 1736. His inaugural thesis was, "De Emeticorum usu in variis morbis tractandis."

From Edinburgh Dr. Fothergill visited Leyden and Aix-la-Chapelle, and returning to London in the year 1740, he took a house in White-Hart court, Lombard street, and commenced practice. In the year 1744 he was admitted a Licentiate of the College of Physicians; and nearly at the same time he was elected a Fellow of the Royal Society. The first publication which brought the Doctor into notice was his "Account of Sore-throat attended with Ulcers;" and his practice seems to have increased with steady rapidity until he was justly considered among the most eminent of the profession in London.

In 1754 he was chosen Fellow of the Royal College of Physicians of Edinburgh, and a Member of the American Philosophical Society; subsequently he was honoured by a diploma from the Medical Society of Paris and other learned bodies.

In conjunction with "a select number of ingenious physicians" he set on foot the publication of the "Medical Observations and Inquiries," a periodical of great value, and containing contributions from the most distinguished practitioners of that day. To this collection Dr. Fothergill contributed largely; and not the least valuable of his papers is the one now reprinted by the Sydenham Society.

After a long life of prosperity, usefulness, and benevolence, he departed this life December 26, 1780, in the sixty-ninth year of his age.—ED.]

[1] [No doubt the popular opinion has arisen from the fact, that at and after the ces-

The design of this essay is to contribute my mite towards so necessary a purpose,—to assist in removing these groundless apprehensions,—and to substitute a reasonable confi ence that, with very little aid, Nature is sufficient to provide for her own security on this occasion.

You must forget for a moment that I am submitting these remarks to the judgment of a Society, every member of which perhaps is as capable of this work, and some much better than myself. I am writing to many sensible young men in the profession of physic, who, though they may have applied themselves to the general study and practice of our profession with diligence and success, may not yet perhaps know where to look for such information on this subject as may be sufficient to satisfy themselves and their patients what management is proper when the menses are about to cease.

To propose a regimen that shall suit all the different cases that may occur would require a volume. To give some general direction is all I propose, without entering into a minute description of the commencement, progress, and termination of the menses. I must suppose everything of this kind is already known, and that the single question is, what management is necessary to be observed, when the menses are about to cease, by the patient who consults her physician on the occasion. We are now sensible that the menstrual discharge is not what it was too long and too generally believed to be by many of the sex, an evacuation of peccant matter and morbid humour, sometimes acrimonious and malignant, whose retention never fails to be extremely injurious, from its noxious qualities, to the constitution. What opinion the ancients entertained concerning it I need not repeat to you; that its malignancy was such as to affect even inanimate bodies. But these fables are wholly disbelieved, except by some of those who ought to be undeceived in a matter that so much concerns them.

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sation of menstruation a new series of diseases are developed. Lesions of nutrition, such as fibrous tumours and polypi; malignant diseases, such as cauliflower excrescence, corroding ulcer and cancer, are seldom experienced before this period; and as the latter are invariably fatal, one can hardly be surprised at the popular error. An error it undoubtedly is, however, for MM. Benoiston de Chateauneuf and Bellefroid have shown that the mortality among women between the ages of thirty and seventy is not greater than among men within the same periods. Nay, more, M. Constant Saucerotte has attempted to prove, by extensive statistics, that the mortality among women is greater between the ages of thirty and forty than between the ages of forty and sixty. M. Maret, in his Statistics of the Pays de Vaud, does not find from forty to fifty a more critical age for women than from ten to twenty; and M. Lachaise, in his Medical Topography of Paris, gives analogous results. Dr. Davis, in his Obstetric Medicine, p. 287, gives a calculation of Mr. Finlayson's as follows: Out of 100,000 members alive, of all ages, there will die between the ages of thirty-five and forty, 7,042 males, and 5,738 females; between the ages of forty and forty-five, 6,959 males, and 6,889 females; and between the ages of forty-five and fifty, 10,381 males, and 7,714 females. He further states the relative mortality at Ostend, according to the recent census, to be as follows: In 100,000 persons, between the ages of thirty-five and forty, there will die, of males 8,041, of females 6665; between the ages of forty and forty-five, of males, 11,107, of females 7,094; and between the ages of forty-five and fifty, of males 13,079, and of females 8,188.—Ed.]

It is now well known, and the sex cannot be too generally apprized of it, that the menstrual discharge possesses no such injurious or malignant properties; that it is solely a redundancy of that pure vital blood which animates the whole frame of a healthy person; and that its retention is by no means attended, in general, with effects that are not as easily removed as any disorder to which they are subject.

That some acrimonious, morbid humours may be discharged together with the menses, when any such exist, is not improbable. So it happens likewise to men subject to piles, or other preternatural excretions.

Women who have unhappily imbibed that prejudice are naturally alarmed at the consequences they apprehend must ensue from such a change in their constitution; and the more strongly they are prepossessed with a belief, that by this channel has been regularly discharged whatever had a tendency to produce diseases, the more they are terrified with apprehensions of some of the worst complaints; and, indeed, it is not seldom that, by such anxiety, they bring on disorders that are not easily removed, attributing them to the cause we are speaking of, whilst they principally originate from anxiety.

For the most part, the menstrual discharge, as has been mentioned, proceeds from a redundancy of good and healthy blood; this redundancy is formed for the most necessary purposes; continues whilst this necessity subsists; and ceases when, according to the constitution of the female frame, it is no longer required.[1]

The powers communicated to the human system, generally expressed by the term Nature, are such as spontaneously bring about this cessation. The provision for the menses ceases, an extra quantity of blood is not generated, and the vessels provided for its regular discharge, by degrees collapse, and, in general, all this proceeds without any the least interruption to the health of the subject in which this alteration happens. Here it might not be improper to mention at what time this alteration first begins, and the general period of its cessation. These circumstances, however, may be found elsewhere so amply treated of, as to render it as unnecessary as it is foreign to my present design.

There are great numbers of women in whom the menstrual discharge ceases without their perceiving any alteration in their usual health. There are some who, from being invalids during a part of the season which is appropriated to menstruation, find themselves by degrees recovering health and vigour, to which they have been

[1] [However necessary an ample supply of "good and healthy blood" may be to menstruation, yet, as the latter is a distinct secretion and not a hemorrhage, it can hardly be said to be caused by such supply. It is a secretion developed at a certain age, and continued periodically for the fulfilment of certain functions; and it ceases, not because the supply is cut off, but because the uterine function has terminated. We have no proof that the amount of blood in circulation is less after than before the cessation of menstruation.—Ed.]

strangers during that period when this discharge leaves them entirely. Very tender, delicate, relaxed habits, subject to copious discharges, are often much benefited by the cessation. All, however, are not so fortunate. Some alterations frequently supervene that render assistance necessary.

Amongst these alterations, the most frequent are such as arise from a redundancy of blood and immoderate discharges from various causes.

About the time when this change is to happen, or not long after, many persons find the disorders to which they have heretofore been subject, more frequent and more troublesome. Some are afflicted with the well-known symptoms of plethora, heat, flushings, restless nights, troublesome dreams, and unequal spirits; others are attacked with inflammations of the bowels, or other internal parts, spasmodic affections of various parts, stiffness in the limbs, swelled ancles, with pain and inflammation, the piles, and other effects of plenitude. In these cases it seems as if the organs, which were instituted with a design of providing the natural surplus, continued to produce this effect, whilst the size of the vessels destined to discharge it was diminished, or they were collapsed entirely.

This case is opposite to the former, in that the organs of excretion continued to execute their functions, and actually discharged a portion of blood from the common mass, whilst those organs which are formed to provide a surplus in enfeebled habits, were only capable of maintaining the necessary stock. And on the disparity in the operations of these two different organs, in fact, depend most of the complaints incident to the sex at this particular period. In some, the provision ceases before any change is produced in the excretory vessels. In others, the excretory vessels become unfit for their office, whilst the organs for accumulating blood continue to be efficacious.

From this view of the subject it will be less difficult for the practitioner to form a judgment of what is fit to be done on various emergencies; it will be easy to discover how far evacuations are likely to avail, and when other means become necessary. Those of full, plethoric habits, accustomed to copious evacuations, will find great relief by bleeding frequently in moderate quantities, keeping the bowels lax, and moderating their diet. They are, for the most part, attacked about the time of menstruation with sudden flushing heats, succeeded by instantaneous sweats, continuing for a few seconds, then going off for a short time, and again recurring many times in the day; they are worst after eating, in a room much heated, in large assemblies, in bed attended with restlessness and frightful dreams. These gradually abate for a few weeks, and as the period approaches again, come on, and so successively, for a year or two more, terminating sometimes in large immoderate fluxes, sometimes in apoplexies, palsies, and other diseases arising from plenitude.

If such are advised to lose four, five, or six ounces of blood, at the distance of two, three, or four months, just as the vehemence of the symptoms requires, everything of this may be happily prevented; and as the occasion for bleeding daily decreases, its repetition may be put off to longer intervals.

It happens frequently that some circumstances attend the patients, which induce practitioners to omit this operation, or at least induce the patients to object to it in such a manner as to get it postponed. They allege they are subject to nervous complaints, they never could bear bleeding, it always hurts them, and the like. But with a full, hard pulse, great heat, and the other symptoms described, one need not fear the increase of any such complaints; on the contrary, as they proceed so evidently from plenitude, they seldom fail to give way to moderate and repeated evacuations.

It is not unusual, in such cases, to be informed that the patient has swelled ancles; and that bleeding would inevitably at that time of life bring on a dropsy. But if this fulness appears to be hard, inflamed, and painful, as is most commonly the case in some degree, the lancet and some gentle laxative will scarcely fail of removing instead of aggravating the complaint; and recourse may be had to the same remedies if the like complaints recur.

There is another circumstance often happens at this period, sometimes owing to the neglect of evacuations at the proper time, sometimes to the use of improper medicines, sometimes to the peculiar constitution of the patient; I mean an immoderate flux of the menses, which often requires the utmost care in its restraint and future regulation.

For the most part this happens to women of sanguine habits, living well, accustomed to copious evacuations, or to the general effects of plenitude.

If, in such constitutions, the evacuations are not very considerable, their health is often interrupted, either by frequent inflammations of the tonsils, and other glandular parts, or they have the rheumatism, erysipelas, or the piles; if in these habits the menses cease very suddenly, they are either exposed to the complaints above mentioned, more frequently, and to a more violent degree, or to repeated and excessive floodings. A little attention to these circumstances will often point out the means of effectual prevention. But if it does happen, it seems much more prudent to restrain the flux by gentle laxatives, cooling medicines, rest, anodynes, a most sparing diet, and this not too liquid, than by very copious bleeding, and astringents of any kind.

There is another kind of habit to which such immoderate discharges are too familiar;—to persons of very irritable constitutions, and at the same time not remarkably plethoric. If, in such constitutions, the menses go off very suddenly, it happens, sometimes, that the impetus of the blood on the uterine system produces a violent hemorrhage that enfeebles extremely at the time, and as it increases

the irritability of that part of the system in particular, subjects the patient to very frequent and expensive relapses.

In these cases bleeding would, undoubtedly, increase the disease. Medicines that allay irritation, anodynes, quiet, a moderate cordial, as wine, and a light nutritive diet, at once take off the cause, and enable the patient to support the expense with the less difficulty.

It has happened that a regular intermittent has been attended with a regular and immoderate flux. In seasons when autumnal intermittents are frequent, such circumstances will now and then happen to patients who have suffered considerable loss about the time of cessation. In such cases, the bark given with the same freedom as in curing the ague, safely cures both the flux and the intermittent.

Sometimes these immoderate fluxes proceed from some irritating cause resident in the uterus or the parts contiguous to it. And amongst these none is more common than that deposition of acrimony which precedes a cancer of the parts.

In such cases the most apposite remedies are often ineffectual. The flux is attended with pain and heat darting across the pubes, from hip to hip, and down to the middle of the thigh. Large clots of blood are frequently discharged, that give exquisite pain in passing, and at the same time the flux is increased by the stimulus.

It is not uncommon, in such cases, to see the bark administered very freely, and, I am afraid, to no good purpose. Indeed, it requires the hand of a master to give this medicine properly in uterine discharges. In cases of plenitude it is injurious; it seems to be so, likewise, in this case just described. In such as proceed from mere debility and relaxation, it may stand a much better chance of being useful; but it is to be feared that incipient scirrhous, and other obstructions, have been much aggravated by the injudicious exhibition, to restrain a discharge which depended on causes not in the power of this great medicine to subdue.

To enter into all the particulars that attend this event will be unnecessary. Permit me, however, to make some remarks upon the kind of purgatives that are much in use upon these occasions, and to some of which there are very just objections.

An opinion generally prevails among the sex that purgatives are particularly necessary at this juncture: and is assented to by the generality of practitioners, who, had they made a proper choice, would have acted more prudently. Various preparations of aloes, the tinctura sacra, pil. rufi, elixir proprietatis, and other compositions of this kind are recommended, from one to another, as proper purgatives to be used on the cessation of the menses.

But if we reflect a little upon the known effects of this drug, in all its preparations, we shall find it almost uniformly producing the piles, if taken long together, and in considerable doses.

From its effect in stimulating the hemorrhoidal veins and contiguous parts, it has long been adopted as the basis of most medicines

exhibited with a view to promote the menstrual discharge in young females, where it does not appear at the usual time, or in a proper quantity, and often with success. It can scarcely, then, be rational to give that medicine which is found to be efficacious from its power of irritating the hemorrhoidal and contiguous vessels, and determining the blood with a due degree of force on the uterus, to produce the menses, at a time when we are endeavouring to abate this impetus, rather than to increase it; in short, it seems highly absurd to make use of those medicines when the menses are about to cease, and ought so to do, which are given to provoke and promote this evacuation. Instead, therefore, of countenancing a practice which is not only unreasonable in theory, but injurious in practice, every convenient opportunity ought to be embraced to expose and correct a popular error, than which, perhaps, there are few in the circle of medicine that are more mischievous.

Repeated instances have occurred to me of grievous inconveniences arising from these heating medicines; the piles, strangury, immoderate discharges of the menses, racking pains in the loins representing labour pains, and other similar complaints.

There are many persons, it is true, who cannot easily bear the more cooling purgatives; very tender, delicate habits are mostly affected by them: but it is not difficult to contrive cathartics, neither heating like the aloes, and other gummy, resinous medicines, nor yet chilling as the salts. Rhubarb, senna, magnesia, sulphur medicines, small doses of jalap, and various other combinations of them, will supply sufficient variety to the prescriber and the patient.

It will be of more efficacy in curing of complaints arising from the causes we are treating of, to contrive some easy method of preventing costiveness, than to be dealing often and freely with purgatives of any kind. It happens in some constitutions, that the menstrual discharge is protracted much beyond the usual period of its cessation in others. Whilst it proceeds regularly, comes at the proper time, and in due quantity, the patient in the meantime perceiving no inconvenience, no perceptions of declining health, suffers it to keep its course, without attempting to restrain it. Should the health in general suffer by it, the same means that succeed in lessening immoderate discharges may properly be applied in this case.

When the menses are about to go off, for the most part they appear irregularly, both in time and quantity; once in a fortnight, three, five, or six weeks, sometimes very sparingly, at other times in immoderate quantities.

Great losses of this kind are often prevented by taking away four or five ounces of blood a few days after the first menstrual suppression. This prevents the accumulated blood from rushing with force upon the uterine vessels at the ensuing period, and producing pain or a too copious hemorrhage. By degrees the occasion for such

artificial evacuation diminishes, and the patient's health becomes firmly established.[1]

An opinion in favour of issues at this period of life has occupied the minds of many patients; some with the hopes of preventing all future evils capable of proceeding from this cause; others with the terror of carrying about with them for life a drain which they think of with extreme disgust. Perhaps the use of these outlets deserves some consideration. When a patient has, in early life, been subject to cutaneous eruptions, sore eyes, glandular swellings, or other obvious marks of morbid humour subsisting in the constitution, and all which may have disappeared about the time the menses became regular, if no invincible opposition is made to it, a drain is now certainly advisable, and may prevent many inconveniences.[2]

Should any cutaneous foulnesses, any ulcerations, any fugitive pains of the cancerous or rheumatic kind, hardnesses in the breast, or other parts, be evident, all such complaints would probably be in part relieved by issues. But when none of these circumstances appear or have appeared, it seems scarce reasonable either to propose or permit a certain inconvenience, to call it by no harsher term, in order to cure a disease that has no existence.

It is necessary to enjoin, in many cases, a most strict attention to diet and exercise, to the full and plethoric especially. Meat suppers should be avoided as much as possible, and likewise much animal food, by those who are liable to immoderate evacuations. If they could subsist two or three days in a week on pudding, vegetables, and things prepared from them, such a method would con-

[1] [We possess two direct remedies for these excessive discharges, which were not in use in Dr. Fothergill's time. I mean *ergot of rye*, and *tincture of Indian hemp*. The former has long been known to possess the power of restraining hemorrhage after delivery, and of late years it has been used in menorrhagia with great success. I can bear witness to its great value after a long and extensive trial. I generally order from five to ten grains of the powder to be taken three times a-day, and if there be no ulceration, the discharge will generally be arrested in a day or two.

The property of the Indian hemp, of restraining uterine hemorrhage, has only been known to the profession a year or two. It was accidentally discovered by my friend Dr. Maguire, of Castleknock, and since then it has been extensively tried by different medical men in Dublin, and by myself, with considerable success. The tincture of the resin is the most efficacious preparation, and it may be given in doses of from five to fifteen or twenty drops, three times a-day, in water. Its effects, in many cases, are very marked, often instantaneous, but generally complete after three or four doses. In some few cases of ulceration, in which I have tried it on account of the hemorrhage, it seemed to be equally beneficial.

I may be allowed to add a word as to the value of cold applications in these cases of menorrhagia. I have found great benefit from enemata of cold water, and these appeared to be less unpleasant to the patient than vaginal injections. Should the former fail, however, the latter may be tried, and either cold water, alum and water, decoction of oak-bark, galls or matico, be used. When the womb remains congested and enlarged after the arrest of the hemorrhage, great benefit will be derived from the application of caustic tincture of iodine, once or twice a-week, by means of the speculum.—Ed.]

[2] [I have repeatedly tried caustic issues or perpetual blisters, and with the greatest advantage. They certainly aid the operation of the remedies already mentioned, and, I think, prevent the recurrence of those irregular congestions which Dr. Fothergill has described.—Ed.]

tribute greatly to prevent not only these copious discharges, but various accidents that arise from plenitude, such as palsies, apoplexies, fevers, and inflammations. Their liquors should be regulated likewise by a similar scale.

They should avoid all heating exercise, frequenting large assemblies, or hot close rooms, near the approach of the usual period. In the intervals exercise will be extremely necessary.

It will not be altogether foreign to this subject to mention two cases which now and then occur in practice, and sometimes cost both the patient and physician some perplexity.

A woman enjoying very good health, sometimes is seized with a total suppression of the menses, much sooner than they ought to disappear, perhaps soon after thirty years of age. A fever, surprise, anxiety, sudden and violent cold, especially if it happens at the time, will put a total stop to the discharge.

For many months, sometimes a year or two, she feels very little effect upon her health by this suppression, perhaps grows plump, and seems disposed to corpulency; by degrees, however, she perceives herself not to be so well as usual; she is liable to colds, inflammations of the tonsils, erysipelatous eruptions, rheumatisms, but most commonly severe affections of the bowels, either inflammatory bilious, or spasmodic; one or other of these return frequently, and often violently, in six weeks, two months, or longer, but at no very regular periods; and in this manner continue to harass the constitution (if the person survives the severe attacks of the colic or other disorders incident to this state) till about the time when the menses should cease spontaneously.

An attention to the cause of these disorders supplies us with a natural and efficacious remedy. Substitute at convenient distances artificial evacuations instead of the natural one that is suppressed, and, if possible, previous to the disorders to which the suppression has given rise; bleeding in small quantities two or three times a year; moderate purgatives frequently exhibited, and, particularly, attention to their diet, which ought to be moderate and mild. At the first sensations of sickness, or great heat and restlessness, or pains beginning to affect the stomach or bowels, or any of those symptoms which have usually been the forerunners of the disorders above mentioned, then is the season for preventing those difficulties which arise from this preternatural suppression.

Another case likewise sometimes occurs in practice, which it may not perhaps be improper to mention.

Women of an apparently healthy, sanguine constitution, disposed to corpulency, using little exercise, accustomed to live plentifully, perceive a sudden suppression of the menses at a time of life when there is reason to expect many years' continuance; from thirty-five years of age and upwards; in a little time they grow full, the belly seems to swell, with tensive pains, pain in the breast, some enlargement of them likewise, some little sickness in the mornings, dislike

to particular foods, and other symptoms similar to those of pregnancy; and married women are so fully satisfied of it, as to believe themselves in this situation, and that they actually perceive the motions of the child.

This circumstance happens most commonly to those women who have been married rather late in life, viz., between thirty and forty. Their inexperience leads them to take up with the opinions of those about them, and they are sometimes not undeceived till the time of gestation is much exceeded.

Women also who have been long married and had children, several years after the menses stop, suddenly they grow bigger, suspect pregnancy, and treat themselves accordingly; abstaining from exercise, eat what their appetites, often craving and depraved, require, till they have exceeded their reckoning so long as to be sure they have been mistaken.

The like complaint happens now and then likewise to single women about the age of forty, or near the time when this evacuation ought to stop. The belly grows large, they become unwieldy, their legs swell, and the apprehension of a dropsy brings on a variety of complaints. The hemorrhoids are commonly the attendants of all these subjects. Sometimes one may trace out some probable causes from which this preternatural state may probably be derived, but not always clearly. The proper treatment is, however, not difficult to discover. The general turgescence, though it proceeds primarily from a retention of the menses, does not appear to be confined to the uterine vessels alone, all the venous system of the lower belly is affected, the lymphatics also, in consequence of the general oppression. The legs often swell, the piles are almost always troublesome; the patients are generally costive, the urine in small quantities and often discharged, and all the thinner secretions diminished. Yet the countenance and appearance of the whole habit denote a general plenitude, but very different from the bloated body of an hydropic. Repeated bleeding in small quantities always gives relief. Sulphur and magnesia, or other easy laxatives given constantly prevent the piles, and keep the belly gently open. Regular exercise on horseback, or in a crrriage is quite necessary to effect a cure, which is, for the most part, slow and tedious, but in general certain. Purgatives approaching to the drastic kind are often injurious, and so are copious evacuations by bleeding, though small ones are essentially necessary. Their diet should be light, but not too liquid. By means like these the general fulness gradually subsides; they seldom have any return of the menses, except now and then some slight intimations.

Permit me to mention another case which, though it does not absolutely relate to the present subject, is not quite foreign to it. Nothing, perhaps, is more excruciating to the patients, nor in common more difficult to cure, than painful menstruation; it impairs their health at present, and seems to render them less prolific in

future; to the sufferers it is a most serious evil. By the following short process I have been happy enough to relieve several: let the patient have by her a few pills, consisting of extr. theb. gr. j. each, made soft with a little of any kind of conserve. She is to take one of these pills the moment she finds the pain attending this discharge coming on. A pill may be taken every hour till the pain goes off; they seldom require more than two of these pills; one is often sufficient if given early; and it ought to be a constant rule observed in administering anodynes, to give them, when they are plainly indicated, early. It requires much less of an opiate to obviate pain than to quiet it when acute.

Let the patient keep either in or upon the bed, at least in a recumbent posture; let her drink moderately of any diluting liquor, any of the herb teas, weak whey, thin broth, or what else her constitution may particularly require.

When the time is past, a course of chalybeate bitters, in small doses, may be continued till within a few days of the return; and the belly should be kept open by some proper laxative; two or three grains of cathart. extract. with half the quantity of calx antimonii illota, taken every night, will often succeed perfectly well. The anodyne must still be in readiness to take when the pain comes on, and to be taken in such a quantity as to mitigate the pain, let the dose be what it may.

This excruciating pain seems to be spasmodic, and to proceed from the extreme irritability of the uterine system; the blood naturally determined hither, in order to its being discharged, by distending the very irritable vessels, occasions the spasm: this produces a constriction of the vessels; they become impervious, and the nisus to the discharge continuing, the pain becomes exquisite and general, till the patient, worn out with the struggle, is debilitated and sunk; the fluids are then dismissed, some ease succeeds, but the patient is often so reduced as not to recover her usual strength before she has another conflict to undergo.

The fluor albus is frequently the consequence of this struggle, and it would seem as if the uterus itself was so far a sufferer as to be rendered by degrees less fit for fecundation. I think it has been observed by other physicians as well as myself, that few of those who have suffered much in the manner here described, have borne children.

II.—DR. MACBRIDE'S CASES OF TUMEFACTION OF THE LABIUM AFTER DELIVERY.[1]

THERE is an accident to which women are liable in the time of labour, that has escaped the notice of all the writers with whom I am acquainted,[2] but which, nevertheless, is accompanied with great

[1] [An Account of two extraordinary Cases after delivery, by David Macbride, M.D., and communicated by Dr. Hunter. Medical Observations and Inquiries, vol. v., p. 89.

David Macbride was born at Ballymoney, near Coleraine, in the county of Antrim, April 26, 1726. He was educated at the public school of Ballymoney; and, after serving an apprenticeship to a surgeon in that place, he entered the royal navy, in which he remained until the peace of Aix-la-Chapelle in 1748.

After leaving the navy he studied in Edinburgh under Monro, and in London under W. Hunter and Smellie. In the year 1749 he settled at Ballymoney; but in 1751 he removed to Dublin, and commenced practice as a surgeon and accoucheur, being then only 26 years of age, and "remarkably bashful." To the Medico-Philosophical Society, of which he was a member and secretary, he communicated much of what he afterwards (1764) published in his "Experimental Essays." These essays obtained for him a high reputation, and, as a consequence, his practice, which, in 1767, was upwards of £500 a year, in 1770 amounted to £1069 18*s.* 5*d.*; in 1775, to £1564 19*s.* 1½*d.*; and in 1776, to £1800, which, at that time, was an ample income.

In 1768 he was elected an honorary member of the Dublin Society, and received their silver medal, and subsequently a gold medal from the Society of Arts and Commerce in London. In 1772 he communicated the paper here reprinted to Dr. W. Hunter. In 1772 he also published in London his Course of Lectures, under the title of "A Methodical Introduction to the Theory and Practice of Physic," which was subsequently enlarged, and published in Dublin in two volumes.

In the enjoyment of a high reputation and an ample practice, he lived to the year 1778, on the 26th of December of which year he died of fever, in the fifty-third year of his age.

For these particulars I am indebted to a memoir published in the "Dublin Journal of Medical Science," vol. iii., p. 281, *New Series*.—ED.]

[2] [Dr. Merriman (Synopsis, p. 111, *note*) mentions that this accident is accurately described in the Observations of Veslingius, published in 1647. His words are: "Alias jam bis observassem ab effuso intra tunicas vaginæ sanguine in partu difficili pudendi labium ingenti tumore distensum fuisse, quo aperto sanguineque atro paulatim evacuato, mulieres evasere."

Dr. Macbride, however, was the first in Great Britain to draw the attention of the profession to this alarming occurrence: his cases were published in 1776. Since then similar cases have been repeatedly recorded. Dr. Rainy, of Dublin, read a case in 1774; Dr. Maitland published one in 1779 (Med. Comment., vol. vi., p. 86); Mr. Perfect, one in 1783 (Cases, vol. ii., p. 63). Denman met with three such cases; and the accident is mentioned as one of the complications of labour by Burns, Merriman, Dewees, Hamilton, Campbell, Davis, &c., and by the more recent writers on midwifery.

Cases are also related by Chaussier (Dict. des Sciences Méd., vol. xxxiv., p. 268), by Madame la Chapelle (Prat. des Accouchem., vol. vi., p. 200), and by a writer in the "Recuel périodique de la Société de Santé de Paris."

It has been described by Schreider (Siebold's Journal, vol. xi., p. 103), by Baer (Medicina Obstetricia), by Siebold (Frauenzimmerkrankheiten, vol. ii., p. 482), by Ebert, Carus, Naegelè, Stendel, and others.

From these references we may, at least, conclude that although the accident is by no means common, yet that it is not quite so rare as Dr. Macbride had then reason for believing. A sufficient number of cases have been recorded to enable us to form an opinion as to the causes, to recognise the symptoms, to appreciate the danger, and to decide upon the treatment.—ED.]

distress, and appearances that are extremely alarming, and it is this: some of the bloodvessels bestowed on the vagina and parts which constitute the os externum are ruptured; and the blood being accumulated in the interstices of the cellular membrane, immediately raises a monstrous swelling of the labia and perineum, which increases rapidly, until the load of extravasated blood comes to be so great as to burst through the teguments.

This case, however, must occur but seldom; for a gentleman of this city, who has had very extensive business as an accoucheur for forty years, assures me he never met with it, though in a practice of little more than half that time I have seen two; as such cases, therefore, must happen sometimes, and when they do, cannot fail to terrify both the patient and the attendants, it may be of use to give a particular history of all the circumstances.

One morning, in the month of August, 1766, I was called on by a gentleman's servant to visit his wife, who, he said, had been delivered about an hour before, but nevertheless continued in very great pain, and by the people about her was believed to be in a dying way. Upon examination I soon found that the distress was occasioned by a large and very painful swelling of one of the labia, which the woman told me had formed itself soon after delivery, though she had had a natural and easy labour.[1]

At first I was inclined to think that the case might be an hernia, whose contents, though they were kept up by the uterus, while in its enlarged state, were now fallen down so soon as this had been suffered to collapse; and considering the poor woman's situation at any rate as uncommon and alarming, I sent for Dr. Cleghorn and the gentleman who had delivered her. By the time that these gentlemen came, which was about an hour, the swelling had acquired

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[1] [The accident may occur either during the process of labour, or after its termination. In Dr. Maitland's, Mr. Perfect's, M. Naegelè's, Stendel's, and other cases, it occurred previous to delivery; in some at a rather early stage of the labour. Of course, in such cases it offers a considerable impediment to the exit of the child; in some cases so great as to require artificial aid to extract the child, whether the tumour has burst or not. When the tumour is at, or rather within, the orifice of the vulva, it might, possibly, be (and, indeed, appears to have been in two or three cases) mistaken for the "bag of the waters;" but a careful examination will guard against this error.

More frequently, however, the tumour appears after labour, sometimes immediately; in other cases, as Dewees remarks, after a short interval. It does not require either a difficult or tedious labour for its production; in many instances, the labour has been short and easy, as in Dr. Macbride's cases; but we must admit that with the predisposition (whatever it be) existing, there would be more probability of its occurrence in the former cases.

The effusion may occupy one labium or both; in some cases it extends downwards to the perineum; in others, inwards to the pelvis, and the amount will vary according to the distensibility of the surrounding tissues. When the tumour is ruptured soon after its formation, the hemorrhage may be uncontrollable and unlimited.

The aspect of the disease is very alarming; the size of the tumour, often as large as a child's head, its red or purple colour, and the agonizing pain, together with its occurrence at a time when all appears going on favourably, is calculated to produce a formidable impression.—Ed.]

the size of a new-born child's head, was exceedingly painful and hard, and extending itself to the perineum, had a most frightful aspect, as the skin was grown livid. The case being new, none of us could well ascertain the true nature of this tumour, but having directed the application of stupes, wrung out of a spirituous fomentation, we agreed to see her again in the evening.

At the second visit we found the pain nothing abated,[1] but the swelling more enlarged, the teguments mortified, and ready to burst at the most prominent part of the tumour.[2] In the course of the night this actually happened, and a large quantity of coagulated blood having discharged itself from the opening, the pain ceased in great measure, and the swelling was found reduced at least three-fourths by the time that we paid our morning visit. We were now enabled to form some judgment of the case, and, consequently, to give the patient some assurances of her recovery, of which there had not been much room hitherto to hope.

There being a considerable space of the skin in a mortified state, the fomentation was ordered to be continued, and proper digestives applied, with the view of encouraging the separation of the sloughs. For about a week the quantity of coagulated blood that came away in lumps was considerable at each dressing; but this discharge gradually abated; and the remainder of what had been extravasated was either melted down in the course of the suppuration, or taken back by absorption, so that by the end of two months there were no remains left of the swelling; the sore healed up, and the woman found herself perfectly free from all complaint.[3]

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[1] [In all the cases on record, the pain appears to have been very great, augmenting with the increase of the tumour, until relief is obtained by its rupture; and if this be long deferred, the constitution sympathises, and a high degree of febrile excitement is the result. Dr. Dewees remarks: "Should the parts not give way, the pain arising from distention is unceasing and truly agonizing; fever of a very active kind is quickly kindled, delirium sometimes attends, and the woman's life becomes severely threatened. Her sufferings are also augmented by retention of urine, as its passage is prevented by the tumour pressing firmly against the meatus externus of the urethra. The patient can lie only upon her back, with her knees drawn up, and her thighs widely separated. She cannot bear the pressure of the bed-clothes, nor the slightest applications; therefore it is in vain to offer relief till the distended parts yield spontaneously, or are made to do so by artificial means."—Diseases of Females, p. 38.

The appearance of the tumour is very peculiar, resembling a bladder filled with red or blue fluid; for, in consequence of the greater distensibility of the mucous membrane than the skin, the anterior portion of the tumour is covered by the former, which is stretched and everted.—Ed.]

[2] [The rupture has always occurred in the mucous membrane, because of its being the thinnest part; at first it is observed to vesicate, and then to become gangrenous before yielding to the pressure from within. In those cases, however, which occur before delivery, the tumour may give way under the pressure of the child's head before there has been time for these changes. In such cases, and in those where the rupture, though longer deferred, is yet early after the occurrence, the loss of blood may be very great, and in some few cases has proved fatal; but at a later period, after the blood has had time to coagulate, there is a mixture of fluid blood and coagula, or of serum and coagula, discharged, affording considerable relief, and exposing a cavity partially filled with coagulated blood, which gradually softens and escapes in the dressing.—Ed.]

[3] [Dr. Macbride's cases both recovered; and in accordance with this favourable

On the 2d of January, 1771, I delivered the wife of an eminent woollen-draper of this city; it was her first child, but the labour was perfectly natural, of short duration, and accompanied with as little distress or forcing as any that I had ever attended.

I stayed the usual time, until she was settled in bed, then left her quite easy, and, as I thought, in a very secure way. I was, therefore, greatly surprised on receiving a message, in less than half an hour, requesting that I might return without delay. I found her in very great pain, but as she described her complaints in a vague way, I considered them only as the usual after-pains; and having directed a quieting mixture, recommended patience and rest; but a second message having soon obliged me to repeat my visit, I found her in such violent distress, that I plainly saw there must be somewhat wrong and uncommon; accordingly, having made the necessary examination, I was greatly astonished to find a monstrous swelling of one of the labia, extending itself to the perineum, precisely as described in the foregoing history. I immediately had my friend Dr. Cleghorn sent for; he recollected the former case, and joined me in encouraging the patient, by telling her how well things had terminated in that instance. We directed the constant application of stupes, and waited for the bursting of the teguments,[1] which hap-

result and his own experience, Dr. Denman concludes that the complaint is "void of danger," and others have expressed a similar opinion. No doubt a great majority do recover; but still there is a sufficient number of fatal cases on record to justify our regarding the accident more seriously. M. Phillipart (Bull. Méd. Belg., vol. i., p. 90) mentions a case in which the left labium became greatly swollen during labour, and ruptured, with hemorrhage that proved fatal before delivery. Of M. Naegelè, jun.'s, four cases, one proved fatal; "in a second, the swollen labium burst, the coagulum was removed, delivery of a dead child effected by the forceps; in a third, the labium burst while the forceps were being applied, the blood lost appeared arterial, pressure for three hours, then delivery of a dead child with the forceps, recovery; in a fourth case, ten ounces of blood were removed from the labium by an incision, and labour was afterwards completed, with safety to the mother and child."—Mr. Crosse's Address, Transactions of Prov. Med. and Surg. Assoc., vol. v.

M. Stendel (Kleinert's Repertorium, May, 1835, p. 31) relates a case in which the tumour burst during labour, and he states that between six and seven pounds of blood were lost; the patient fainted and expired.

Three fatal cases are related in the "Medico-Chirurgical Review," vol. xxii., p. 224. Mr. Crosse met with a case in which, "during a protracted labour, rupture of the left labium took place to the extent of two or three inches, followed by a great loss of blood, and the patient died undelivered."

From these examples it is evident that the danger of a fatal hemorrhage is greatest in those cases where the tumour gives way during the labour; next, in those which, occurring during labour, do nevertheless permit its completion without rupture; and least, in those where the tumour does not form until after delivery. This is very intelligible, if we recollect that if the blood be allowed time to coagulate, it will act as a plug or pad upon the bleeding vessels, preventing the escape of more blood until the vessels are closed.—Ed.]

[1] [In considering the question of treatment, we must classify the cases—1st, into those in which the tumour appears during the progress of labour and before delivery; and, 2dly, those in which it occurs subsequent to the birth of the child.

1. In the first class of cases, the choice is between leaving the case to nature and taking chance of the tumour bursting or not; and opening the tumour, applying pressure and styptics, and completing the delivery by the forceps if necessary.

The danger of trusting the case to nature is, that if the tumour be large, it will either give way with great hemorrhage, or it will offer such an obstacle to the exit of

pened in less than twenty-four hours, and discharged a large quantity of coagulated blood. The pain now ceased, and the swelling

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the child that it will be necessary to use instrumental aid in delivery, and so increase the probabilities of laceration. If, however, the tumour be small, it is possible that labour may terminate naturally, without rupture of the tumour.

The danger of opening the tumour before coagulation has taken place, consists, of course, in the hemorrhage, which we may or may not be able to control, with an equal probability of our being obliged to have recourse to instrumental delivery.

Between these two courses it is difficult to make an absolute choice; much will depend upon the peculiarities of each individual case, and the decision must be left to the judgment of the practitioner. Speaking very generally, however, I think I may say thus much, viz., that in cases where the tumour is of a moderate size, and does not offer a serious obstruction to delivery, it will be better to wait and not lay open the tumour. In Dr. Maitland's case an opening occurred (or was made by the midwife) at the beginning of labour; the tumour was as large as a child's head, notwithstanding the draining of blood, and the child was delivered naturally thirty-six hours afterwards. There was an opening, also, in the case related by Mr. Perfect, and although the tumour was large at first, yet it diminished without alarming hemorrhage, and the child was expelled. Dr. Maitland applied fomentations of infusion of chamomile and warm cloths alternately; and Mr. Perfect's friend a poultice of bread and milk softened with ung. sambuci. In neither case was the opening intentional; and in both, although much time elapsed after the rupture before the completion of labour, the recovery was favourable and speedy.

If the tumour be very large, the child will not be able to escape naturally, nor, in all probability, shall we be able to deliver it by the forceps without laceration; in such cases, which, however, are very rare, it will be better to lay open the tumour, plug the cavity with lint or charpie steeped in some styptic, and applying pressure in the best way we can, complete the delivery as soon as possible.

The mode of delivery is worth a moment's consideration, if we are obliged to have recourse to instrumental assistance. It appears that when the hemorrhage is extensive, the child's life is compromised; in two out of three of M. Naegelè's cases, in which delivery was effected by the forceps, the children were born dead. Now, as we can almost always determine the life or death of the child by means of the stethoscope, and as it is desirable that as little pressure as possible should be made upon the soft parts of the mother in these cases, I think that when the fœtal heart has ceased to be audible, it would be much safer and better to lessen the head, and extract with the crotchet instead of using the forceps.

2. When the tumour appears first after the birth of the child, we ought in the first instance to apply fomentations, poultices, or cold lotions, for the purpose of relieving the pain, but on no account to open the tumour immediately, because the risk of hemorrhage would be very great. My friend Dr. Johnson has mentioned to me a case in which the tumour was opened within twelve hours, and, notwithstanding that the vagina was plugged and every means used, it was with great difficulty that the hemorrhage was restrained.

Some time should therefore be allowed to elapse before we make an incision; but inasmuch as an incised wound will heal more favourably than one the result of mortification of the outer skin, we may anticipate this occurrence, and after waiting some hours to give time for the coagulation of the blood, or, at any rate, the moment the cuticle vesicates, a free incision should be made into the tumour, and the fluid blood, with such of the coagula as are loose, allowed to escape.

If the bleeding continue, it will be advisable to apply some styptic inside the cavity, or to fill it with charpie; if there be no bleeding, a poultice may be applied. It is better at first not to remove the adhering coagula, as they are a security against hemorrhage; but after a day or two a great portion of what remains may be scooped out, and the remainder will gradually soften and be removed by the poultices, exhibiting underneath healthy granulations, which speedily fill up the cavity. Nothing more will be necessary than constant poultices, sprinkled, if necessary, with a solution of the chloride of lime; and if the granulations be too exuberant, a touch with the nitrate of silver.

In no case does there seem to have been any trouble or difficulty in healing the wound, and more than one of the patients were delivered subsequently without a repetition of the accident.—Ed.]

subsided; the mortified sloughs also separated in due time, and the extravasated blood was partly carried off by the suppuration, and partly absorbed, as in the case of the other woman; in short, nothing could be more similar than the two, as well in regard of their progress, as the length of time in which nature perfected the cures, for in neither of them was there much assistance afforded by art.

It would have been no way surprising if such accidents as these had ensued after a very severe labour, where there had been much straining, or where violence had been used, and injury done to the parts; but in the first of these cases I was well assured there had not been anything done that could be considered as at all likely to cause a rupture of the vessels;[1] and in the second I know there was not: it therefore seems difficult to assign a good reason why these vessels should thus have given way, or, since they are liable to rupture, why such accidents do not occur more frequently.

The gentlewoman who is the subject of the second history has lain in again, about three months ago, without being sensible of any inconvenience whatever, on account of the former accident.

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[1] [It is not easy to say from what vessels the hemorrhage proceeds. Dr. Dewees (Diseases of Females, p. 34) says: "I am of opinion that the blood proceeds from vessels situated rather within the vagina; for those which come from the vaginal plexus, immediately behind the corpus spongiosum, are the most likely to suffer during the passage of the child's head, and to furnish this large quantity of blood. And this opinion appears to be strengthened by those cases in which the accident happens before the delivery of the child, as the part just mentioned will suffer distension before the head has escaped through the os externum."

Mr. Crosse, in his Address, alludes to these tumours as the result of rupture of varicose veins, and we cannot deny that this is possible. That the veins of the labia, the parts about the orifice of the vagina and the vaginal canal, do become varicose, and occasion considerable inconvenience, every one knows; but the frequency of this condition, compared with the rarity of the sanguineous tumours, is rather an argument against the dependence of the latter upon the former. *A priori*, one would certainly imagine that veins in this condition would be more easily ruptured, either by additional distension or by the pressure of the child's head.

Dr. Burns attributes the hemorrhage to the vessels of the nymphæ, and Drs. Davis and Campbell to a rupture of the pudic vein.—Ed.]

III.—DR. CLARKE ON CAULIFLOWER EXCRESCENCE FROM THE OS UTERI[1]

THE object of the present communication is to give some account of a disease not hitherto described, as far as I know, by any writer on the diseases of the female organs of generation, or in any book on morbid anatomy, though it is far from being uncommon.[2] From its external form and structure in the living body, I have for many years been accustomed to describe it, in my lectures, under the name of the cauliflower excrescence of the os uteri, meaning to distinguish it from other diseases of structure of this part of the body, but especially from cancer, with which disease it has generally been confounded.

Having been for many years much consulted about the diseases of the female sex, I have been led to observe, that there is a great variety in the symptoms of diseases which pass under the common name of cancer. On accurately investigating, by examinations in the living body, the structure of different diseased parts, and connecting this with the variety in their symptoms, and particularly observing in the disease which is the subject of this paper the absence of many symptoms which characterize cancer, and some other diseases of the uterus, I consider myself justified in giving to it a new name, which is in some degree descriptive of its structure.

It appears to me to be of great importance to distinguish, by different names, diseases which have some symptoms in common, otherwise a confusion in name will lead to confusion in practice, and to

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[1] [On the Cauliflower Excrescence from the Os Uteri. By John Clarke, M.D. Read July 4, 1809. From the Transactions of a Society for the Improvement of Medical and Surgical Knowledge, vol. iii., p. 321.]

[2] [That this is the same disease as that described by Levret and Herbiniaux under the name of "Vivaces," can scarcely be doubted. Dr. Gooch (Diseases of Women, p. 303) has exhibited, in parallel columns, the distinguishing characters of each as follows:—

"*Vivaces.*	*Cauliflower Excrescence.*
A rough surface.	A rough surface.
Grows from a broad base.	Grows from a broad base.
A soft fungus.	A congeries of vessels.
If removed, grows again.	If removed, grows again.
The effect of death not observed.	After death or a ligature, shrinks to an empty skin.
Insensible.	Insensible.
Kills by frequent hemorrhages.	Kills by frequent hemorrhages."

Some objection has been raised to the name as being inaccurate, but if it be an advantage that a name should either express a very accurate pathological opinion or none, we must prefer the name given by Dr. John Clarke, as expressing no opinion upon a subject when a satisfactory one would be very difficult.

The reader will find this disease ably treated of by Sir C. Clarke, Gooch, Duparcque, Lisfranc, Boivin and Dugès, Blundell, Ashwell, Montgomery (Dublin Journal, vol. xxvi., p. 402), Lee, Simpson (Dublin Journal, Nov., 1846), &c.—ED.]

the use of the same remedies in disorders very different from one another. If in some cases advantage has been received by the patient, in others much mischief has been done. Error has been propagated, and improvement in practice could not reasonably be expected.

I cannot omit this occasion of observing, that the treatment of diseases of the uterus, upon the mere description of symptoms given by a patient, without any examination of the parts, or upon the examination and representation of persons not conversant with the healthy or diseased structure of them, is not likely to be productive of advantage to the patient, or to add to the stock of knowledge heretofore acquired. No person should prescribe for these diseases without examining himself, and every medical man ought to be competent to make such an examination, otherwise he will be likely to do much mischief.

Having very frequently met with the cauliflower excrescence of the os uteri, I was much surprised that I could find no specimen of it in any collection of anatomical preparations. I sought for it in vain in the collection of the late Dr. William Hunter. There is no specimen of it in the collection made by Mr. John Hunter, now in the possession of the College of Surgeons; and in all my inquiries, among those who had the best opportunities of finding it in the dead body, I have never been able to procure a specimen which I could add to my private collection, for the purpose of exhibiting it in my lectures.[1] The reason of this will be satisfactorily explained by two cases, which will be related in this paper.

The cauliflower excrescence arises always from some part of the os uteri.[2] As several of the early symptoms are not very distressing to the patient, the tumour in the beginning is rarely the subject of medical attention; the first changes of structure have, therefore, not been observed. I do not recollect that I have ever met with a case in which the size of the tumour was less than that of a blackbird's egg.[3] At this period it makes an irregular projection, and

[1] [In the valuable work of Sir Charles M. Clarke the reader will find a very good engraving of this disease; there is also a sketch in Dr. Gooch (p. 306), and another in a paper of Professor Simpson's, of Edinburgh, in the "Dublin Journal," Nov., 1846, p. 370.

It cannot be denied that there is a good deal of difficulty in obtaining a preparation of this disease, and for the reason given by Dr. Clarke; but we have seen that it may be done, and I may add, that there is one in Dr. Montgomery's Museum at the College of Physicians.—Ed.]

[2] ["In Mr. Brodie's Museum there is a preparation of the uterus of a young woman who died in St. James's Infirmary from cancer of the breast. During the progress of the disease she had a constant discharge from the vagina. The uterus was not examined during life, but after death it was found enlarged and containing a vascular excrescence, which grew from the fundus and projected into its cavity, and which, Mr. Brodie tells me, has precisely the appearance of the cauliflower excrescence of the neck of the uterus."—Gooch on the more Important Diseases of Women, p. 304.

Mr. Safford Lee mentions a case in which the tumour grew both from the cervix uteri and upon the walls of the vagina (Tumours of the Uterus, p. 96).—Ed.]

[3] [I removed a tumour of this kind, with a portion of the cervix, a fortnight ago, which had not attained to this size, and which had yet attracted attention for more than a year by profuse discharges of watery fluid and blood.—Ed.]

has a base as broad as any other part of it, attached to some part of the os uteri. The surface has a granulated feel; considerable pressure, or handling it, does not occasion any sense of pain. The remainder of the os uteri will, at this period, be found to have no sensible alteration of structure. By degrees, more and more of the circle of the os uteri, and the external part of the cervix uteri, become affected with the same morbid alteration of structure, till at length the whole is involved in the disease.

The growth is in some cases slow, but in others rapid, so that in the course of nine months it will sometimes entirely fill up the cavity of the pelvis, and block up the entrance of the vagina.[1]

As the bulk of the tumour increases, the granulated structure becomes more evident, and is found to resemble very much the structure of a cauliflower when it begins to run to seed. In most cases it is of a brittle consistence, so that small parts of it will come away if it be touched too rudely, and such pieces generally appear very white.[2] Sometimes, though no violence has been used, small

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[1] I learned this fact from the following case: I was consulted by a young woman, about 26 years of age, who was suffering under a profuse uterine discharge, the appearance of which led me to believe that it proceeded from this disease. I was confirmed in this opinion by finding the whole pelvis filled with a cauliflower excrescence, so large as to impede the free passage of the fæces and urine. She appeared to be sinking fast under the quantity of the discharge. No statement was made to me of the probability of her being pregnant.

As she did not reside in London, I saw her only a few times. About six weeks after my first visit to her, she was suddenly seized with pain in the abdomen, which increasing in violence, a medical man in the village where she lived was sent for. Upon making an examination, he discovered a large tumour projecting from the orifice of the vagina. Having left the room for a short time, he was hastily recalled, and on returning he found that the head of a child protruded. Soon after the child was born, and in a short time the placenta came away. No unusual discharge following, it was supposed by those present that no disease existed. However, in a short time, when the puerperal discharge had lessened, all the former symptoms returned, and I was again desired to visit her. On examination, I found the excrescence filling up the pelvis as before; the discharge from it became daily more profuse, and in six weeks after delivery she died, in a state of the greatest emaciation.

From the history of this case I am led to believe that the disease must have been formed after conception, both because she had no symptoms of disease nine months before her delivery, and because in the state of the os uteri, attendant on this disease, it is not likely that conception should take place.

It appears that when she fell into labour the tumour was expelled before the os uteri could be dilated for the passage of the child's head, and before it could pass through the pelvis. As soon as it was born, the tumour receded into the vagina, and no farther examination was made at that time.

[2] [If the speculum be used, we discover a tumour of varying size, composed of small irregular globules collected into masses, projecting unequally, and of a bright red colour. Some of the smaller granules possess a certain degree of transparency, as Dr. Montgomery has observed. "I may observe here," he remarks, "that one of the most distinctive characters of this growth, when brought under inspection during life, is the semi-transparency of many of the superficial granules, which present to the eye very much the same appearance as the vesicles occasionally visible on the surface of the ovary."

The entire tumour is covered by a fine membrane, by which the watery fluid so copiously discharged is secreted.

After removal by ligature, as Dr. Clarke observes, we rarely find anything but a few shreds, not enough to make a preparation, nor to submit to a minute examination; in

portions of a white substance come away with the urine of the patient, and in the discharge from the vagina.

When the tumour has arrived at a size greater than that of the os uteri, it spreads very much, and as the base is the smallest part of the tumour, persons not conversant with the disease have often mistaken it for polypus. A little attention, however, to the feel of the tumour, and the breadth of its base, will be sufficient to distinguish them.

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some cases, however, the tumour is more dense, and this greater density Dr. Montgomery believes to be "produced by the infiltration of blood and lymph into the cellular and laminated structure, which enters so largely into the constitution of these growths. In this condition, such portions of the morbid growth do not, and, indeed, cannot, collapse as they otherwise would when separated from its attachments; and I may observe, that it is only in this state that specimens of the disease can be preserved in a museum."

Dr. Anderson, of Glasgow, has published (Dublin Journal, vol. xxvi., p. 402) a very minute examination of the structure of the cauliflower excrescence, to which I beg to refer my readers. I shall quote a still more recent examination by Dr. Simpson (Edin. Med. and Surg. Journal, 1841). "I submitted some very thin slices from the surface of the section of the tumour to a powerful microscope in the possession of Dr. John Reid; it was seen to be composed of a number of cells, arranged in some places in groups, in others in irregular lines. These cells contained each a large nucleus, and the nucleus inclosed several large nucleoli. It may be interesting to add, that none of the caudate or spindle-shaped bodies, described by Müller as often existing in morbid cephaloid structures, were seen in any section examined."

I must add an extract from Mr. S. Lee's work (p. 84), which, I think, will complete our knowledge of the intimate characters of these tumours. "On examining a portion of the tumour taken away in Anderson's case, the granulations appeared to be covered with a fine membrane, producing a shining appearance, and small vessels were distinguished ramifying over it. When a portion was squeezed between the fingers, the substance became pulpy. Under the microscope, the lobules were found to be covered individually by epithelial scales, resembling those of the mucous membrane; and each was composed of nucleated cells, with here and there a bloodvessel ramifying in it; but the tumour was not apparently vascular. The edge of the lobules with epithelial scales appeared as if impacted one upon another; beneath which, from its circumference, when the cells were much compressed to its centre, cells became gradually developed. There was no appearance of fibrous tissue, nor any of the caudate cells indicating cancer. This, then, was the result of a careful examination of a part of this tumour removed during life by Dr. Richard Quain and myself. The following is a description of a portion examined in the same way after death. When a piece of the tumour, the only remains of which was in small detached clusters, was taken and placed in water, it appeared to be made up of a number of villi, apparently attached to a central substance of more firm consistence. It was composed of nucleated cells of large size, some circular, some oval, and others elongated oval; these contained a quantity of granular matter, and a well-defined nucleus, which appeared to contain a cavity filled with a quantity of granular matter. The two together had the appearance of a cell within a cell, or a compound cell. These cells were connected by fine filaments like cellular filaments. From this examination we conclude that the tumour is composed entirely of cells, and that these are covered by an epithelial membrane; also that it was of simple structure, and not malignant." Mr. S. Lee subsequently adds: "From the observations thus made, the cause of the disappearance of these tumours, either after death or the application of a ligature, appears to be the draining away of the white cell-substance by the stoppage of the circulation which produces it. Consequently the only portion left is the seat from whence the cell-substance was produced, viz., the bloodvessels."

It is right to state, however, that Dr. Renaud (Med. Gazette, June 18, 1847) has arrived at the conclusion that the disease is a modification of encephaloid, consisting of tufts of pedunculated capillaries, the interstices of which are filled up with the cells proper to encephaloid products.—Ed.]

In the very early state of the cauliflower excrescence, a discharge from the vagina takes place like fluor albus. It very soon becomes thin and watery, and is sometimes tinged with blood. In most cases, upon coming away, it is apparently as thin and transparent as pure water; but the linen, on which it is received, when dry becomes stiff, as if it had been starched. The quantity of the discharge, when the excrescence is large, will sometimes be sufficient to wet thoroughly ten or twelve napkins in a day. Now and then a discharge of pure blood occurs. When this ceases, the discharge of a thin transparent fluid reappears. An offensive odour generally accompanies the discharge, which is greatest when there has lately been an evacuation of pure blood, or of the catamenia.

Through the whole course of the disease I have never found, in any instance, any appearance of pus in the fluid discharged from the vagina. Sometimes, however, mucus will be seen in it.

The catamenia are not affected in an early state of this disease. This discharge is, however, generally more abundant than in health, and the period is apt to last longer. With the catamenial secretion blood is very often effused. When the constitution becomes much weakened, menstruation is less regular, and, in the last stages of the disease, it observes no regular period.

Patients labouring under this disorder are variously affected with regard to pain. In the commencement none is felt, but during its progress pain is in some cases experienced. Generally, in the advanced stage, the patient feels pain in the back, and in the direction of the round ligaments of the uterus. The pain is not described to be lancinating, as in cancer, and is without any sensible aggravation by paroxysms; but, on the whole, it is most felt after the patient has been long in a perpendicular attitude.

The disease attacks indiscriminately women of all ages. I have lately met with a case, in which it proved fatal before the age of twenty-five years. The patient is destroyed by the debility occasioned by the profuse discharge; and, in the course of the disease, she always becomes extremely emaciated. That this depends entirely on the discharge, will appear from the consequences of the treatment pursued in a case hereafter described. I have never met with an instance in which the disease did not terminate fatally.[1]

[1] [I fear that general experience, unfortunately, confirms Dr. Clarke's opinion of the mortality of this disease. There are, however, some exceptions on record for our encouragement. The case related by Dr. Montgomery has continued free from any return until the present moment. That mentioned in my work was perfectly well two years after the operation, and may be so still; but I have not seen her lately. Dr. Simpson's case (Dublin Journal, Nov., 1846, p. 352), operated on in May, 1840, has continued well ever since.

Boivin and Dugès mention (Mal. de l'Utérus, &c., vol. ii., pp. 172–6) two cases which recovered after excision of the cervix for the extirpation of the tumour.

These are but few successful cases it is true, and it may perhaps have been owing to the removal by excision or cauterization of the portion of the cervix from which the tumour grew. This is not always easy, however, nor is it easy to say how much of the cervix it is necessary to remove; for in another case of Dr. Montgomery's, from

As it seemed quite evident, that the diminution of bodily strength in this disease is owing to the discharge, I had for many years wished for an opportunity of removing the excrescence by a ligature, to ascertain whether relief might be obtained by this operation, believing, from the insensibility of the tumour, that it would not increase the danger of the patient. At length, a favourable case presented itself about three years ago. At that time I was called upon to visit a patient, who was supposed to have a polypus of the uterus. She had been very much weakened by a continual discharge from the vagina before I saw her, and was apparently sinking very fast. On examination, I discovered that there was a cauliflower excrescence of the size of an orange, growing from about one third of the circle of the os uteri. The uterus above the tumour was enlarged.

It was agreed in a consultation, in a case so hopeless, to attempt the extirpation of the tumour by a ligature, which might be instantly loosened, if any pain or other inconvenience should be produced by it. I accordingly passed a ligature round the base of it, as near to the os uteri as possible. The patient was not sensible of any pain upon tightening the threads. I therefore left her, with directions to send for me if she should be in pain, but I heard nothing from her. On the following day, finding the threads slackened, I tightened them. Still no pain was occasioned, but I found that the watery discharge had ceased altogether, and that a thicker had succeeded, which was small in quantity and very offensive. On the next day the ligature came away, proving that the tumour was divided at its base. I immediately examined the cavity of the vagina, but found no tumour there, and from the most strict inquiry ascertained, that nothing had passed from the vagina. I again examined the vagina with great accuracy, and found a small portion of a white glairy substance, which might have been contained in half of the shell of a pigeon's egg. From this time she had no more watery discharge, and in a few weeks, from having been much emaciated, she regained a considerable degree of plumpness. After this, however, a purulent discharge occurred from the vagina. I saw her again, and found that the lower portion of the uterus was become diseased. The os uteri was irregular and knotted, and the interstices of the knobs were in a state of ulceration. To this state, symptoms of irritation succeeded, and she died. The body was not examined after death.

I have since had an opportunity of inspecting, after death, the uterus of a patient affected with the same disease, whom I had attended for many months. A few days before her death, the cauliflower excrescence was examined by my brother, Mr. Clarke,

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which he removed the lower segment of the cervix entire, and apparently much more than the diseased parts, the disease was reproduced, and I saw the patient shortly before she died. A new cauliflower growth occupied the fragment of the cervix, and the uterus itself apparently participated in the malignant disease.—Ed.]

and it was not then as large as an orange. She had suffered very much from a profuse discharge of watery fluid, and towards the conclusion of her life a symptom occurred, which I never before met with,—a loss of sight, without any apparent alteration in the structure of the eye. On examining the os uteri, the day after her death, no tumour appeared; and it was clearly ascertained that nothing solid had come away during her life. The body and fundus of the uterus were sound. From about half of the os uteri hung a slimy, flaccid, white, and very tender substance, resembling the fœtal portion of the placenta of a graminivorous animal. It was desirable to ascertain whether it could be artificially filled by injection, so as to restore its former size. The attempt was accordingly made; but it failed, from the injection escaping from every part.

On considering and comparing these two cases, it appears to me, that the application of a ligature in one case, and the death of the patient in the other, produced the same effect, that is, the supplies were cut off, and the vessels which had before contained the fluids collapsed and almost disappeared. If all cases of cauliflower excrescence are of the same structure,[1] which, from the similarity of the discharge, there is reason to believe, the disease consists in the growth of a preternatural substance from the os uteri, which, when touched, feels like a solid substance, but when emptied of its contents collapses, so as to occupy but a small space.[2]

In this paper I have taken no notice of the symptoms arising from mechanical pressure, because they are common to this disease and all other tumours of the same magnitude occupying the same situation.

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[1] [I think the evidence I have adduced proves that these morbid growths have a distinct characteristic structure; but whether they are to be considered a variety of cancer, is at present disputed.

Sir C. Clarke regards its malignancy as consisting in its power of reproduction; Dr. Gooch considers it to be the same disease as fungus hematodes; Dr. Hooper, a polypoid cephaloma; Dr. Ashwell, of a cancerous character, or at least liable to become the seat of carcinomatous or encephaloid deposit. Drs. Burns and Walshe, however, do not consider it as necessarily malignant or carcinomatous. Dr. Simpson and Mr. S. Lee, in the extracts I have given, both state that the usual characters of cancer were wanting in the cases they examined with the microscope.

Certainly the history of the disease is, in many respects, different from cancer—it occurs at an earlier age, the patient suffers less pain; for a long time the health is less affected, and the patient does not get so thin; there is no cancerous hectic, the glands of the groin are not affected, and when the patient does break down, it is evidently from loss of blood and the draining of excessive discharges.

So far, then, I agree with those who regard the disease as not essentially cancerous or malignant; but I am not sure, as yet, that the morbid growth may not be subsequently the seat of malignant deposit, as Dr. Ashwell has observed. In Dr. Montgomery's case, a disease, apparently cancerous, succeeded to the primary cauliflower excrescence: and I have seen two cases lately, in which, apparently, malignant tumours coexisted with this excrescence.—Ed.]

[2] I consider that the circumstances which took place in the case where the ligature was applied, and the appearances on the inspection of the parts in the dead body, afford a satisfactory explanation why this disease is not found, as a tumour, in collections of morbid anatomy, and why it has not been described by any writer upon that subject. No account of it is to be found in the valuable work of Dr. Baillie upon Morbid Anatomy.

Respecting the treatment of this disease, I can offer, at present, little satisfactory information. The disease being described, and distinguished from others, is something gained. All stimulating substances, either in diet or medicine, seem to aggravate it by increasing the discharge, and no astringents internally given, which I have tried, appear to lessen it.

The only means from which I have seen any benefit derived, is the injecting into the vagina three times a-day, a strong decoction of cortex granati, or of cortex quercûs, in which alum is dissolved in the proportion of eight or ten grains to every ounce of it. This has the double effect of lessening the quantity of the discharge, and rendering it less offensive.[1]

It is scarcely necessary to add, that the use of anodynes must be resorted to for the mitigation of pain, and that the occasional symptoms of suppression of urine and costiveness are to be relieved by the use of a catheter and mild laxatives.

Postscript. *Read Jan.* 8, 1811.—Since the foregoing paper was laid before the Society, a case of cauliflower excrescence, connected with pregnancy, has occurred in the practice of my brother, Mr. Clarke.

Margaret Pole, aged 32, the mother of eight children, discovered that she was pregnant in the beginning of the year 1810. From the commencement to the termination of her pregnancy, she had a constant discharge from the vagina, generally watery, but sometimes bloody, by which she was extremely debilitated. On the 1st of July she was taken with labour pains. The practitioner who was first called to her, finding a large tumour in the vagina, in his opinion resembling the placenta, and the discharge being at this time very profuse, my brother was called to his assistance. When he arrived he found the patient perpetually vomiting, and having a pulse, quick,

[1] [All writers agree in the propriety of the use of astringents as a palliative, and to moderate the excessive discharge; but some seem to regard that as all that can be done, because of the failure of cure by the ligature. If the ligature be only applied around the root of the excrescence, and when it comes away if nothing more be done, there is little doubt that the disease will return, and in the end prove fatal. But if, after removing the tumour by a ligature, we make a deep eschar on the spot from which it grew by nitric acid, caustic potash, or chloride of zinc, it is quite possible (as in the case which came under my care) so to extirpate the disease that a permanent cure will be effected. Or, what is probably still more certain, if the substance of the cervix and body of the uterus is free from disease, the uterus may be drawn down to the vaginal orifice by means of Museux's forceps, and the entire disease with a sufficient portion of the cervix removed by the scissors, as in Mme. Boivin's and Professor Simpson's cases; or by ligature, as in Dr. Montgomery's cases, and in the one upon which I have recently operated. The ligature comes away in five or six days, and we avoid all chance of hemorrhage. If I excised the cervix, I would certainly take the opportunity of applying the actual cautery.

Dr. Simpson places his patient on her face, with the legs hanging down over the edge of the bed, for the greater safety and convenience of cutting from behind forwards.

For some weeks after the operation, it will be advisable to use astringent injections once or twice a-day.—Ed.]

frequent, and weak. On examining the tumour, he ascertained its structure to be that of the cauliflower excrescence. At this time the os uteri was not much dilated, but the discharge of watery fluid tinged with blood was very great.

Early in the morning of the 3d of July, she was delivered, without the assistance of art, of a putrid child, and the placenta followed in the usual time.

On the 4th and 5th of July, a great quantity of discoloured watery fluid came away; her belly became tender upon pressure, and much swollen. On the 6th, aphthæ appeared on the palate, tongue, and inside of the cheeks. The vomiting had never ceased; she became gradually weaker, and died on the 7th of July.

On examining the state of the parts after death, my brother found, by slitting up the vagina, that the tumour had disappeared, though in the patient's lifetime it had filled nearly the whole of its cavity. In its place was a pulpy, unresisting substance, very little firmer than mucus.

An attempt was made to fill the tumour from the vessels of the uterus, with fine injection, but the injected fluid always escaped from the vessels of the pulpy mass. The vessels, of which this species of tumour appears to consist, are of a very tender texture, and soon become too putrid to bear the force necessary to be employed, in attempting to fill them with injection.

From the resemblance between this case and one described in the paper to which this is annexed, there is every reason to believe that the disease must have begun in this case also after the commencement of pregnancy.

[Note.—I have alluded to two cases which have lately come under my care, and there are one or two particulars about them which may be worth noting. I was called to the last of these cases about a month ago, and I found a cauliflower excrescence about the size of a pigeon's egg growing from the os uteri, and giving rise to the usual symptoms—hemorrhage, watery discharge, &c. I was, however, struck by the severe pain felt in the course of the sciatic nerve and about the knee, and on careful examination I found a large tumour on the left side of the pelvic cavity in the situation of the nerves, both inferiorly at the sciatic notch, and superiorly at the groin; firmly adhering to the bony parietes, immovable, and causing the pain by pressure upon the nerves. The tumour was hard and insensible, except upon rough handling, quite unconnected with the uterus, and of long standing. The pulse was very quick, and the patient had somewhat of a cancerous aspect. Fearing that this tumour might be malignant, I declined for the present removing the cauliflower excrescence.

The other case, prior in point of time, is the one from whom I removed the excrescence and a portion of the cervix two months ago. The cervix is nearly healed, and she has menstruated twice since the operation. About a month ago she began to complain of a severe, but intermitting, pain in the left knee, which has since become constant, and extends from the hip to the ankle, preventing all sleep, and accompanied with a very rapid pulse, emaciation, &c. I carefully examined the pelvis internally and externally several times, without being able to detect any cause until a week ago, when I found a flat tumour (rather, indeed, a thickening of the natural textures than a defined tumour) at the sciatic notch, and extending upwards. It is increasing in size, and when pressed upon produces the pain in the hip and knee, so far explaining its origin very well.

I do not know whether such coincidences are common, but I have thought it right to direct attention to their occurrence in two cases within a short space of time, as being more than merely curious.—Ed.]

IV.—DR. CLARKE'S TWO CASES OF TUMOUR OF THE UTERUS.[1]

Till of late years, the diseases of the uterus, and its appendages, have been very little known, and even the present stock of knowledge upon this subject is more confined than that of the diseases of most other parts of the body.

The early stages of disease in these parts are generally passed over without examination, partly because the symptoms are slight, and partly because women (in this country at least) are unwilling to explain to medical men the disorders of the sexual organs. Besides, it has been but too common to prescribe for diseases of these parts, without making such examination as can alone throw light upon them; so that they have arrived often to a point at which no relief can be given, before their nature has been understood.

As increased bulk and discharges of blood or other fluids are common to many of the diseases of the uterus, it is desirable that these diseases should be distinguished from each other. The late Dr. William Hunter rendered, as I conceive, a great service to society, in pointing out the difference between scirrhus of the uterus and the enlargement of this organ from tumours of another kind, to which he gave the name of the fleshy tubercle.

The two cases which follow are new to me, and I have not seen any description of similar cases in any books which I have met with. I therefore lay them before the society, as making some addition to the stock of knowledge on diseases of the uterus.

Case I.—A. B., a married woman, about 25 years of age, had always before her marriage enjoyed good health, and menstruated regularly. About three or four years after her marriage, during which period she had never been pregnant, the discharge of the catamenia became more abundant, and lasted longer than formerly,

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[1] [Two Cases of Tumour of the Uterus. By John Clarke, M.D. Read December 6, 1808. (Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii., p. 298.)

The remarkable fact about the first of these cases is the rapid reproduction of "the process," which was removed, and which is not common in tumours of so solid a character. The size of the tumour or polypus was doubtless great, but others as large are on record; I myself have seen a polypus at least twelve or fourteen inches long, by five inches diameter in the widest part. And, as in Dr. Clarke's case, I found, at first, the abdomen apparently filled by several tumours, which disappeared as the polypus was protruded. I removed the whole mass, which grew from the anterior half of the cervix, but the patient sank exhausted.

The second case has many points of resemblance to the cauliflower excrescence in its growth and reproduction, in the watery discharge and hemorrhage to which it gives rise, and in its fatal termination from exhaustion. Whatever chance the patient may have from an operation in cauliflower excrescence, it is evident that in such a case as the present she would not have the slightest.

so that her constitution appeared to suffer, yet not enough to make her apply for medical assistance. Her attention to her situation was first excited by finding, as she lay in bed, a tumour on the left side of the abdomen as large as the head of a child at the time of birth. This increased in size without giving any pain, and put on very much the form of a gravid uterus. At this time an account of the case was drawn up, and transmitted to me from the country.

As it was impossible to form any accurate opinion of the case without seeing the patient, I proposed that she should be brought to town. In the meantime some new symptoms took place. The tumour continued to enlarge, so as to press upon the rectum and bladder, producing constipation of the bowels and suppression of urine. On examining the parts, in order to introduce the catheter, the surgeon in the country found a large, hard, and insensible tumour, projecting from the uterus into the vagina. From a notion that it might be of the nature of polypus, some ineffectual attempts to remove it were made; after which she came to London, where she was seen by me, and afterwards by Dr. Baillie in consultation.

At this time the uterus was nearly as large as at the termination of the sixth month of pregnancy, and from the os uteri, which was very high up, and with difficulty reached with the finger, a large tumour was found to project, spreading suddenly, and filling the cavity of the pelvis. From the lower and anterior part of it, a process, four or five inches long, protruded into the os externum, and projected externally, so as to be extremely troublesome, by irritating the surrounding parts. This process was altogether insensible to the touch.

It was thought advisable to remove the process by a ligature, close to the tumour from which it projected. This was done, and temporary relief was obtained; but in the course of a few weeks, a similar projection required a similar removal, and this became necessary at different times till her death, which happened at the end of the year 1807. The whole quantity removed, in the course of two years, was very considerable. At one time it was judged proper to attempt the removal of the whole of the tumour in the vagina; but, from the figure of it, a ligature could not be applied. At different periods in the course of the disease, pains resembling those of labour occurred, but they were not of long duration. The most urgent symptoms were the increased discharge of the catamenia, and occasionally considerable attacks of hemorrhage, in consequence of which she was gradually worn out. The discharge was sometimes very offensive; but this is common to all diseases of the uterus in which there is a tumour capable of preventing the entire evacuation of the menstrual fluid, or of any blood which may be effused from the vessels of the uterus. The body was not examined after death.

There seems to have been some affinity in this disease to the polypus of the uterus, but the size exceeded any tumour of that kind

which I ever saw or heard of; and I never knew any instance, in which such tumours formed projecting processes, like that which has been described in this case, and were regenerated in a similar manner, after removal by a ligature.

Case II.—In the year ——, I was desired to see an unmarried lady, about 35 years of age, who had suffered at various times from profuse menstrual discharges, and pain in the abdomen, particularly on the left side.

On examining the state of the os uteri, it appeared healthy; but the uterus was drawn up higher than usual, and was heavier than natural. On the left side of the abdomen, between the linea alba and the superior spinous process of the ilium, two distinct tumours could be felt. Of these, the largest was of about the size of two doubled fists of a moderately-sized man, the smallest was of about half the size of the other. At the time when I first saw her she was in violent pain, occasioned, as it appeared, by an inflamed state of the tumours, which were very tender to the touch. The pain was attended with a considerable degree of febrile heat, increased frequency of the pulse, whiteness of the tongue, and thirst. These symptoms were relieved by the application of leeches and fomentations, the use of the warm bath and opium, given by the mouth and in the form of clysters. The tumours, however, remained.

Generally, a little time before the appearance of the catamenia, there was a return of the above-mentioned symptoms, which were relieved by the use of similar remedies, and in the time which intervened between the paroxysms, she was able to walk about, and sometimes to take exercise in a carriage. In this way she continued for two years, during which period I seldom saw her.

When I was again desired to visit her, the symptoms of her disease were entirely changed. She had been frequently attacked with profuse hemorrhage from the uterus, and had scarcely ever been free, for several months, from an offensive discharge from the vagina. On pressing the abdomen, I could not find the two distinct tumours which were there before; but instead of them I felt a large tumour, evidently of the uterus, reaching nearly to the pit of the stomach, and in the feel exactly resembling the tumour of pregnancy. On examining the vagina, I perceived that it was filled with a soft spongy tumour, issuing from the os uteri, very tender in its consistence, and admitting very readily of separation of its parts. She was sinking rapidly from the discharge of a bloody water, mixed occasionally with coagulated blood in large quantity, so that it was thought advisable to attempt to make a ligature on that part of it which was in the vagina. This was done, and a large quantity, as much as would fill a pint measure, was brought away. The discharge lessened for a short time, but a fresh quantity of a similar excrescence in a few days projected from the os uteri, and again filled the vagina. No advantage seemed to have arisen from the first ligature, it was there-

fore not repeated. Several large masses sloughed away spontaneously, from time to time, till at length she was exhausted by the profuse discharges which took place, and died.

Leave was obtained to inspect the body, and the parts involved in the disease were removed, for the purpose of more accurately examining them.

The uterus, externally, had every appearance which a uterus has at the end of the seventh month of pregnancy. Near its fundus, at the anterior part, were situated two small tumours of about the size of a wren's egg, of the nature of the fleshy tubercle. On cutting into its cavity, its substance appeared to be of a thickness equal to that of a gravid uterus. From about two-thirds of its internal surface grew a substance similar to that above described, soft, but fibrous. The direction of the fibres was towards the os uteri, but the parts were easily separable from each other in all directions.

There did not appear to be any orifices of vessels in the sound parts of the sides of the cavity, so that the discharge came from the spongy excrescence, and not from the uterus itself. A portion of the excrescence, and one also of the uterus, are preserved in my collection.

A very remarkable circumstance in this case deserves to be noted, which is, that the tumours which I discovered in my first examination were not to be found on inspecting the body after death, unless the two small tumours near the fundus of the uterus were the remains of them, the rest of them having been absorbed.

This is to me quite a new occurrence, and was not to be expected, because they had all the feeling of solidity, and gave to the hand, applied on the abdomen, the same impression as the common fleshy tubercle.

The patient through the course of the disease was attended by Sir Walter Farquhar, Mr. Chilver, and myself, and the parts were examined in our presence.

V.—DR. DENMAN'S ACCOUNT OF AN EXCRESCENCE FROM THE WOMB.[1]

In the year 1793, a lady, upwards of 30 years of age, who had borne many children, and was lately become a widow, had irregular returns of the menses. These, in a short time, became profuse, and were accompanied with slight pains, like those which attend the commencement of labour. For this disorder she had consulted many physicians, and taken a great variety of medicines, but without any other benefit than what was merely temporary.

In the year 1802 she applied to Dr. Baillie, who discovered a polypus in the vagina. I was soon afterwards desired to visit her, and finding the polypus of that kind and in such a situation that it could be tied, a ligature was passed over it, on the 4th of December in the same year. The ligature came away on the 12th, and a tumour of a considerable size and pyriform shape was removed, not a vestige of it remaining in the vagina. The os uteri closed, and was in a perfectly healthy state; every kind of discharge ceased, and she returned into the country in good spirits, and apparently in good health.

In February, 1803, she was much troubled with the hemorrhoids, from which she was relieved by the occasional application of one or more leeches, and by other common means used for that disorder.

After a few months, the discharges which had before accompanied the tumour returned; and in the latter part of this year Mr. Croft passed a ligature round the stem of another polypus, of about the same size with the former; but it did not come away till the twelfth or fourteenth day after. This operation succeeded as happily as the former, and she soon returned again into the country free from complaint.

In a short time the hemorrhoids were again very troublesome, and she was relieved by the means formerly used; but it was not long before the discharges from the vagina returned. Then was first observed a circumscribed tumour, arising out of the pelvis. This was supposed to be the uterus, distended by a mass of excrescence contained in its cavity, a portion only of which had descended into the vagina. On this presumption, though a tumour could be distinctly felt in the vagina, and was in a state admitting of an operation, this was deferred till November 4, 1804, when the discharges

[1] [An Account of an Excrescence from the Womb, attended with uncommon circumstances. By Thomas Denman, M.D. Read July 4, 1809. (Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, vol. iii., p. 308.

This case possesses considerable interest when compared with the preceding ones of Dr. Clarke, to which it possesses a degree of similarity. It confirms the fact, that firm polypous tumours may be endowed with great power of reproduction; and proves an exception to the rule laid down, that after the removal of the main portion of a polypus, the stalk sloughs or withers away.—Ed.]

being very profuse, though the tumour occasioned by the enlarged uterus was not diminished, I again passed the ligature. This tumour was of a softer texture than those before removed, and came away on the fourth day. From this time the os uteri was never perfectly closed, nor was the patient ever afterwards clear of some kind of uterine discharge.

Early in 1805, there was reason to believe that another polypus was descending, and though this was soon perceptible in the vagina, it was again thought eligible to defer the operation, that the whole of the excrescence supposed to exist in the uterus might be excluded, and come within the reach of a ligature. But after twelve months, without there being any reason to think the tumour of the uterus was lessened, the ligature was again passed in September, 1805. The excrescence was removed after a few days, as in the former instances; but the benefit obtained was of short duration.

The swelling above the pubes being now suspected to be an enlargement of the uterus from disease, she was put upon a course of small doses of calomel, and precipitated sulphur of antimony, and drank a pint of the decoction of sarsaparilla daily for upwards of a month, but without any lessening of the tumour or abatement of the discharge. I forbear to mention the other modes of treatment which were at different times enjoined, because they were either not productive of any apparent benefit, or were merely intended to relieve some urgent or troublesome symptom.

A considerable portion of excrescence was again soon perceived in the vagina. The os uteri seemed to be free from disease; but it was now so much dilated at all times, that I could readily discover the root of the excrescence, and ascertain that all the substances which had been taken away had originated in the same precise part.

After every operation, so long as the patient was sensible of benefit, though of ever so short a continuance, she entertained hopes of a perfect recovery; but she now began to perceive her health affected, to be apprehensive, and often talked of the probably fatal event of the disease.

In March, 1806, I endeavoured to pass the ligature, but did not succeed till after the third attempt. The present tumour was larger than any of the former, and consisted of two large fleshy leaves, of the form of a human kidney, both shooting from the same stem; but every part within reach was clearly removed, the ligature having been fixed within the cavity of the uterus, upon the very root of the excrescence.

Having failed to pass the ligature in my first attempts in this and other instances, it seems right to take notice of the cause.

The excrescences varied in their texture and form each time, especially after the third operation. When the surface became unequal, the ligature often hitched upon the inequalities. This embarrassed me, and occasioned so much fatigue to the patient, that I was sometimes obliged to desist. Latterly there was a great disposition to

hemorrhage, and whenever this was brought on by accidentally rubbing the surface of the substance, I judged it proper to stop, and to wait till the opened vessels had time to close. The stem of the polypus was enlarged after the later operations, so that, though the ligature was passed close to the root, it was apt to slide down in the act of tying. If at any time I did not fix the ligature completely to my satisfaction, it was always removed immediately.

In April, 1807, after several vain attempts to pass the ligature both by myself and Mr. Croft, who had assisted me on all these occasions, it was at length properly fixed, and did not come away till the ninth day. A large quantity of excrescence followed; but the benefit the poor patient received lasted a very short time. The discharge, which was of a sanious kind, was not only profuse, but offensive in its smell. The tumour above the pubes was also much enlarged.

Before the end of that year the vagina was again filled with excrescence, unequal in its surface, and of a more spongy texture than usual. My hopes of the ultimate recovery of this patient were very little; but being anxious to prolong the life of a person of the utmost consequence to her family, I attempted again, in June, 1808, to pass a ligature, and succeeded. The discharge was lessened for a short time; but the vagina was again soon filled with excrescence.

In February and in May, 1809, two fruitless attempts were made to pass the ligature. Mr. Croft and myself then agreed to fix a small pair of denticulated forceps, not unlike those used in lithotomy, firmly on the stem, with the intention of occasioning the whole to decay, and of destroying, if it were possible, the regenerative power. But while we were preparing for this, the patient, after passing the day (June the 3d), without any unusual complaint, went to bed in good spirits, but was found the next morning in a state of insensibility, with stertor. In this state she remained about twenty-four hours, and then expired.

Leave was given to inspect the body, which she indeed had often expressed a wish might be done.

The head was the part first examined. Nothing particular was observed about the membranes or surface of the brain; but in the ventricles were found about four ounces of blood, separated into coagula and serum. This extravasation was clearly the immediate cause of her death, little as it might have been expected, on account of the daily profuse discharge to which she had for so many years been subject.

It had often been remarked, that although this patient was become much paler than she had formerly been, she was not comparatively thin in her person; and many who visited her could hardly be convinced that she laboured under any dangerous disease.

All the contents of the cavity of the abdomen appeared to be in a perfectly healthy state, except the uterus, which was enlarged to about the size of that of a woman in the fifth month of pregnancy. This part being the principal object of our examination, great attention was paid to it, and the following morbid changes were observed:

On the external surface were three or four protuberances, which, to the eye and touch, seemed like distinct abscesses; but on cutting into the most prominent of these, it proved to be nothing but a swell or knob, projecting from the uterus, without any cavity. Neither the fallopian tubes nor the ovaria were diseased, or in any way affected.

On laying open the uterus, a large thick and firm substance was found, springing from its fundus and the whole of its posterior surface, as if it were an elongation of the substance of the uterus.

The tumour was detached from the anterior part of the uterus on the left side; but on the right it adhered almost wholly, till it arrived near the cervix. Yet the line of adhesion remained so distinct as to show that it was not original. On the surface of the tumour were two or three papillæ of different sizes, though they were all small. But the extremity, from which the excrescences which had been removed had grown, terminated abruptly, just within the os uteri.

Though the ligature had in most of the later operations been fixed close to the lower root or adhesion on the right side, it could not have been carried higher on the left; of course a considerable portion of this substance remained untouched after every operation. In none of the instances were there any such symptoms as indicated injury to the uterus, when the ligature was passed, though, when it was first drawn tight, the patient complained of some uneasiness about the navel.

The substance of the uterus was rather of a firmer texture than ordinary, and near the fundus it was several times thicker than usual, gradually becoming thinner as it approached the os uteri, which having been so much and so long extended, was nearly obliterated, the cavity of the uterus being uniform with that of the vagina, as always happens when a child is passing through the os uteri at the time of birth.

With regard to the practical advantages to be derived from the foregoing history, it is to be lamented that we have not yet acquired any accurate account of the symptoms which attend the commencement of a polypus. In this case, those which occurred before there was any suspicion of a polypus are plainly described, and it is not improbable but that this is the common process. If this be confirmed by future observation, and were generally known, some errors in practice, and particularly in forming a prognosis, might be avoided.

There is another practical remark to be made on this case. A single polypus, growing in the cavity of the uterus by a small pedicle, and projecting into the vagina, may be completely and readily taken away by a ligature, and the uterus left as capable of performing its proper functions as if no such thing had ever existed. Such the polypus seemed to be in this case, when it was first discovered, yet the event was different. It may then be asked, whether it is possible to tell, by any circumstances, when a polypus is of an inno-

cuous kind, or when future mischief is to be apprehended? To this it may be answered, that the most favourable kind is that which is of a pyramidal form, with a smooth surface and a small pedicle. The most disturbing symptoms should also cease when the polypus has passed into the vagina; but when the form is irregular, the surface ragged, and the pedicle thick, something is always to be feared; and when, after the removal of the first polypus, there is a succession of them, there is great reason to dread some organic disease in the uterus. In practice, however, it will perhaps be always justifiable to use our endeavours to extirpate every kind of excrescence of this sort. But there is another kind of excrescence with which we cannot interfere, without increasing the misery of the patient, and eventually shortening her life; that is, when a large cauliflower excrescence springs from the os or cervix uteri, with which it is so incorporated that it is not possible to say where the original part ends and where disease begins.

There are wanting many distinctions of the various diseases the uterus is liable to, which, if not curable, are all classed under the general term "cancer." Yet cancer seems a specific disease, of which the definitions hitherto given are very imperfect, and resembling diseases may require very different modes of treatment. The disease just described cannot properly be called cancer, though, if the patient had not been carried off by the extravasation of blood in the brain, it would have been, in all probability, equally fatal in its termination. Our knowledge of uterine diseases is certainly yet in its infancy; but from the general spirit of medical inquiry now prevalent, and from the abilities of those who apply themselves to this branch of the profession, there is room to hope that the means of preventing many afflicting evils to the female sex may be discovered.

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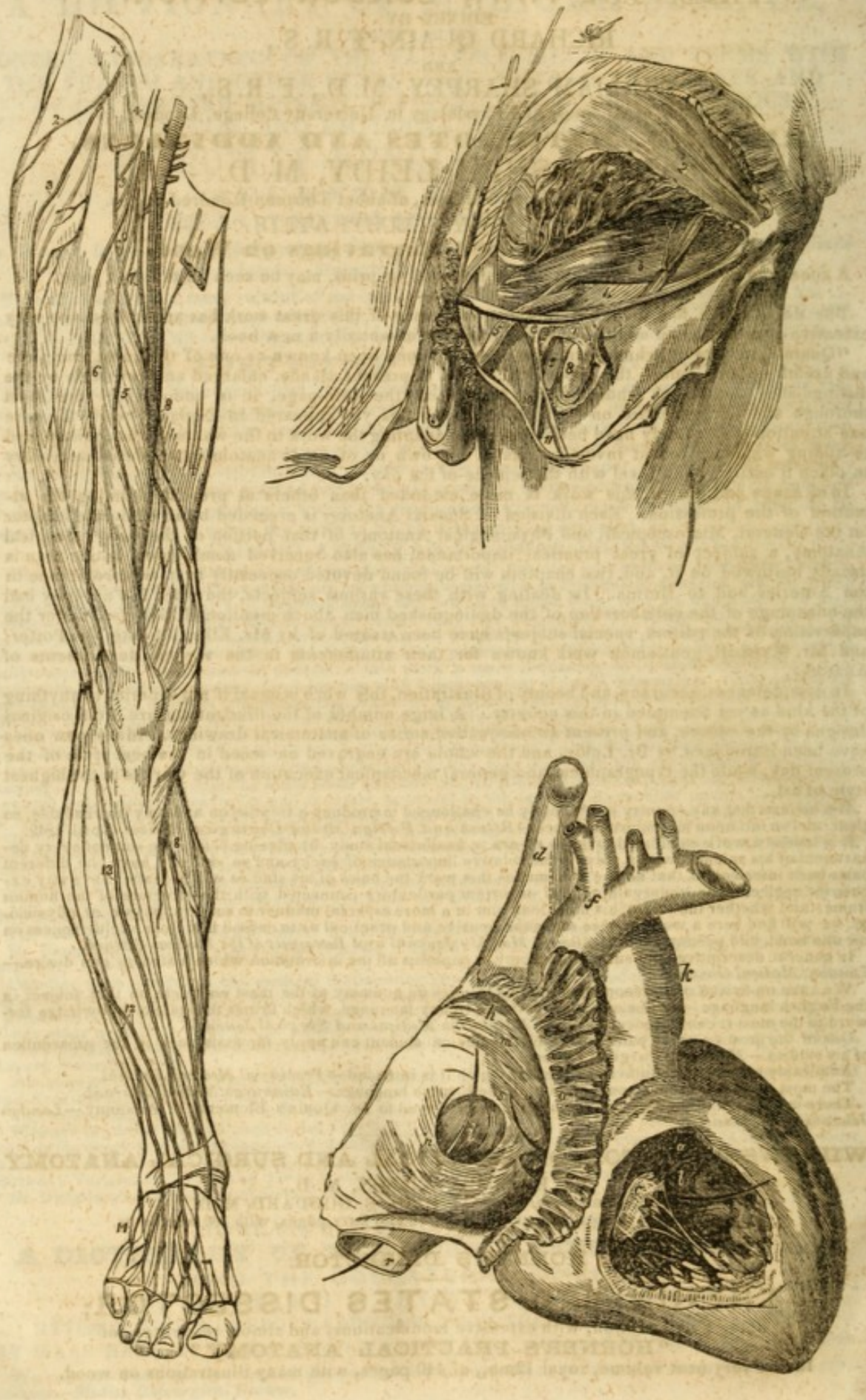
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