

lity in that organ, seems countenanced by the not unfrequent occurrence of hepatic inflammation, cholera, and bilious diarrhoea, about the same time, as well as by the occasional simultaneous affection of other organs, particularly the brain, just as in ordinary cases of fever; but from the almost invariable affection of the stomach, and from its occasionally being the only organ primarily and prominently affected in some of the worst cases of the disease, it would appear that there was something in the nature of the febrile cause peculiarly hostile and destructive to this organ.

(To be continued.)

**ART. III.—Cases of Intermittent Fever in which bleeding was employed in the Cold Stage, with Pathological Observations.** By JOHN MACKINTOSH, M. D., F. R. College of Surgeons, Acting Surgeon to the Ordnance in North Britain, Physician to the General Dispensary Brown's Square, and Lecturer on the Practice of Physic, &c. in Edinburgh.

THE progress of medicine has been greatly retarded by the conduct of those who have attempted to explain too much. Instead of seizing on the principal phenomena of a disease, and following these, they have employed all their talents in endeavouring to discover the occult causes. In intermittent fever they have exerted all their ingenuity in tracing the cause of the rigors, while they have thrown no light whatever upon the nature and seat of the disease.

It is not the exact object of this paper to attempt any refutation of the doctrine of Cullen, respecting "debility, diminished energy of the brain, and spasm of the extreme vessels," as the proximate cause of the cold stage; or that of Mason Good, who appears to attribute it to "debility and a diminished supply of sensorial fluid." It appears to me that the crude mechanical notion of Hippocrates stands upon quite as good a foundation. He thought that a quantity of air got into the vessels of the surface of the body, and drove the blood before it to the centre, and thus produced the cold stage.

Before we shall be entitled to receive the doctrines either of Cullen or Good into the medical evidence of the case, we must be more intimately acquainted, not only with the anatomy and physiology of the brain and nervous system, and with the structure of the extreme capillary branches, but also with the great principle of life itself,—upon all which points we are as yet unfortunately profoundly ignorant.

I shall now proceed to give a sketch of the symptoms in the first stage of intermittents, as they generally appear, and then shortly offer my opinion, respecting the pathological condition of the body on which these symptoms depend.

For some little time before the paroxysm begins, the patient complains of lassitude and debility, (but which is not actual weakness, but oppression,) with diminished circulation on the surface of the body, more particularly in the extremities; they are benumbed and feel cold; the sense of cold becomes universal, and a shivering takes place. The body soon becomes affected with universal tremors. There is great prostration of strength, confusion of mind, sometimes delirium, anxious and quick breathing, the patient being unable to take in a deep inspiration, and oppression at the praecordia; and the pulse, which is sometimes quick, at others slow, is often irregular, but always oppressed.

It is rare, avowedly, that complete coma, apoplexy, or convulsions take place; but that these do occur, the records of medicine fully prove; and I have seen more than one person die in the cold stage. The convulsive tremors are not under the control of the will, and if I can trust my own sensations, they affect internal as well as external muscles.

I attribute all these symptoms to congestion in internal organs. I imagine no one who has seen this disease will deny that there is sufficient evidence of the balance of the circulation being upset, and that an irregular determination of blood takes place. It appears to have quitted the surface, by the coldness and shrinking of the extremities. It is forced upon internal organs to a serious extent, impeding their functions.

Thus the convulsive tremors, confusion of mind, and pain in the head, are produced by congestion of the brain and spinal marrow.

The difficulty of breathing is owing principally to venous engorgement of the lungs, and the overloaded state of the right side of the heart. The spleen, liver, and mesenteric vessels, also suffer from congestion, and frequent attacks lead to structural derangements of these viscera. These pathological conclusions are fully established, by comparing the symptoms with the morbid appearances found in the examination of the bodies of those who have expired in the cold stages, and are corroborated in a remarkable manner, by the good effects of opening a vein, when all the symptoms give way in an instant. I have seen men in the most severe sufferings, relieved after the abstraction of 6, 8, and 10 ounces of blood. I have known 3 ounces suffice, and on one or two occasions only I had to bleed to the extent of two pounds. The relief, which is the most perfect relief that can well be conceived, is so sudden, when a good

orifice can be made, that it has surprised and delighted every one who has seen my practice. I shall never forget the pleasure which was expressed by my excellent friend Dr Kellie, who is well known to the professional world, when he first saw the practice carried into execution in my hospital. Before proceeding further, I may shortly mention the appearances which I have seen on opening the bodies of a few men who expired in the cold stage.

An immense quantity of black blood was found in the vessels of the head, the lungs, the heart, and large vessels near it, the liver, spleen, and mesenteric vessels. The spleen, (according to Sir John Pringle, and some of the older writers,) has sometimes been found ruptured from over-distension. So great a quantity of blood have I seen in such cases in the lungs, that large sections of them sank in water. These portions, when washed and deprived of blood by pressure, regained their natural appearance and buoyancy. The liver, when washed and squeezed, will also regain its natural colour.

This pathological condition of organs has been denominated "congestion." It simply implies, that the balance between the arterial and venous systems is lost for the time, the latter being overloaded or congested, and not that the circulation in any organ, or set of organs, is entirely obstructed. This indeed does happen in those extreme cases, in which reaction does not take place, and the individuals die in the cold stage.

From the time of Celsus, an idea has prevailed that death would be the inevitable consequence of bleeding in the cold stage. The late Dr Gregory used to make this assertion in his lectures, and, to give it more weight, he quoted the expression of Celsus, "hominem jugulare." Other lecturers on the practice of physic make similar statements. It would be curious and interesting to know, whether they have ever seen this melancholy consequence of bleeding in the cold stage; or whether they have been led to suppose it would be produced, assuming, as Cullen did, that the paroxysm is produced by debility, want of energy of the brain, and spasm of the mouths of the extreme vessels.

After numerous observations, made with the utmost anxiety to discover truth, and from the sensations I experienced during a protracted intermittent in a marshy country, I submitted myself to the experiment, in the first instance, disregarding altogether the force of authority upon this subject. Bark and all the usual remedies had failed, and my health was materially injured. A vein was opened in the arm, and before 12 ounces were abstracted, the rigors ceased, and all its unpleasant accompaniments; there was no hot stage, no sweating stage; a ple-

sant sense of heat succeeded the painful one of cold, and instead of weakness, I was sensible of an acquisition of strength. Afterwards I bled many other individuals, and always with the same results. This was done so long ago as the year 1810; but as I cannot appeal, at this distance of time, to living witnesses, I shall confine the statement I am now to make to the cases of intermittents which have occurred to me within these few years, and which have been seen by many witnesses who were well qualified to judge, from their experience, and standing in the profession, and also by many of my pupils.

Case I.—James Ward—admitted into Royal Ordnance Hospital in November 1823.

Has suffered several attacks of intermittent annually, since the year 1809, when he served in the expedition to Walcheren. Of late his indispositions were long, and left him more and more debilitated. Several of my pupils watched this man closely every third day, for a number of attacks, with a view to bleed him in the cold stage, but they were not fortunate enough to arrive in time; they bled him twice, however, in the hot fit, from the severity of the symptoms, and with considerable temporary relief, but without preventing or mitigating the violence of the subsequent paroxysms. Some time afterwards, in the presence of Drs Lucas and Robinson, two of my pupils, I bled him from a vein in the arm, during the cold stage; it was very severe; the rigors were violent, and the sense of coldness insupportable. He complained much of his head and loins, his face was of a livid colour, and the vessels of the conjunctiva turgid with blood. Pulse 100 or 105, and oppressed, breathing short and anxious, and, to use his own expression, he felt “a heavy load about his heart.” When the vein was opened, the blood trickled slowly from the wound, but it soon came in a jet. By the time 8 ounces were taken, the rigors ceased, and he expressed great surprise at the suddenness of the relief; when 12 ounces were abstracted, he was free from all complaint, and his skin had a comfortable moist feel. He enjoyed a good night; he had no return of the intermittent; and his recovery was rapid.

I had an opportunity of seeing this man daily for some months afterwards, and his constant tale was, that he had not felt so well, or so much of a man since he went to Walcheren. The only remedies he took after the bleeding, were laxatives and infusion of quassia.

Case II.—James Atkinson, aged 33, had had repeated attacks of ague. Was seized with severe rigors when on the top of the Carlisle mail, travelling to Edinburgh. The paroxysm was evidently produced by exposure in bad weather, first to rain, and then to a keen frost, with wet clothes. When I visited him in hospital, he had laboured under the rigors for no less a period than twenty-six hours,—in truth, it was the most severe cold stage I had ever seen in any country. He had severe pain in the head, back, and loins; oppres-

sion at praecordia. Warm drinks and stimulants, and hot applications had been employed without benefit. The agitation of his body was so great, that it shook the very bedstead on which he lay, and threatened to terminate in convulsions. Tongue loaded, but moist ; breathing hurried and laborious ; pulse 65, oppressed ; skin not below the natural standard over the trunk, but all his extremities were cold, and he complained of a sensation of extreme cold. Fortunately, I made a good orifice, which is not always easily done from the tremors, and the blood flowed in a better stream than I had ever seen it in the cold stage ; 12 ounces were abstracted in three minutes, with very trifling relief, except to his breathing ; but during the flow of the second pound, he became more and more easy, and the rigor ceased completely. This pound was abstracted in two minutes ; the arm was tied up on the approach of syncope, from which, however, he soon recovered. He lay quite easy ; his body, and even the extremities, became of a proper temperature ; and his skin felt moist ; his pulse rose from 65 to 106 ; he passed a good night ; had several stools during the next twenty-four hours ; was found perfectly easy next day. On the following day he was convalescent, looked well, and asked for more food, and had no return of the disease.

**Case III.**—Thomas Bullock, a strong healthy young man, reports that he had had the disease in the tertian form for twelve days. Attributes the attack to exposure to cold when on sentry in the arsenal at Woolwich. He was in the sweating stage when brought into the hospital on the 4th March 1826.

*Habebat statim pulverem laxantem.* Fever diet.

6th.—Had a severe rigor, followed by intense reaction ; was found sweating at the hour of visit ; no stool.

*Repetatur pulvis laxans.*

8th.—Cold fit came on at three a. m. After it had continued half an hour and was well formed, his pulse beating 84 and oppressed, a vein was opened in the arm by Mr Marshall, (one of my most zealous pupils, now assistant-surgeon of the 87th Regiment,) in the presence of several other gentlemen. When 15 ounces of blood were abstracted the rigor ceased ; the pain of head and loins, and the oppression at praecordia vanished ; the breathing became natural ; the pulse rose to 95 ; in half an hour after the operation, said he felt quite well ; there was no hot fit ; a very gentle moisture was on the surface, but there was no sweating stage ; pulse 95.

10th.—Says he feels quite well, and free from that anxiety and oppression which has affected him from the time he caught cold at Woolwich ; is able to be out of bed and dressed ; appetite improved. He escaped any attack for eight days.

18th.—Was attacked with rigors a quarter of an hour before the visit. He is now in a severe well-formed cold fit ; breathing hurried and laborious ; the whole body is in a tremor ; is rather heated ; passed a bad night ; pulse 120, oppressed. Attributes this paroxysm to cold when in the privy. A vein was opened in the arm, and 14 ounces of blood was abstracted before the fit was sub-

dued; there was no tendency to syncope; pulse 110, full, and of good strength.

*Repetatur pulvis laxans.* No hot stage; no sweating stage followed.

19th.—Yesterday, for some time after the bleeding, he appeared free from all complaint; but towards evening he was attacked with a violent headache and pain in the belly. Blood was again taken from the same orifice, to the amount of 12 ounces, with complete relief, since which he has been easy and slept well; bowels slow.

*Repetatur pulvis laxans.*

20th.—Slight chill this morning, which appeared to be cut short by a warm drink; no fever followed; passed a good night; bowels not moved.

*Sumat. solut. sulph. magnes. statim.*

22d.—Had a slight sensation of cold this morning, but there was no hot stage; says he feels quite well; bowels slow.

*Repetatur pulvis laxans.*

23d, 24th and 25th.—Report states that he went on improving.

26th.—Says he does not feel so well; but there has been no tendency to rigor; bowels bound.

*Habent statim sulph. magnesiae 3ss.*

31st.—He went on improving in health, and without any return of the disease till this day. He was found at the time of visit in the hot stage, which is scarcely perceptible, after having experienced a slight rigor, which lasted for twenty minutes; tongue white and loaded.

*Repetatur pulvis laxans.*

April 2d.—Had a severe rigor at 10 A. M. which was followed by fever and the sweating stage; at 2 P. M. he was found quite free from complaint.

His health went on improving gradually till the 25th, when he was discharged the hospital cured.

The same individual reported himself sick on 30th May following, and was taken into hospital, after a severe paroxysm of intermittent; states that, since his discharge, his health had been very good and his strength increasing, and that he has had three slight rigors; his appearance is much improved.

31st.—Says he expects the paroxysm to-morrow morning at nine o'clock; bowels regular; appetite good.

He was ordered to take three grains of sulphate of quinine every half-hour, commencing three hours before the expected time of attack.

June 1st.—He took six doses of the quinine; escaped the paroxysm; had no return afterwards, and was discharged on the 4th.

Case IV.—Robert Smith, a stout man, whose health had formerly suffered from a residence in a warm climate, states, that he had had an intermittent fever five years ago when stationed at Woolwich, but has not had a return of the disease till now; was taken into hospital on 7th March 1826, labouring under febrile action, which he said came

on after a severe rigor; the fever continued with disturbed sleep till the 13th day, with little variation. He was then seized with a severe rigor, attended by sensations more than usually distressing; above all he complained acutely of his head. He was bled during the cold stage to twelve ounces, when the tremors and the other symptoms ceased all at once; he soon after fell into a profound sleep, his skin having a gentle moisture; there was no hot stage.

14th.—Slept well, and feels free from all complaint.

15th.—Slight chill, but no subsequent pyrexia; no appetite; bowels freely moved by a dose of salts; tongue loaded; pulse natural.

16th.—Had a cold sweat during the night; no return of paroxysm; says he feels better, and has some appetite; pulse natural; tongue less loaded.

17th and 18th.—Improving; half diet.

19th.—Had another cold perspiration in the night, but says he feels well; bowels rather slow.

*Habeat statim pulverem laxantem.*

20th.—Complained of severe headache yesterday afternoon, attended with some febrile action; says he is now better; appetite improving.

21st.—Slight chill, which continued for nearly an hour, attended with griping; but no febrile action followed; bowels regular.

22d.—Had a severe rigor this morning, attended with difficulty of breathing, oppression at praecordia; pain in back and loins, and severe pain in the head. At the visit was found in the hot stage, complaining much of headache; tongue loaded; pulse 130; bowels open; cold water to be applied to the head.

23d.—The headache has continued violently since the commencement of the cold fit yesterday; cold applications produced temporary relief only.

*Applicentur hirudines xii. capiti. Habeat pulverem laxantem statim.*

24th.—Leeches relieved the head; had another paroxysm this morning.

*Repetatur pulvis laxans, c. m.*

25th.—Passed a bad night; no headache.

*Habeat Tinct. opii. gtt. xxx. h. s.*

26th, 27th, 28th.—Same report, "doing well;" bowels regular.

29th.—Says he feels pretty well, but that he has occasional headaches.

30th and 31st.—Had slight paroxysm each day, with some headache; pulse not higher than 96.

April 1st.—Another paroxysm with severe headache after a bad restless night.

*Capillito abraso applicentur hirudines xx. Repetatur pulvis laxans.*

2d.—Experienced another paroxysm at half-past nine this morning; still complains, although he is perspiring, of oppression at praecordia, difficulty in inflating the lungs, and headache; had a

restless night ; sixteen of the leeches only fastened ; they bled well, relieving his head for the time.

*Applicentur hirudines xii. capiti, et repetatur pulvis laxans.*  
Feels better ; no paroxysm ; had a bad night, during the whole of which the perspiration continued ; leeches bled well, and relieved the head completely.

*Repetatur pulvis laxans.*

From this time to the 8th he gradually improved, having had, however, a slight paroxysm on the 4th, 6th, and 8th. Next day he began the use of the quinine in five grain doses, and suffered no return. He took in all 116 grains, and he was discharged cured on 24th.

**Case V.**—William Macauley was admitted into the Royal Ordnance Hospital on Wednesday 31st May, labouring under a severe hot fit, attended with the usual symptoms, great headache, severe pain in the back, loins, and limbs ; great oppression of praecordia, extreme heat, thirst, and general uneasiness. This stage lasted for five hours before perspiration appeared.

This was the second paroxysm with a day intervening ; tongue loaded ; pulse hurried.

*Habeat cras mane pulverem laxantem.*

June 1st.—Had no sleep during the night, but feels pretty well to-day ; two stools.

*Repetat. cras mane pulvis laxans.*

2d.—Had a severe cold stage at 2 P. M. which lasted till 4. He was visited at 5 P. M. when he was in the hot fit, suffering from all the symptoms formerly described.

3d.—The succeeding stage did not appear last evening till 8 o'clock. Has had no sleep ; two stools ; tongue clean.

4th.—The paroxysm took place at 1 o'clock P. M. this day ; about 12 o'clock the pulse was counted, and was found to beat 84, and oppressed ; the precursory symptoms had just commenced ; at half-past 12 the pulse was 66, and still more oppressed. This rigor was very severe ; the tremors of his body shook the bed, and his sense of cold was unsupportable, at the time that a thermometer placed under the tongue stood at 100. He complained of great oppression ; pain of back and loins ; respiration difficult and hurried. The rigor was allowed to be formed for 10 or 12 minutes before a vein was opened, which was effected with difficulty, owing to the tremors. He bled from a small orifice until 24 ounces were drawn, which occupied 16 minutes, when the rigor ceased, and all its unpleasant symptoms.

*Repetatur cras mane pulvis laxans.*

June 5th.—Last evening he began to complain of a severe pain in the back and head, with thirst. Heat 105 ; pulse 115, but soft. Relief soon followed the exhibition of 40 drops of laudanum in an ounce of the spirit of mindererus ; passed a good night with much perspiration ; says he felt quite easy to-day ; much easier than he has been at any time since the first paroxysm ; bowels slow.

*Habeat statim pulverem laxantem.*

Had attacks of a slight nature on the 6th, 8th, 10th, 12th,

14th, and the following report was made on the 15th. Health evidently improving; sleeps well; bowels regular; tongue clean and moist; thirst diminished.

16th.—Had a severe rigor at 11 A. M. It was of very short duration. Considerable reaction followed. Had two slight paroxysms on the 18th and 19th; and on the 20th he was ordered to take five doses of the quinine; each dose to consist of four grains; after which he had no return of the disease."

*Case VI.*—Alexander Clark, a stout well-made young man, with a florid complexion.

Had three attacks of tertian intermittent before he reported himself sick; came into hospital on 21st May 1826 with the fourth paroxysm upon him. He was attacked at 7 A. M. with rigors, and the fit was very severe. The hot stage had given way to the sweating when I saw him. He could assign no cause except that he had done duty at Woolwich a few months before. Tongue foul; fever diet.

*Habebat statim pulverem laxantem.*

23d.—Was free from complaint yesterday; had six stools from the laxative. The rigor came on this morning at half-past six, and went through the regular stages with the usual distressing symptoms. Tongue much loaded; B. regular; no appetite; urine scanty.

*Repetatur cras mane pulvis laxans, et Sumat ter in die iufusi quassiae 3ii.*

He experienced severe paroxysms on the 24th and 26th, attended with头痛 and a severe pain in right hypochondrium.

28th.—Rigor came on at 11 A. M. Five minutes after it was well formed, a vein was opened, but the operation was badly performed owing to the violent tremors; 20 ounces of blood were slowly drawn, when the rigor ceased, together with the tremors, the difficulty of breathing, the oppression at praecordia, and the headache, &c. The painful sense of cold gave way all at once to a pleasant feeling of heat, and the pulse became natural. The bleeding was not carried the length of producing syncope. There was no hot stage, and the skin was covered with a gentle moisture. In half an hour his only complaint was of slight nausea; he is able to change his position at pleasure, and feels disposed to sleep.

29th.—Had considerable heat of skin and thirst yesterday evening, which he attributed to the pressure of too many bed-clothes; the blankets not having been removed which he had caused to be heaped upon himself on the approach of the cold stage. Slept well during the night; feels quite easy; no stool.

*Injiciatur statim enema purgans. Capiat cras mane pulvis Rheii gr. viij.*

30th.—Had an exceedingly slight paroxysm at noon; slept well last night; no appetite; had five evacuations from the bowels.

*Capiat infusi quassiae 3ij. ter in die.*

31st.—Had another slight chill this afternoon, but there was no rigor or hot stage—complains of pain in left hypochondrium. Passed

a good night ; B. regular ; considerable thirst ; tongue still foul ; pulse 100, very full, but soft.

*Imponatur vesicatorium parti dolenti.*

His general health and appearance improved especially after this period, but he continued to experience daily slight attacks till the 7th June, when he got, thrice a-day, five grain doses of the quinine.

June 8th.—Took the quinine at eleven, at one, and three o'clock, nevertheless, he had a paroxysm at a quarter past three, which he is disposed to attribute to exposure when asleep between two open windows ; high excitement followed the rigor, which terminated in the sweating stage.

He continued to take the quinine on the 9th and 10th, and had no return of the disease. He regained his health and strength rapidly, and was discharged on the 17th June.

Dr Kellie of Leith was present when Clark and Macauley were bled ; so were several gentlemen who were attending my lectures at the time.

Case VII.—Mr Marshall, assistant-surgeon of the 87th Regiment, whose name I have had occasion to mention before, when on a visit to his friends in the west of Scotland, was called to see a middle-aged man who had served in the army in a warm climate, and who had suffered most severely for some years from intermittent fever. Every kind of remedy had been tried in vain, and he gladly submitted to the treatment of bleeding in the cold stage, which Mr Marshall had seen so successfully performed in similar cases. "On the 6th July 1826," says Mr Marshall, "I was asked to visit this man for the first time. Previous to my going, I informed Mr Staff-Surgeon Marshall (senior) of the nature of the case, in as far as I was enabled from the history given by his relations. Mr M. recommended a grain of opium to be given every hour for three hours previous to the attack. The shivering commenced regularly about six in the evening. The opium was given at 3, 4, and 5 o'clock, p. m. with no relief, 8th—Opium continued as directed ; no relief ; bowels opened by rhubarb, 10th—No relief from the opium. 12th—The cold fit is very severe ; the feet cold ; heat of the superior extremities rather above the natural standard and moist ; pulse very small, not easily perceived ; pain of head excessive ; great thirst ; pain in back considerable ; complains of distressing sense of weight at the praecordia. He solicited me to do something for him, as he could not long endure the sense of cold. I opened a vein in the arm by a pretty large orifice. At first the blood trickled down the arm, but shortly came in a full stream. When 10 ounces of blood had flowed the shivering ceased, and all the bad symptoms vanished. Half an hour after the bleeding, says he is quite well. On the 14th, 15th, 18th, no return of fever." He declared he felt quite well ; and Mr Marshall assured me that he had had no return of the complaint when he last visited him, which was several months after the bleeding. Indeed Mr Marshall mentioned to me that the cure seemed to be as sudden, and apparently as permanent, as that which took place in Ward's case, the first recorded in this paper.

**Case VIII.**—A. B., aged 36, a native of Eyemouth, was seized with an intermittent of the quartan type when in Lincolnshire in August last. He had used various remedies, and among the rest bark, without relief. The paroxysms have continued with such regularity, that he has not escaped a single attack since the commencement of the disease. His health and strength have suffered so much, that he has been unable to work for a considerable time, and he came to Edinburgh, almost in despair, to seek relief. Having applied to my friend Dr J. A. Robertson, this patient was handed over to me. His look is meagre and emaciated; he appears the wreck of a strong and active man. He gave the above account of himself, and added, that he has great thirst and no appetite, that he sleeps badly, and never free from pain in the back part of the head and left hypochondrium, and that he has become as weak as a child; and that his vision has lately become impaired. Pulse 100, and weak; tongue clean; B. regular.

On Thursday, 28th December 1826, at 2 p. m. the rigor commenced, and when it had continued for half an hour, I opened a vein in the arm, having placed him in the sitting posture; his whole body was affected by violent tremors, his teeth chattered; he complained of intense cold; dimness of sight; severe pain in the back part of the head, and in the left side, loins, and inferior extremities; his pulse was weak and fluttering, so as not to be counted, and the countenance expressed great suffering. Owing to the violence of the tremors, a bad orifice was made in the vein, and the blood flowed slowly. When about twelve ounces were abstracted, the rigors diminished, the uneasy feelings began to subside; and by the time 16 ounces were taken, he was free from tremor and pain, and said he felt quite well. The pulse was now a good pulse, but I neglected to make a memorandum of its number at the time. He showed some tendency to syncope before his arm was tied up.

My friends Drs Robertson and Scott, and Mr Syme, together with several other gentlemen, were present when the operation was performed. He was visited in an hour, when he was found breathing naturally, in a sweet sleep. Pulse 84, and of good strength. I was told he had been very faint, and had vomited immediately after we left the house.

In an hour after last visit I saw him again; his body had the natural heat; there was no perspiration; he was still asleep; pulse 80, and full. He was roused after the pulse was numbered, for the purpose of ascertaining the exact nature of his feelings. He said he had not felt so free from indisposition since the first period of the attack, and that he had been long a stranger to such a comfortable refreshing sleep; he took some gruel, soon fell asleep again, and passed an excellent night.

**Friday 29th.**—Said he felt quite well; was free from the pain of head and left hypochondrium; and he thought his strength improved; in fact he came to the dispensary himself; B. regular, tongue clean.

Saturday 30th.—He came to the dispensary at the visiting hour, and said that he felt himself "a new man."

Sunday 31st.—He came to the dispensary again, and was seized with the paroxysm a little after the hour of visit. The fit was preceded and accompanied by much slighter pains and general disturbance than any former attack. In about ten minutes after the fit could be said to be well formed, the rigors were very severe, and the tremors violent, and the feeling of debility was so overpowering that he declared he could sit up on a chair no longer; his breathing was quick and laborious, and his teeth chattered; I tied up his arm and opened a vein, and actually before *three ounces* were abstracted, the paroxysm ceased, and with it all the other unpleasant symptoms. Although a minute before he had declared that he could not sit up a moment longer from debility, yet he now said he felt his strength restored, and he had no wish to lie down, and in less than ten minutes, I had the pleasure of seeing him running home. There was no subsequent heat of skin, and no sweating; his pulse, before he left the dispensary, was 86, and of good strength, whereas, before the bleeding, it was 100, and so weak as scarcely to be counted.

Monday, 1st January.—I sent to inquire how my patient felt; the messenger was told that he had had a good night, and was out making merry with some friends.

On Wednesday he had a slight chill without subsequent fever or sweating; he afterwards got the sulphate of quinine, and had no more of the disease.

From the facts already detailed, I think I may safely draw the following conclusions, which, if correct, will hereafter be found of great practical utility.

1. I need scarcely say that bleeding in the cold stage will not necessarily produce death.

2. That this practice will sometimes cure the disease; at others it will prove beneficial by breaking the chain of diseased action, and rendering the subsequent paroxysms milder and milder.

3. That bleeding in the cold stage, in every case in which it has been yet tried, has cut short the cold fits, and has prevented the subsequent stages of the paroxysm, so that the hot and sweating stages are saved. It seems to operate by anticipating the natural efforts of the constitution, removing the internal congestion, and restoring the lost balance of the circulating system.

4. That it promises to be most serviceable in severe autumnal intermittents; and more particularly in the pernicious and malignant fevers, as they are termed, of Italy, Holland, and other marshy countries, which are well known to be very fatal under the ordinary treatment. In these cases the reaction of the system cannot fully develope itself, in consequence of the

extent to which internal congestion has taken place, and which this practice will remove.

5. That it may be used with safety in any climate where the cold stage continues long and threatens danger.

6. That bleeding in the cold stage is, at all events, more successful than in the hot stage, or than in the intervals. For although I have often seen bleeding used in such circumstances, and with advantage, by mitigating unpleasant symptoms, yet I have never known the subsequent paroxysm prevented by it.

7. The practice may be adopted in the first stage of all fevers; and probably will be found useful by surgeons in concussion of the brain.

8. If these cases possessed no practical merit whatever, they promise to be productive of great advantage to medical science, by destroying the very foundation of the erroneous system of Cullen. The doctrines upon which this system is founded have, to this day, bewildered old and young in the profession, who think and act only under the nod of authority. Cullen's system has been a great bar to all improvement in medicine; and is the principal cause of the backward state of pathology in this country, when compared with the strides made in that department by our professional brethren in France.

It was my intention to have extended my observations upon this subject, particularly with a view to explain away the objections which will naturally suggest themselves to the minds of those who have been reared in Cullenian schools, and who still continue to be the staunch apostles of its doctrines. But as this paper has already extended itself beyond the limits originally intended, I must postpone such remarks for a subsequent number of this Journal.

It only occurs to me to mention, that it will afford me much pleasure to receive communications from any of my professional brethren upon this subject, particularly from those who are situated in aguish districts.

31, Albany Street,  
Edinburgh, 1st January 1827.

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ART. IV.—*Case of Tuberculated Ovaria.* By ROBERT RENTON, M. D., Fellow of the Royal College of Physicians Edinburgh, Physician Accoucheur to the Edinburgh New Lying-In Institution.

THE pathological reader will perhaps feel some interest in perusing the following history of a well-marked case of tubercu-