respiration and circulation exists. Thus, the respiration is slow, feeble, and scarcely perceptible, so is the pulse at the wrist, and, what is more, so is the action of the heart itself. This harmony between the pulse at the wrist and the action of the heart I consider as deserving of especial remark, and in corroboration of its existence may state that, in several instances I have proved it by listening to the contractions of the heart, whilst my fingers were applied to the pulse at the wrist. The invariable result of such examination was the conviction, not only of the contractions of the heart and vessels being synchronous, but also similar in force. The pathological inference which I would draw from the above fact is, that the heart and lungs, being mainly influenced by the same system of nerves, are, in cholera, simultaneously involved, the morbid impression, whatever it may be, being made on such part of the nervous system. This, however, must form the subject of future examination. In the meanwhile, I cannot refrain from expressing my opinion, that the heart is much more dependent than would appear from the experiments of the highest physiological writers on nervous influence. This opinion is based upon the observation of diseases both of the circulating and cerebral organs; and one very powerful objection may be urged against the conclusions drawn from experiments made upon living animals—viz., the shock which the economy suffers from the very performance of such operations. As this part of my subject will be necessarily reverted to in connection with the nervous system, I shall now pass on to the consideration thereof.

2ndly, The condition of the blood. This is, as already stated, manifestly changed, whether it be merely regarded physically, or subjected to the test of chemical analysis. The general physical change may be stated to consist in the dark tarry appearance which it exhibits when drawn from a vein during life, the tardy manner in which it flows even from the largest orifice, owing to its diminished fluidity, and the very small proportion of serum which is separated when the abstracted blood has been allowed to cool and coagulate, and which deficiency of serum obviously arises from the large quantity poured off by the alvine discharges, and which effect cannot, in my opinion, be attributed to mere increased secretion from the mucous surface of the alimentary canal. In support of this opinion, it may not be irrelevant to observe that, although an increased quantity of mucus is really discharged, such increase bears no proportion to the immense quantity of serum and water met with in the evacuated matters. This appears to be the proper place to mention another observation, which I have repeatedly made, and which remarkably confirms the above statement—viz., that when the blood abstracted is received into a succession of teacups, say to the extent of from three to four ounces in each, the change, both in color and constitution, was striking. The blood, which at first scarcely trickled over the arm, where heat was used by wet cloths until actual vesication took place, gradually flowed more freely, and altered its color from black to a healthy appearance, and at last assumed almost an arterial hue; when allowed to cool, the first cupful drawn (about four ounces in quantity) did not show more than a drachm or drachm and a half of serum; in each successive cup the quantity of serum

was increased, until in the last it fully equalled that of healthy blood. The case from which the above statement is taken will, with others, be adverted to more particularly in connection with the treatment of the disease.

As to the chemical analysis of the blood in cholera I have little to say, never having myself conducted such an investigation; but this is matter of small import when I have it in my power to appeal to the able analyses of Dr. O'Shaughnessy and many others for the truth of my former statement, to the effect that chemical analysis had fully confirmed what was to be rationally anticipated from physical observation—viz., that the soluble, saline, and aqueous components of the blood have invariably been found defective. I abstain from dilating upon this most interesting and important part of my subject, having hitherto rigidly adhered to the determination to occupy your pages with nothing which had not been deduced from actual personal observation.

Enough has now been said to establish the fact that, from the deranged state of respiration and circulation, the fluid which ought to supply increased vigor to the whole of the organs to which it is distributed, and on the due performance of the functions of which life itself depends, is actually so changed from its healthy state as to assume the character of a poison, and to exert its influence as such, more especially on the brain itself, and that this alone might suffice to account for many of the phenomena of cholera, to which end the suppositions of the advocates of the inflammatory, congestive, or febrile views of the pathology of the disease are quite inadequate. But it may be added that this unequivocal change in the blood itself appears to be the consequence only of some very powerful cause which yet requires explanation; such, it is my firm belief, is to be looked for in the nervous system. In the above opinion I am strengthened by the fact, that morbid anatomy has thrown no light whatever upon the nature of cholera, however fearfully it may have demonstrated its effects.

I am, Gentlemen,

Your obedient servant,

GEORGE FIFE, M.D.

Newcastle-upon-Tyne, Jan. 13, 1843.

ILLUSTRATIONS OF THE WATER CURE.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—In fulfilment of my expressed intention of forwarding you occasional illustrations of the water cure, I send you the accompanying case, reported by Mr. Cole, house-surgeon of the Worcester Infirmary.

Yours, faithfully,

CHARLES HASTINGS, M.D.

Worcester, Jan. 16, 1843.

CASE.—John Mills, aged twenty-seven, admitted 23rd September, 1842, with a large abscess under the integuments of right thigh, supposed to proceed from disease of hip-joint. Was formerly a patient in the infirmary, under Dr. Hastings, suffering from lumbago, &c.; was discharged some months since much relieved. He attributes his present disease to cold caught six

weeks previously to his admission by lying on damp grass; but it appears upon inquiry, that shortly after his leaving the infirmary he began to experience a fixed pain in his right hip and knee; he had also occasional pain in the left lower extremity, particularly during the night. Six weeks ago he perceived a swelling over the right hip and the upper part of the thigh, which at the time he ascribed to a fall from his horse some years ago upon that side, but at which time he suffered no inconvenience excepting that arising from the contusion. Soon afterwards he placed himself under the care of Dr. Wilson, at Malvern, who expressed an opinion that he could cure him. He was in lodgings with three others undergoing the water cure. At this time the pain was entirely confined to the hip and right thigh, excepting on exposure to cold.

Dr. Wilson commenced his treatment by having him wrapped closely in a blanket, over which were placed two or three more, then a coverlet, and lastly a feather bed. In this state he lay two hours and a half, till a profuse perspiration was produced; he was then removed, and wrapped in a sheet dipped in cold water, and friction applied over every part of the body for some minutes, without removing the sheet. A dry sheet was then substituted, and the body rubbed again; after which he was directed to dress, and walk till he was tired.

This treatment was continued daily for three weeks, and during this time no medicines were administered. The diet consisted of bread and butter, with tea and milk for breakfast and supper, and rice for dinner, excepting towards the latter part of his treatment, when a little mutton was allowed. At this time the general pains were relieved, but the right hip was increasing in size. After three weeks the sweatings and rubbings were discontinued, the hip was washed every morning for an hour with warm water, and linen dipped in cold water was bound round it and kept wet night and day. He was now not allowed to walk about. This was persevered in for a week, but the hip continuing to enlarge, he left Malvern, and came into the infirmary.

30. The patient has been in a week; he complains now only of pain in the hip, &c., which is much enlarged with evident fluctuation.

Oct. 20. Two large formations of pus have been evacuated by the lancet; the swelling is now much diminished; he has no hectic fever. Treatment: Tonics, good diet, and rest.

Notwithstanding these favourable appearances, the discharge of purulent matter from the fore part of the thigh continued, and another abscess connected with the internal abdominal muscles showed itself. The man at length sunk, and on examination after death it was found that the abscess, which pointed in the front of the thigh when he was admitted, communicated with the hip joint. The cartilages of the articulating surfaces were abraded, and the psoas abscess had made its way between the triceps and bone, and pointed at the back of the thigh.

The man stated to me, two days before his death, that before he came into the infirmary the last time, he had been under Mr. Wilson, the water doctor, at Malvern; that he was under his treatment for eight weeks; and that he had the wet sheet and cold baths

after; and that he went to bed every night by his orders with a wet cloth around the bowels and upper parts of hips.

Herbert Cole, House Surgeon.

Worcester Infirmary, Jan. 7, 1843.

* * * We shall take an early opportunity of making some remarks on the water cure, as practised by Priessnitz and his followers.—Eds.

CASE OF CÆSAREAN OPERATION.

TO THE EDITORS OF THE PROVINCIAL MEDICAL JOURNAL.

GENTLEMEN,—Should the following particulars of a Cæsarean operation, performed in March last (although unsuccessfully), be sufficiently interesting, I shall feel glad by your inserting them in the Provincial Medical Journal.

I am, Gentlemen,

Yours obediently,

SAMUEL H. WRAITH, Surgeon.

Darwen, Lancashire, Jan. 12, 1843.

Mary Jepson, aged forty-three, had been married twenty years; before marriage she was a woman of loose character; after marriage she wove for her livelihood, and this generally in a damp cellar; in 1831 she was confined of a son, and during her pregnancy she complained of a pain in her back, but for which she sought no medical advice; the labor was by no means difficult. In 1834 she was again confined; the "pain" in her back still continued, and a little deformity was now perceptible; the labor was more tedious than the former, but was accomplished without instrumental aid. After this delivery, she complained very much of her back, and the spine was visibly giving way; this continued to increase, so much so that in six months from the period of her delivery she was obliged to use crutches; still she had had no medical advice.

In 1839 she was again confined, and the deformity was so great that Mr. Gaulter, her medical attendant, thought it advisable to perform the Cæsarean operation, and on this account he called in Dr. Maitland, of Blackburn, who recommended that embryotomy should be performed, which was with great difficulty accomplished. From this time she gradually grew worse, and she was informed that should she ever again become pregnant to apply to her medical adviser; this, however, she neglected to do, and on the 8th of March, 1842, I was requested to attend her in labor. On my arrival, I found that the full period of uterogestation had expired, but the pains were not severe. On making an examination, *per vaginam*, I calculated the diameter at the brim to be one inch and a half in the conjugate, by two inches and a half in the iliac diameter; I, therefore, at once concluded, in my own mind that the Cæsarean operation would be requisite. I now prepared the mind of my patient for an operation; this did not at all surprise her, although she would not consent. I now sent to Blackburn (four miles) for my friends, Dr. Durie and Messrs. Bailey and Morley, who arrived here about seven, p.m. After a careful examination they perfectly coincided with me, that the Cæsarean operation was requisite. The action of the uterus was now very severe, but the