ployed, first with a long exercise of the will, and then almost spontaneously, it is necessary to admit, in order to understand the coordination, the passage and diffusion of the volitional and spontaneous stimulus exclusively in those elements that correspond with the muscles or groups of muscles upon which the execution of the harmonised and complicated movement is devolved. Now, the faculty of retention possessed by the cellular elements in the marrow and spinal cord may be diminished, and the stimulus may be diffused into other cells and other cellular groups; and these may then put into action other muscles or groups of muscles, by which the delicate action of writing, of telegraphing, of playing the piano or the flute, is disturbed.

I believe I can corroborate this hypothesis with an observation that I have made concerning a patient in my dispensary, in whom I found the ascending current incomparably more useful than the descending one, and there were not observed any signs of irritation either on the spine or over the nerves. By the use of the ascending current over the cervical spine for five or ten minutes, with twenty or twenty-five elements, a catelectrotic condition was produced, and in that manner the excitability of the spinal marrow was increased and the cramps were almost calmed. I am persuaded, by long observation which I have made upon this patient, that it was impossible to obtain the same effects with the descending current which produces the anelectrotic condition.

Although I have determined on not entering on the discussion of the physiological pathology of this disease, and analysing all the hypotheses, I believe that, as far as the treatment is concerned, the following assertions may be made without danger of contradiction.

1. The condition or the morbid process in the professional dyscinesias, and its seat, differ in different cases.
2. The difference in the disturbing process of the disease, in its seat, and in the mechanism by which the malady is determined, is perfectly in harmony with the difference of the clinical forms.
3. The prognosis may be considered less grave than most pathologists believe.
4. The treatment, electric or internal, in order that it may obtain a greater average of recoveries, must be conformable to the clinical character of the disease, which differs in various cases, and which must indicate when the ascending or the descending current may have a better effect on the spinal cord and on the nerves, when simultaneous faradisation of the muscles and of the skin (disturbance of tactile sense) may be applied with success, when galvanisation of the brain or of the sympathetic nerves in the neck is useful, and when the hypodermic injections of strychnia, exclusively or associated with an established method of electrification, may be of more utility.

ANTEVERSION OF THE LIVER SIMULATING ENLARGEMENT.*

By T. D. GRIFFITHS, M.D., Swansea.

It appears that anteversion, or rotation forwards of the liver, on its own transverse axis, is not very uncommon. In this abnormal position, the anterior border of the liver falls below the ribs, the upper surface is turned forwards, and the hepatic dulness in the nipple-line is increased. This increase of dulness is in proportion to the degree of anteversion; in extreme cases, it becomes equal to the diameter of the liver in the antero-posterior direction. It is, therefore, important to recognise this displacement, as it simulates enlargement of the organ, and may, in this way, embarrass the physician, and lead him astray in his diagnosis. To illustrate my position, I shall briefly refer to three cases.

CASE I.—Mrs. B., aged 27, a tradesman's wife, of dark complexion, average stature, moderately well fleshed, has been married a little over three years, has had two children; the younger child was born a year ago. The patient consulted me in December last about "a lump in her stomach", which she had noticed since her previous confinement, and which she attributed to her nurse's neglect, who had not, as she supposed, bandaged her properly.

On examination, there was no visible prominence over the hepatic region when the patient lay on her back. The abdominal wall was wrinkled, and marked with "silvery streaks"; it was also soft and yielding on palpation. The lump in the stomach for which the patient sought advice was evidently the liver. It was easily felt by the hand, and appeared much larger than natural; the anterior edge extended down into the iliac fossa, and was easily grasped between the fingers. The hepatic dulness in the right nipple-line was seven inches, extending from the upper border of the sixth rib into the iliac fossa; the sur-

face was even and smooth, and without any indentation. It was very movable—it could be pushed under the ribs—but was not tender on pressure. There was no history of tight lacing. The left kidney was easily felt, and movable. The uterus was retroflexed. The spleen was normal in size. The heart and lungs were healthy. Digestion was normal. In short, the patient's general health was very good, and she complained of nothing, but wanted to know the nature of "the lump in her stomach", which caused her no discomfort or inconvenience. There was no doubt as to what this lump was; it could be felt, and even manipulated, through the abdominal wall. It was the liver, which was, apparently, very much larger than natural; but there was nothing besides this apparent enlargement indicative of disease in the organ itself. And there was nothing whatever to show that the liver had been pushed down from its natural position. The spine was normal. The thorax was well formed. There was no effusion in either of the pleural cavities. The heart was healthy, and there was no effusion in the pericardium, and, as far as I could ascertain, there was no tumour between the liver and diaphragm; but the abdominal wall was lax and limp, almost like washleather. The liver could be pushed upwards and made to assume its normal size and position. It was, therefore, evident that the enlargement was only *apparent*, due to rotation forwards, or anteversion.

With the view to improve the atonic and atrophied condition of the abdominal wall, and of the recti muscles in particular, Stohrer's interrupted current was applied, from five to ten minutes, every other day, for three months. It was only after repeated applications that the lower half of the recti muscles began to respond to the current. At the end of three months, the silvery streaks and the loose wrinkled condition of the skin had almost entirely disappeared, and the muscular condition of the wall had greatly improved.*

I have notes of several other cases of this kind in women who have borne children, but I will only allude to one of them, the first I ever noticed, some twelve years ago, and over which I blundered slightly.

CASE II.—Mrs. S., aged 60, a mother of a large family, of spare habit of body, below the average in height, of gouty constitution. When I was called in to see her, she was suffering from acute dyspepsia, and she had been failing in general health for some time previously. On examination, the abdomen was found very much in the same state as in the last case. The liver was *apparently* very large, and, in addition, it was slightly tender on pressure. There was nothing to show that it had been displaced by any intrathoracic disease, or by deformity of the chest-wall, curvature of the spine, or tight lacing. There was no history of gall-stones or of intemperance, and the enlargement could not be accounted for by simple congestion. Considering the apparent size of the liver, together with the symptoms and previous history, I was inclined to believe that the patient had some malignant disease of the liver. However, after a time, the tenderness of the liver passed away, the dyspeptic symptoms disappeared, and the patient recovered her usual health; but the apparent size of the liver remained the same, and I was able to satisfy myself afterwards that it was simply due to anteversion.

CASE III.—A. B., † aged 54, of fine *physique*, tall and stout in proportion, and somewhat corpulent. When he first came under my observation, in February 1875, his liver was found smaller than natural, the hepatic dulness in the nipple-line was from 2 to 2½ inches. Without going into the whole history, suffice it to say, that the case was diagnosed as cirrhosis of the liver. When the patient was again examined, in July 1876, the liver was found very much in the same state as to size. Towards the latter end of November last, one of the leading London physicians, an eminent authority on diseases of the liver, saw the patient with me in consultation. There was now a marked change for the worse in the patient's general condition; he was lethargic and drowsy, slightly jaundiced, emaciated, and confined to bed. There was no elevation of temperature; the liver was slightly tender on pressure; the hepatic dulness now extended from two fingers' breadth below the nipple to the crest of the ilium, and partly into the iliac fossa, eight inches vertically in the nipple-line. The edge of the liver was easily felt, as the full and prominent belly had become retracted and the abdominal wall flaccid and emaciated. With the exception of being very slightly emphysematous, the lungs were healthy. And, although there were well marked mitral regurgitant disease and hypertrophy of the heart, there was no apparent abnormal dilatation of the right side, nor indeed any cardiac trouble.

* Read in the Section of Medicine at the Annual Meeting of the British Medical Association in Manchester, August 1877.

* To faradise both recti muscles, the rheophores should be applied to the seventh intercostal space, a little outside the nipple line on each side; and to act on one side only, one pole of the battery should be applied in the seventh intercostal space, and the other immediately above Poupart's ligament, midway between the superior iliac spine and symphysis pubis.

† This case was fully reported at a meeting of the Pathological Society of London.

Having excluded the ordinary possible causes of spurious enlargement of the liver, and having considered the previous history together with the then present physical signs and symptoms, the physician already alluded to was satisfied that we had mainly to deal with a large cirrhotic liver. Some months previously, according to my own observations, the organ was small and contracted. To account for this apparent increase in size was somewhat puzzling. The theories of congestion, cancer, etc., were considered, and dismissed as an unsatisfactory explanation. This apparent enlargement remained until the patient died, some months afterwards. At the *post mortem* examination, the liver was found lying on its under surface in the lumbar region, the anterior edge of the right lobe being down in the iliac fossa. The liver measured 12 inches transversely, 8 inches in the antero-posterior direction, and $2\frac{3}{4}$ inches in the thickest part, and weighed 56 ounces—a small liver for the size of the body from which it had been taken.

Remarks.—The predisposing causes of anteversion of the liver appear to be distension of the abdominal cavity, followed by the opposite condition, and at the same time attended with atrophy of the recti muscles. With the distension of the abdominal cavity, the wall in front is expanded and the round ligament of the liver is stretched and lengthened. When the distension is afterwards removed, the abdominal muscles in front having previously become atrophied and lost their tonicity, the support of the anterior border of the liver is taken away.

SOME STATISTICS OF SMALL-POX.

By HENRY TOMKINS, M.D.,

House-Physician to the Royal Infirmary, Manchester; late Resident Medical Officer at the Monsall Fever Hospital.

IN THE BRITISH MEDICAL JOURNAL for October 20th there appeared an article devoted to the consideration of a paper written by Mr. T. B. Sprague in the *Journal of the Institute of Actuaries*, in which some small-pox statistics compiled by Dr. Keller of Austria are strangely at variance with those published in this country, and notably those of the Metropolitan Asylum Hospitals. As a small contribution to the same subject, the following notes may be of some value in arriving at a more satisfactory conclusion than that of the above named writer as to the efficacy of vaccination in affording protection from small-pox, when performed in a proper manner and at proper intervals of time.

The cases from which the following tables have been formed were those received into the Monsall Fever Hospital, Manchester, from the 1st of January to the 31st of December, 1876, and for the accuracy of which I hold myself responsible. During that year, variola was present in an epidemic form in Manchester and its suburbs, being at its height during the spring and early summer months; and, although these cases represent but a small proportion of the total number recorded in this district, being less than one-half the number recorded by Dr. Keller and scarcely one-fifteenth of those treated in the Metropolitan Asylum Hospitals during the epidemic of 1871-72, still, as they were received from all parts of the city, they may fairly be taken as representing the average mortality of the disease in this district during the epidemic of last year.

Arranged below is the total number of cases, with the average mortality of the vaccinated and unvaccinated, compared side by side with Dr. Keller's and with those of the Metropolitan Asylums.

TABLE I.—*Death-Rate in Cases of Small-Pox.*

	Cases.	Deaths.	Death-Rate per 100.		
			Monsall.	Dr. Keller.	Met. Asyl.
Vaccinated with one or more distinct cicatrices	745	71	9.53	16.4	10.2
Unvaccinated cases	78	45	57.7	24.8	44.8
Said to be vaccinated, but no cicatrix visible	37	13	35.13		
Not known whether vaccinated . .	61	29	47.54		
Total	921	158	17.1	18.7	18.7

In all these, the death-rates of the total number are about the same, and they agree in being higher among the unvaccinated than amongst the vaccinated. Dr. Keller, however, makes the remarkable statement that, *except during infancy*, the mortality is much higher amongst the vaccinated cases, and brings forward figures to prove this assertion.

In the article of the BRITISH MEDICAL JOURNAL before alluded to, the mortality of the cases under five years of age from Dr. Keller's reports is compared with that of the Metropolitan Asylum Hospitals. I have analysed the cases at Monsall in the same manner, and find them still more at variance with Dr. Keller's. Thus:

TABLE II.—*Cases of Variola at Five Years of Age and under.*

	Cases.	Deaths.	Monsall.	Rate per 100.	
				Dr. Keller.	Met. Asyl.
Vaccinated with one or more distinct scars	21	1	4.8	38.6	19.5
Unvaccinated cases	23	19	82.6	33.3	61.2
Said to be vaccinated, but no scar visible	7	3	42.8		

In all statistics, there is a liability to draw false deductions; and, in quoting the above, it should be stated that, owing to a prevalent idea abroad in this part of the country, that parents are liable to punishment for the omission of vaccination when this is discovered by the occurrence of variola, it is often difficult to get them to acknowledge non-vaccination, and therefore it is not unlikely that some of those cases said to be vaccinated, but no scar, were really unvaccinated; and the same with those set down as not known. But, after allowing for this, the plain fact still stands out most prominently, that immense protection is undoubtedly afforded by successful vaccination; and, in conclusion, I would earnestly commend the following to the careful attention of those zealous but misguided individuals who are constantly clamouring against vaccination and its compulsory performance. Firstly, in the nine hundred and twenty-one cases at the Monsall Hospital treated during the year 1876, in those where there was any evidence of vaccination at all, the death-rate was but $9\frac{1}{2}$ per cent. Secondly, amongst children under five years of age, where there was a distinct cicatrix, there was but *one* death in the twenty-one cases under treatment, and this solitary one was a poor puny child, whose death was occasioned quite as much by diarrhoea as by small-pox; whilst amongst the twenty-three unvaccinated cases, only four recovered. Not a single death occurred among adults where successful revaccination had been performed within four years; and, lastly, out of all the numerous workpeople coming into the hospital during the year as porters, labourers, servants, nurses, etc., not *one* contracted small-pox, every individual being compelled to be vaccinated before commencing work there.

One other point is worthy of consideration. It is this: in a population where compulsory vaccination is in active operation, it may fairly be assumed that the children who escape vaccination are in an extreme minority; and yet out of this minority a larger number of cases were received than from amongst the exceedingly large majority of vaccinated children. What, then, would have been the number had the unvaccinated been in the majority, and what the number of deaths at the rate of 82.6 per 100?

THERAPEUTIC MEMORANDA.

THE TREATMENT OF OBSTINATE SICKNESS BY KOUMISS.

I WISH to record briefly the result of my experience in the treatment of obstinate sickness by koumiss; for I believe, with Dr. Jagielski, that we possess here a simple but a satisfactory remedy, and one likely to be of use when the ordinary remedies fail.

Miss S., aged 31, far advanced in phthisis, and already much exhausted by incessant cough, profuse sputa, sweats, and diarrhoea, was suddenly attacked by hæmoptysis, accompanied by obstinate and distressing sickness. The patient was *in extremis*. After exhausting the ordinary remedies, I administered, cautiously at first, No. 2 koumiss with the best results. The sickness immediately ceased; the hæmoptysis merged into tinged sputa and gradually disappeared; the pulse became stronger; the skin warm and moist; the diarrhoea ceased. The patient, who had previously loathed all food, gratefully took the koumiss, at first alone, then mixed with milk. A return of hæmoptysis in the fourth week, with secondary bronchitis, took her off.

Miss T., aged 50, was attacked by hæmatemesis (due probably to gastric ulcer) and persistent vomiting. Iced drinks, gallic acid, etc., failed to give much relief; for, when food was taken, the sickness and hæmatemesis returned. We were reduced to the treatment by enemata of beef-tea and brandy, which was continued for five days, notwithstanding which the patient became much weaker. No. 2 koumiss was then given, as in the last case, with good results.

In a case of severe vomiting caused by mental shock, but remotely connected with concussion of the spine, the result of a carriage accident, koumiss No. 1, made from the extract, was successful after hydrocyanic acid, bismuth, creasote, etc., had failed.

In several other cases, I have given koumiss, and always (except