the extensor muscles of the leg, at its insertion into the upper part of the patella, and some of the contiguous fibres of the rectus and crureus muscles themselves, a greater part of the vastus internus, and a portion of the vastus externus. A flap composed, therefore, of this structure was elevated from the femur, close to the condyles. The soft parts were next detached from the outer side of the bone, from the base of the flap toward the ham, by passing the knife over the circumference of it, so as to admit of the use of a saw. The flap then being turned aside, a triangular or wedge-like piece of the femur was easily removed by means of a small, narrow-bladed saw. This wedge of bone did not include the entire diameter of the femur at the point of section; so that a few lines of the posterior portion of the shaft of the bone remained yet undivided. By slightly inclining the leg backward these yielded, and the solution was complete."

The limb was supported on a splint at an angle corresponding to that of the knee previous to the operation; and subsequently it was brought into nearly a straight position by using a series of splints; and at length the limb was confined in this extended position until bony union had taken place.

Professor Brainard, of Chicago, proposed subcutaneous drilling and subsequent fracture as a substitute for the operation of Barton; and the operation has succeeded perfectly in his hands, and also as it was performed by Professors Gross and Pancoast at the Jefferson Medical College. The mode of operation was as follows:—

"Chloroform having been administered, a longitudinal incision, hardly one-half of an inch in length, was made over the outer surface of the knee, near its middle, in a line with the groove between the head of the tibia and the external condyle, down to the two bones. Through this opening a steel perforator was introduced, keeping it as nearly as possible in the direction of the line of the articulation, and passing it on to the opposite side until the point could be felt beneath the integuments. The instrument was now moved about in such a manner as to cut through and break down the osseous adhesions between the femur and the tibia on the one hand, and the femur and patella on the other. The union between the bones was exceedingly firm; but, after much difficulty, it was finally overcome, and by forcible extension of the limb, the parts yielded with a cracking noise."

When it is desired merely to gain a better position of the limb, one or other of these operations may be performed where bony ankylosis with great deformity has taken place.

The third operation to which I have to direct your attention is that of establishing a false joint after section of the bone. This operation also was proposed and performed by Dr. Barton of Philadelphia. Dr. Barton's case was as follows:—Fracture of the femur had been followed by ankylosis at the hip-joint, and an angular union of the broken bone had resulted; so that the thigh was flexed, and the knee was carried across the opposite thigh. Barton cut through the femur, and straightened the limb. The wound of the soft parts was allowed to heal, but reunion of the divided bone was prevented by subjecting it to motion from time to time—such as rotation, flexion and extension, abduction and adduction. After some few weeks the ends of the bones became smooth and rounded, and united by means of ligamentous bands; and thus an artificial joint was formed, which allowed of all the motions of the limb. This patient enjoyed the use of his artificial joint for six years; but after this time he gradually lost motion, and ankylosis took place.

This operation of Barton's was an admirable one, and the result, so far as it went, was excellent. There was this defect in it, however—that the section of the bone was made too far away from the original centre of motion. When it is desired to re-establish motion in an ankylosed joint, the section should be made as near as possible to the centre of the articulation, so that the power of the muscles may not be unduly diminished. And with this view I operated, in 1861, on a case somewhat similar to Dr. Barton's, where bony ankylosis was complete, but where there existed also some necrosed bone about the acetabulum. In this instance I cut through the neck of the femur immediately below the head of the bone, and then gouged away the remains of the head and the dead bone from the acetabulum. The wound

healed almost in its entire extent by the first intention, and in three weeks it was firmly cicatrised, so that passive motion could be freely employed. In six weeks from the operation my patient began to use the limb in walking. This patient was a delicate person, and had not sufficient fortitude to continue the treatment which is necessary in these cases to retain free motion.

In the next operation of this nature which I undertook, I removed the whole of the neck of the femur, and in consequence the fibrous connecting bands were somewhat longer and less firm, and from the commencement motion was more free than in the former case. My patient also was in good health, and carried out with a strong will my injunctions with regard to motion. In these cases it is important to continue passive motions of the limb, otherwise shortening of the uniting medium, with more or less loss of motion, may take place. Also a chronic form of inflammation may be set up in cases of this kind, whether by accident or otherwise, which may result in loss of motion, just in the same manner as it may be set up in cases of fibrous ankylosis, where motion has been perfectly restored. Thus, in a case on which I operated in 1856, motion at the hip-joint was perfectly restored, and my patient could walk easily, and without pain or unusual fatigue. He did not require a stick for support, and he habitually took much exercise. Motion at the operated joint was as free as in the other limb; but in 1867 he unfortunately fell on the ice and struck his hip, when inflammation followed, and tough adhesions were formed.

At the hip a false joint should be made; while at the elbow or at the knee a wedge of bone may be removed, or the ankylosis may be fractured after drilling through the bone.

AORTIC ANEURISM.

PROBABLE CAUSE OF ITS GREAT PREVALENCE IN THE ARMY COMPARED WITH THE NAVY AND MALE POPULATION, AND CONSEQUENT REMEDY.

By A. B. R. MYERS, Esq.,

ASSISTANT-SURGEON, COLDSTREAM GUARDS.

THIS subject has of late years much engaged my attention, owing to the number of cases that have come under my notice in the regiment to which I belong. It was brought before the notice of the Pathological Society on the 2nd inst., and having been informed afterwards by many members of its great general interest, I am now induced to express my views of it more fully through the medium of THE LANCET.

Statistics in proof of an assertion are not always, and very properly, considered convincing, and especially if prepared by one whose name attaches no weight to them. I therefore will omit as much as possible those made by myself, and will take advantage of the carefully drawn-up paper on this subject by Inspector-General Lawson, in the "Army Medical Report" for 1866. He compares the death-rate from aneurism in the army at home with that of the male population during the years 1859 to 1865 inclusive, and he finds that it is eleven times greater in the former than in the latter. Such a result, however, although sufficient for my purpose, does not at all give a fair estimate of the excess of this disease in the army, for many soldiers (about one-third of the cases) are invalided for this disease, who diminish the army average, and consequently swell that of the civil population.

No accurate comparison can be made between the deaths and invaliding for aortic aneurism in the army and navy, as the returns in the former divide the disease into "aneurism" and "aneurism of aorta," whilst in the latter all are classed under "aneurism;" but as I consider that nearly all the cases of death from this disease may be referred to the aorta (and certainly such agrees with my own personal experience during the last ten years) I will now only make an analysis of them.

Statistics of Deaths from Aneurism in the Foot Guards and Line serving at home compared with the Navy for four years.

Year.	ARMY.			NAVY.		
	Strength.	Ratio of deaths from aneurism per 1000.		Strength.	Ratio of deaths from aneurism per 1000.	
1862 ...	49,332	28		58,870	11	
1863 ...	44,291	47		54,090	05	
1864 ...	40,539	37		53,000	18	
1865 ...	42,228	35		51,210	09	

The above period is chosen, as previous to 1862 "aneurism" in the navy was included under the heading "Diseases of the heart and great bloodvessels;" and I think it is amply sufficient to prove the greater mortality from this disease in the army than in the navy.

Why, then, is this disease so much more prevalent in the army than in the navy and male population? Syphilis is considered by some observers to be the main cause of the excess; and Dr. Aitken, in his "Practice of Medicine," refers seventeen out of twenty-four cases he has examined after death to this source, the evidence of the disease being "cicatrical-like loss of substance of the inner coat of the aorta" beyond the sac. Special attention has been drawn by many medical officers to this, what I would call corrugated, appearance of the aorta, and assigned to syphilis; and it is well marked in the specimen I exhibited before the Pathological Society. There was, however, no syphilitic history, and no evidence that I could detect of any adventitious deposit in the coats of the aorta; and I attribute its production in this, as well as in most other cases, to small ruptures of the circular fibres from the prolonged over-distension of the vessel by an undue column of blood.

I have no doubt that syphilis, when thoroughly impregnated into the system, leaves no part of the body unaffected; but I think the following statements must prove that its production of aortic aneurism is much over-estimated.

1st. That the navy, with about an equal proportion of syphilitic disease, has a much smaller rate of aneurism, although the sudden violent exertions sailors have to undergo must tend towards the promotion of this disease.

2nd. That aneurism is a disease almost unknown amongst prostitutes, whilst, on the other hand, they are frequently affected with syphilis in its worst form.

Mechanical obstruction to the circulation is, then, in my opinion, the chief cause of this disease in the army, and is produced as follows:—

When the peasant leaves the plough and becomes a soldier, two great changes at least are gradually effected in him—viz., his limbs from being stiff are rendered supple, and his chest, which had nothing to restrict its movements, becomes a partially fixed, though to some an imposing-looking structure. By some experiments I have made with the spirometer, I find that men standing at "attention" with their tunics buttoned up, without their arms and accoutrements, suffer a loss of about twenty cubic inches on forcible expiration, the upper thorax remaining expanded, and consequently, also, the upper lobes of the lungs; whilst the diaphragm and lower lobes are brought into special requisition. Such a condition must surely impede the passage of the blood from the main trunk to its thoracic branches. I may say here that I consider this prolonged over-distension of the air-cells of the upper lobes may weaken their elasticity, and tend to the production of tubercular disease; and this, if I mistake not, is the opinion of Dr. Quain.

The next and main cause of mechanical obstruction is due, I think, to the manner in which the tunic is fitted round the neck; neatness being the great point studied, although, no doubt, it is tried to combine this with some comfort. Such, however, is hardly possible according to the present pattern; for the collar, fastened by one large hook, must be made to fit tightly, so that the cloth shall sit smoothly beyond it, and the amount of freedom is tested when the soldier is standing still.

How easily this will explain the frequency of faintness in the ranks after a little extra exertion. In illustration of this, I once measured the neck and tunic-collar with fastening of a private whilst standing at ease a few hours after he had fainted in the ranks. The former measured 15½ in., and the latter 16 in., without making any allowance for the stock and the inward curvature of the hook, which comes

always a little above the upper margin of the sternum. This constriction round the neck, though possibly not felt when the soldier is at rest, must be a great check to the circulation when he is using any exertion; and with the increased action of the heart at the time, the aorta must become dilated beyond its normal limits, its elastic fibres weakened, if not ruptured, and aneurism be the not improbable result.

I trust I have expressed myself clearly, as I think the subject has such special interest now whilst the greater freedom of the chest is being so carefully studied in connexion with the knapsack; but should some still dissent from my views, I will add a few statements that bear closely upon them.

Inspector-General Lawson draws attention to the special prevalence of disease of the heart and great bloodvessels amongst the troops at the Cape; but he does not offer any explanation of it. I am informed, however, that they have to endure very great fatigue in long marches over hilly districts. He also points out the great increase in the deaths from the above throughout the army of late years.

I would suggest that this might be attributable to the great alteration in the collar in 1855. The old high stiff collar, with its three hooks and stock, upon which the point of the chin rested as in a vice, though most uncomfortable, fitted of necessity loosely round the neck, and, in fact, was only an exaggeration of the present comfortable collar of the Prussian army; and old soldiers whom I have asked state that the pressure round the lower part of the neck was not nearly so great in those days as it is now.

In 1856, the 52nd Regiment, stationed in India, received the new tunic as at present worn; but the colonel, considering that the pattern of collar was objectionable, had it much enlarged at his own expense, and made to fasten with three hooks. This was worn in the regiment for eight years—namely, until its return to England; and it was universally liked by the men, one of whom, now a non-commissioned officer of the Coldstream Guards, has given me this information.

On examining the annual statistics and manuscript reports of the regiment, I find no instance of invaliding or death from aneurism throughout that period, the average annual strength having been 839.

With these facts before me, I feel convinced that the amount of aortic aneurism in the army may be much diminished by the tunic being fitted more loosely round the neck and upper portion of the chest; nor can I see the propriety of making any portion of the soldier's dress so tight as to place him at a great disadvantage in regard to health, comfort, and usefulness when actively employed, and especially now that the capabilities of each individual are being so much more studied than formerly.

In conclusion, I may state that I have avoided for the present the subject of heart disease, so prevalent in the army, fearing the too great length of this paper, although it must be most intimately associated with the one herein commented upon.

THE SECOND INTERNATIONAL MEDICAL CONGRESS TO BE HELD IN FLORENCE.—"L'Imparziale" contains a prospectus of the International Medical Congress which will be held at Florence in September next. It had been agreed at the last meeting of the International Congress of Paris, in 1867, that a similar meeting should take place at Florence in 1869. Dr. Palasciano, who was vice-president at the Paris Congress, has issued the above-mentioned prospectus, announcing a preliminary meeting at Florence on February 17th. The rules and programme of the Congress are annexed to the circular. We shall draw attention to them when they shall have been approved by the committee to be appointed at the meeting.

PHARMACY PAST AND PRESENT.—A paper, having for its title "Pharmacy Past and Present," was read on Wednesday, the 17th inst., at the Athenæum, Plymouth, by Mr. Turney, before the members of the Chemists and Druggists' Association. The lecturer gave a brief outline of the state of pharmacy from the sixteenth century to the present time, tracing the origin of chemists and druggists, and the steps by which they had attained their present position, and the merits or demerits of old or new pharmaceutical remedies.

TABLES ILLUSTRATING THE EFFECTS OF REMEDIES UPON UNCOMPLICATED ACUTE RHEUMATISM.

By W. H. DICKINSON, M.D. CANTAB., F.R.C.P.,
SENIOR ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL, AND TO THE HOSPITAL FOR SICK CHILDREN.

(Concluded from p. 185.)

TABLE XII.—FULL ALKALINE TREATMENT, WITH NITRE, COLCHICUM, OR OTHER AUXILIARIES.

Twenty-five cases. Heart affected in none. Average time in hospital thirty days.

Name.	Age.	Days affected before admission.	Characters of attack on admission.	TREATMENT.	State of heart throughout.	Progress, &c.	Number of days in hospital.
G. E.	28	9	Hands, and ankles red, swollen, and painful. Skin hot and dry; tongue furred; urine scanty.	Vapour bath. Nit. pot., 2 scr.; bicarb. pot., 1½ dr.; colch. wine, 15 min.; sol. acet. amm., 6 dr.; citric acid, 1 scr.; every 4 hrs. On fourth day, med. contin. every 6 hrs. Afterwards, bicarb. pot., ½ dr., with bark and guaiacum, three times a day. Iod. pot. afterwards added.	Unaffected.	Acute symptoms rapidly subsided, leaving slight pains, followed by stiffness.	34
E. H.	20	3	Hands, wrists, feet, and ankles red and swollen. Sweating; pulse 124; tongue much coated.	Bicarb. pot., 1½ dr.; acet. pot., ½ dr.; nit. pot., 10 gr.; sol. acet. amm., 1 oz.; citric acid, 1 scr.; every 6 hrs. Next day ordered every 4 hrs. Finally, chinchona with bicarb. pot., three times a day.	Unaffected.	Pain ceased on fifth day. Temporary albuminuria.	19
R. C.	25	42	Shoulder and hand chiefly affected. Much rheumatic sweat. Urine turbid.	Aperient on admission, with colch. and ipecac. Bicarb. pot., 1 dr.; acet. pot., ½ dr.; colch. wine, 15 min.; sol. acet. amm., ½ oz.; citric acid, 1 scr.; every 6 hrs.	Unaffected.	Rapid progress.	7
L. H.	33	10	Chiefly in right hand. Skin hot; tongue furred; pulse rapid; urine turbid.	Bicarb. pot., 1½ dr.; acet. pot., ½ dr.; colch. wine, 10 min.; sol. acet. amm., ½ oz.; citric acid, 1 scr.; every 4 hrs. Afterwards, chinchona draught with bicarb. pot., ½ dr., and carb. amm., 10 gr. Finally, iod. pot.	Unaffected.	Much sweating. Pain lingered in a chronic form in some joints.	49
H. C.	23	2	In hips, thighs, and ankles. Rigors and much febrile disturbance.	Aperient with colch. on admission. Bicarb. pot., 1 dr.; acet. pot., ½ dr.; colch. wine, 15 min.; sol. acet. amm., ½ oz.; citric acid, 1 scr.; every 4 hrs. After ten days, guaiacum with solution of potash and iod. pot.	Unaffected.	Progressed steadily.	30
A. P.	16	4	Second attack. Joints in general.	Aperient on admission, with calomel and colchicum. Bicarb. pot., 1½ dr.; acet. pot., 2 scr.; colch. wine, 10 min.; sol. acet. amm., ½ oz.; citric acid, 1 scr.; every 4 hrs.; afterwards reduced in frequency. Then, chinchona with bicarb. pot., ½ dr., three times a day. Finally, quinine.	Unaffected.	Pain lingered after acute symptoms had subsided.	44
E. S.	38	14	Second attack. Hands, knees, and ankles red, swollen, and very painful. Rheumatic odour. Skin hot and dry.	Bicarb. pot., 1½ dr.; acet. pot., ½ dr.; colch. wine, 10 min.; sol. acet. amm., ½ oz.; citric acid, 1 scr.; every 4 hrs; on third day, every 6 hrs.	Unaffected.	Constipation.	34
H. C.	35	14	Hand and both feet affected. Much sweating.	Aperient with colch. on admission. Bicarb. pot., 1½ dr.; acet. pot., 1 dr.; colch. wine, 10 min.; sol. acet. amm., 6 dr.; citric acid, 1 scr.; every 6 hrs. Next day, bicarb. pot., ½ dr.; acet. pot., ½ dr.; with bark; three times a day. Finally, cod-liver oil, iodide of iron, and iod. pot.	Unaffected.	Pains greatly relieved on second day. Much sweating. Slow recovery.	62
H. C.	35	9	Second attack. Pain and swelling in knees, extending afterwards to many other situations. Much heat and sweating.	Bicarb. pot., 2 scr.; acet. pot., 2 scr.; iod. pot., 13 gr.; with chinchona: three times a day.	Unaffected.	Good progress.	27
C. T.	40	4	Third attack. Symptoms very well marked.	Aperient on admission, with colch. and calomel. Bicarb. pot., 2 scr.; acet. pot., 2 scr.; colch. wine, 20 min.; sol. acet. amm., 6 dr.; every 6 hrs.; after 4 days, every 4 hrs; afterwards, every 6 hrs. with bark instead of acet. amm.	Unaffected.	After four days urine still acid. Attack of sorethroat.	63
T. P.	43	21	Knees most severely affected.	Bicarb. pot., 1½ dr.; acet. pot., 1 scr.; with bark.	Unaffected.	Very rapid progress at first. Slight relapse after chinchona draught.	14
J. B.	25	2	Hands and wrist chiefly affected.	Aperient on admission, with calomel and colch. Bicarb. pot., 1½ dr.; acet. pot., 2 scr.; colch. wine, 10 min.; sol. acet. amm., 6 dr.; citric acid, 1 scr.; every 4 hrs; next day, thrice a day. After 8 days, bark sub. for acet. amm.	Unaffected.	Pains became localised in wrist. Became surgeon's patient.	24
M. C.	49	1	Legs and feet chiefly affected; the latter red and swollen. Skin cool on admission.	Aperient on admission, with calomel and colchicum. Bicarb. pot., 1½ dr.; acet. pot., 1 dr.; colch. wine, 10 min.; sol. acet. amm., 6 dr.; citric acid, 1 scr.; every 4 hrs; next day, every 6 hrs. On fifth day, bicarb. pot., 1 scr.; acet. pot., 1 scr.; with bark; thrice a day.	Unaffected.	Much sweating; pulse rapid; urine high-coloured.	39
H. C.	25	3	Well-marked symptoms. Ankles and knees affected. Skin hot and perspiring; pulse 120; urine dark.	Aperient, with calomel and colchicum. Bicarb. pot., ½ dr.; acet. pot., 2 scr.; colch. wine, 10 min.; sol. acet. amm., 6 dr.; every 6 hrs. Fifth day, bicarb. pot., 1 scr.; acet. pot., 1 scr.; with chinchona: thrice a day.	Unaffected.	Rapid progress.	12
M. O.	24	10	Right hand, arm, and shoulder red and swollen; skin hot, sweating; tongue yellow and furred; pulse 120; bowels costive.	Bicarb. pot., 1½ dr.; acet. pot., 1 scr.; with chinchona: thrice a day.	Unaffected.	Affection became localised in wrist. Transferred to surgeon.	99
M. C.	38	7	Pain general in large joints, with redness and swelling; skin very hot.	Active purge on admission, containing colch. and pot.-tart. soda. Bicarb. pot., 1½ dr.; acet. pot., ½ dr.; colch. wine, 10 min.; sol. acet. amm., 6 dr.; citric acid, 1 scr.; every 4 hrs. Belladonna lotion to joints. Finally, chinchona draught, with bicarb. pot., 1 scr.	Unaffected.	Rapid recovery.	14
W. C.	33	14	Symptoms very well marked. Almost all the large joints affected. Tongue much furred.	Bicarb. pot., 1½ dr.; acet. pot., ½ dr.; colch. wine, 15 min.; sol. acet. amm., 6 dr.; citric acid, 1 scr.; every 4 hrs. On fourth day, chinchona draught, with bicarb. pot., 1 scr., and acet. pot., 1 scr.	Unaffected.	Temporary albuminuria. Pain rather obstinate after acute symptoms had ceased.	34

C. F.	20	14	Second attack. Ankles and knees red, swollen, and painful; skin dry and hot; urine alkaline.	Apertent, with colchicum and calomel. Bicarb. pot., 1 dr.; colch. wine, 15 min.; sol. acet. amm., 6 dr.: every 6 hrs. Vapour bath. Dover's powder, 10 gr., night after admission. Finally, chinchona draught, with bicarb. pot., $\frac{1}{2}$ dr., every 6 hrs.	Unaffected.	Skin dry. Good progress.	16
H. B.	46	8	Joints of all the limbs red and swollen. Vomiting.	Citr. pot., 1 scr.; pot.-tart. soda, 2 dr.; colch. wine, 12 min.; every 6 hrs.	Unaffected.	Steady improvement.	35
J. T.	20	4	Redness, pain, and swelling in large joints; sweating; tongue very much furred.	After five days, pot.-tart. ant., $\frac{1}{2}$ gr.; ext. conium, $\frac{1}{4}$ gr.: thrice a day.	Unaffected.	Walking about in six days.	13
D. C.	25	12	Wrists, knees, and ankles affected. Much sweating.	Bicarb. pot., 2 scr.; amm. tinct. guaiacum, 1 dr.; guaiacum mixture, 12 dr.: every 4 hrs.; after third day, thrice a day.	Unaffected.	Eruption (from iod. pot.?) on third day all over body. Rapid recovery.	8
R. M.	29	14	Large joints of lower limbs chiefly affected. Some effusion in knee-joint. Skin hot and dry.	Guaiacum mixture, 1 $\frac{1}{2}$ oz.; bicarb. pot., $\frac{1}{2}$ dr.; acet. pot., $\frac{1}{4}$ dr.; iod. pot., 6 gr.: every 6 hrs.; on second day, every 4 hrs.	Unaffected.	Rapid recovery.	13
R. R.	22	14	Hands and wrists affected most.	Apertent on admission, with colchicum. Acet. pot., $\frac{1}{4}$ dr.; bicarb. pot., $\frac{1}{4}$ dr.; guaiac. mixt., 1 $\frac{1}{2}$ oz.: every 4 hrs. Next day, bicarb. pot., $\frac{1}{2}$ dr., in addition.	Unaffected.	Pain lingered at night.	21
T. C.	63	17	Second attack. In knees and ankles. Symptoms well marked.	After a week, chinchona draught, with bicarb. pot., 1 scr., thrice a day.	Unaffected.	Good progress.	12
G. M.	40	30	Chiefly in knees and elbows.	Apertent, with colchicum, on admission. Chinchona draught, with bicarb. pot., 1 dr.; acet. pot., $\frac{1}{2}$ dr.; iod. pot., 6 gr.: every 4 hrs. Quantity of alkali gradually diminished.	Unaffected.	Pain shifted to foot, &c.	35
				Nitr. pot., 10 gr.; bicarb. pot., 1 dr.: every 6 hrs. Next day, iod. pot., 10 gr., Citr. pot., 1 scr.; bicarb. pot., 1 scr.: every 4 hrs. Calomel, $\frac{1}{4}$ gr.; opium, 1 gr.: every night to salivation.	Unaffected.		

TABLE XIII.—TREATED WITH FULL DOSES OF SALTS OF AMMONIA.
Three Cases. Heart affected in none. Average time in hospital twenty-two days.

Name.	Age.	Days affected before admission.	Characters of attack on admission.	TREATMENT.	State of heart throughout.	Progress, &c.	Number of days in hospital.
E. D.	28	10	Knees, hand, and wrist affected. Tongue furred; pulse rapid; urine thick.	Sol. of acet. of amm., 2 oz.; carb. of amm., 1 scr.: every 3 hrs. Citric acid, 1 scr. On fourth day repeated every 4 hrs.	Unaffected.	In four days urine became neutral; afterwards became acid again. Steady progress.	21
J. M.	22	7	General pains. Wrist and hand red, hot, swollen, and painful. Profuse sweating.	Apertent, with colchicum, on admission. Sol. of acet. of amm., 2 oz.; carb. of amm., 1 scr.; citric acid, 1 scr.: every 3 hrs. On third day continued every 6 hrs.	Slight roughness, not amounting to a murmur, heard at base on admission. Next day, and afterwards, sounds perfectly natural.	Urine remained acid. Rapid progress.	13
S. R.	43	5	Third attack. Rigors, followed by pain, redness, and swelling of nearly all the large joints. Skin hot and perspiring; tongue brown and dry; pulse 120.	Sol. of acet. of amm., $\frac{3}{4}$ oz.; carb. of amm., 1 dr.; citric acid, $\frac{1}{4}$ dr.: every 6 hrs. On fourth day 1 scr. of carb. of amm. added. On ninth day, sol. of acet. of amm., 1 dr.; bicarb. of pot., $\frac{1}{2}$ dr.; citric acid, 1 scr.: every 6 hrs. Finally chinchona draught, with $\frac{1}{4}$ dr. of bicarb. of pot., three times a day.	Unaffected.	Urine remained acid until two days after the administration of the salts of potash. The pains seemed to be greatly relieved by the ammonia.	32

TABLE XIV.—CASES INCAPABLE OF CLASSIFICATION.
Four Cases. Heart affected in one. Average time in hospital sixty-two days.

Name.	Age.	Days affected before admission.	Characters of attack on admission.	TREATMENT.	State of heart throughout.	Progress, &c.	Number of days in hospital.
A. S.	21	14	Second attack. Much fever; knee and toes very severely affected.	Nitre, 10 gr.; carb. of pot., 1 scr.: every 6 hrs. On third day 10 min. of colch. wine added. Afterwards, comp. coloc. pill, 5 gr. Blue pill, 5 gr., until gums sore. 3 dr. of bitartr. of pot. every morning.	Unaffected.	Pain very obstinate, chiefly in hand and right knee. Bowels constipated.	55
L. L.	25	2	Joints swollen and painful. General symptoms well marked.	Sulph. of magn., 1 dr.; bicarb. of pot., 1 scr.; sulph. nitr. ether, 1 dr.: every 6 hrs. 10 gr. of comp. ipecac. powder every night. After a week, no improvement having taken place, acet. of amm., with nitr. of pot., 15 gr., every 6 hrs. When murmur was heard, calomel, opium, leeches, and venesection.	Systolic murmur after twelve days.	Much sweating; pain persistent; respiration embarrassed.	47
T. C.	27	14	Chiefly in one upper extremity. Much heat and sweating.	Citr. of pot., 1 scr.: every 6 hrs. Cal., 3 gr.; opium, 1 gr.; pot. tetr. of ant., $\frac{1}{4}$ gr.: every night. After ten days, no improvement having taken place, quinine, 6 gr.; hydroch. of morph., $\frac{1}{4}$ gr.: every 6 hrs. A week later, carb. of pot., $\frac{1}{2}$ scr.; nitr. 10 gr.: three times a day. Then calomel, colchicum, blisters, vapour baths, &c.	Unaffected.	Settled in wrists, causing thickening. Became chronic after long ineffectual treatment.	108
A. L.	23	14	Pain, redness, and swelling in most of the large and small joints. Profuse acid perspiration; countenance shrunk and anxious.	Nitre, 13 gr.: every 6 hrs. On fourth day 6 gr. of comp. ipecac. powder added. Later, an effervescing draught of citr. of pot., with 10 gr. of nitr. of pot., every 4 hrs.	Unaffected.	Most profuse sweating; sleepless and wandering. Back became sore.	39

These tables furnished the basis of a paper in the forty-fifth volume of the "Medico-Chirurgical Transactions," to which the reader is referred for further particulars. In order to avoid misunderstanding, it must be stated that four cases of gonorrhœal rheumatism, originally included, have been struck out. In other respects, excepting only some necessary abbreviations, the tables remain as they were presented to the Society. Want of space has prevented the mention of the ordinary aperient doses, which were given in all cases when called for, and which frequently preceded any other measures. Where purgatives contained colchicum, or any remedy supposed especially to influence rheumatism, they are duly recorded. When cardiac murmurs are stated as having been heard on a particular day, the reckoning dates from admission. Therapeutical measures adopted subsequent to cardiac disease have not been allowed to influence the classification. I must mention also that with regard to the cases under alkalies the urine usually became speedily alkaline. As this change, however, was a question of hours rather than of days, I have preferred to omit the details which refer to it, observations not having been taken at sufficiently short intervals to be of value.

The tables supply the following facts:—161 cases of acute rheumatism, as yet without evidence of cardiac affection, were admitted. In 36 of these, heart complications arose while the patients were under treatment. These complications, though more frequent early than late in the disease, were found to have come on at all times during the first four weeks of the rheumatism. The cardiac disturbance was found in the first week of the disease in 12 cases; in the second in 9; in the third in 5; in the fourth in 3. In 7 cases the date of the murmur was uncertain.

These statements cannot in strictness be looked upon as contributing to the "natural history" of rheumatism, for all the patients were subjected to therapeutical measures, and some to measures which, there is reason to believe, conferred such protection upon the heart as to reduce the proportion of cardiac affection.

A nearer approach to the natural proportion of cardiac disturbance would probably be obtained by excluding all the cases subjected to alkaline treatment. This would give 35 cases of heart affection coming on in hospital among 110 of rheumatism.

The chief object, however, of this communication is to examine into the frequency of cardiac mischief in relation to different methods of treatment.

Of the 161 cases of rheumatism, 48 were subjected to the alkaline treatment—that is, to the daily administration of between half an ounce and an ounce and a half of the carbonates and vegetable salts of potash and soda. 3 cases were treated with salts of ammonia. 110 cases were treated by various means, other than the full alkaline system, including bloodletting, mercury, nitre guaiacum, opium, iodide of potassium, quinine, and such small doses of the alkaline salts as are described as "partial" or come under the designation of salines.

Among the 48 patients under alkalies one case of heart affection was recorded: among the 3 under ammonia, none; among the 110 under treatment other than alkaline were recorded 35.

Thus the alkaline treatment gave a proportion of heart disease of 1 in 48; non-alkaline treatment a proportion of heart disease of more than 1 in 4. The number of cases is large enough to afford a weighty deduction.

It is, of course, not unlikely, as the notes which the tables represent were taken for the most part in the ordinary course of hospital work, that a slight or transient murmur may now and then have been overlooked; but this source of error must have affected alike all modes of treatment. With the evidence before us it is not possible to question that, as compared with the other methods in use at the same time, the alkaline system gave a much smaller proportion of cardiac disease.

It will be observed that under alkalies the duration of the disease was shorter than under most other plans, a point, however, of little importance as compared with the safety of the heart.

It is not necessary to consider other remedies; venesection and mercury are practically abandoned in acute rheumatism. Next to the alkalies, nitre appears to give the best results. With regard to the other drugs which are

represented in the table, we can trace no advantage from their administration, and need not too precisely inquire whether they are mischievous or merely useless.

With regard to Dr. Davies's blistering system—a method of treatment of which the tables give no example,—from clinical evidence as well as the theoretical probability of the withdrawal, by this means, of a rheumatic poison, we may believe it to be attended with advantage. On the other hand, it is inconvenient to the patient, and probably does not protect the heart to the same extent as can be claimed for alkaline medicines.

It does not seem that any method of treatment which has yet been invented is able entirely to do away with the tendency which acute rheumatism has to affect the lining and covering membranes of the heart. Of late years, alkalies in some form have been almost invariably used at St. George's in cases of this disease; thus a much larger number of cases have every year been subjected to this treatment than was formerly the case. Dr. Reginald Thompson, the present medical registrar, has collected a considerable number of cases both of endocarditis and pericarditis, under alkalies; but it is not necessary to dwell upon this fact, since, as no other method of treatment has been employed to any extent during the same period, we have no means of comparing these cases with others under different circumstances. Though it must be allowed that heart complications occur occasionally under alkalies, the conclusion may fairly be drawn that, as compared with other modes of treatment, alkalies give the best results.

It may not be out of place to refer to the experience of Dr. Fuller, who was the early, and has been the persistent, advocate of the alkaline treatment. He states that among 168 cases of acute rheumatism, the heart became involved, subsequent to the commencement of the treatment, in only five.*

Whether alkalies give better results than mint-water, or what is called expectancy, is a question to which the details I have given supply no answer. If the proportion of cardiac disturbance which occurred (as shown in the tables) under treatment other than alkaline be allowed to approximate to that which would have taken place had nothing been done, we may see something of the results of expectancy in the non-alkaline cases. Some of the methods of treatment were apparently harmless; we may perhaps believe that under their influence the disease was not materially aggravated, and did not produce more than its natural proportion of cardiac disease. And if the proportion of cardiac disease natural to acute rheumatism is at all like what occurred in the non-alkaline cases, we must believe that alkalies reduce the proportion of cardiac disease which belongs to unmedicated acute rheumatism. With this conclusion I should myself be most unwilling to withhold the use of alkalies in any suitable case. Those cases may be regarded as suitable where there is free generation of acid.

A few words of practical suggestion may form a not unwelcome conclusion.

In order to obtain the best results from the alkaline treatment of rheumatism, it is necessary that it should be regulated with a watchful care. In the beginning of the disease, when there is rapid production of acid, the alkalies should be given freely, and, above all, frequently. Taking the urine as a guide, it should be made alkaline as soon as possible, and kept so with no intervals of acidity. To do this, the salts must be given at first in considerable doses, and at short intervals; three or four scruples every two or three hours, as ordinary treatment for an adult. As the disease progresses, and the acid tendencies of the patient diminish, it is necessary to lessen the strength and the frequency of the medicine in a gradual manner, with continual reference to the urine, guarding against excess of alkali towards the end of the disease as carefully as against deficiency at the beginning.

It appears to matter little whether potass or soda, vegetable salts or carbonates, are used. Citrate of potass may be given alone, or with acetate or bicarbonate. Nitre and acetate of ammonia are, at St. George's, not unfrequently used as adjuncts. The form of prescription may be safely varied according to the circumstances of each case and the fancy of the practitioner. Perhaps a simple solution of citrate of potass in water is as effective and as little objec-

* Fuller on Rheumatism, 3rd edit., p. 265.

tionable as anything. This salt, or its equivalent, may be given in the general quantity of about an ounce in the twenty-four hours; rather more at the beginning of the disease, less towards the close. In most cases quinine or bark may with advantage be added as the active symptoms wane.

Chesterfield-street, May-fair, Jan. 1869.

ON THE OCCURRENCE OF RELAPSING FEVER AMONG THE POLISH JEWS ADMITTED INTO THE GERMAN HOSPITAL IN LONDON.

By HERMANN WEBER, M.D., F.R.C.P.,

PHYSICIAN TO THE GERMAN HOSPITAL.

(Concluded from p. 222.)

THE picture given in the concluding part of the former section of this paper is very similar to those drawn by Sir Wm. Jenner, Dr. Murchison, and older observers in this country, and by Griesinger and Hirsch in Germany. It differs, however, in a few points of minor importance.

First, with regard to the abruptness of the attack. The first attacks were also in our cases described as quite abrupt; but the second, which came on under our own observation, when the patients were watched, were by no means so abrupt as is usually assumed, but a change in the general feeling, or in the aspect of the patient, a less good night, or a slight and gradual rise of the temperature, preceded the outbreak. There can be little doubt that the first attack, too, does not occur as abruptly as is generally described, but is preceded by morbid symptoms which escape the attention of the patient. Scarlet fever, pneumonia, and typhus are likewise commonly described as commencing quite suddenly; but whenever I have had the opportunity of witnessing their development, the rise of symptoms was not abrupt, though they have, in common with relapsing fever, a steeper road of ascent than many other diseases.

The frequency of the pulse, in our cases, varied mostly between 100 and 120, and was in proportion to the other symptoms of pyrexia; while Dr. Murchison* draws special attention to the proportionally much greater frequency of pulse in this disease than in typhus. The youth and comparatively good condition of our patients account, probably, for this difference.

The tendency to constipation was less marked in our patients, and the opposite even took place in the case previously described in each of the three attacks. Vomiting occurred only in two out of the seven cases; and jaundice in only one. The enlargement of the liver was no prominent feature with us. The spleen, however, was invariably enlarged, and this much more so during the second attack than during the first. After recovery from the second attack it decreased rather rapidly, and did not much increase during the third attack in the only case where this occurred.

With regard to the number of attacks in the seven cases, there were three in one; two perfect attacks in four; a very short second in one; and no second at all in one.

Retention of urine from inaction of the bladder occurred in one case.

I am sorry I can add but very little to our as yet imperfect knowledge of the *urine*. Dr. Parke† and Dr. Murchison‡ mention that albumen has been rarely found, while it was present in two of our seven cases. In one of them the quantity was rather large towards the end of the second attack, and accompanied by the presence of many granular casts; the urine was of high specific gravity (1025), and deposited lithates and lithic acid in crystals; the albumen and casts disappeared within four days from the cessation of the pyrexia. Considering the high degree of pyrexia usually attending relapsing fever, it is probable that albumen is more frequently present than is generally assumed.

* A Treatise on the Continued Fevers of Great Britain (1862), p. 333.

† The Composition of the Urine (1860), p. 260.

‡ Loc. cit., p. 345.

In an epidemiological point of view it is important to bear in mind that relapsing fever is not prevalent in either London or any part of England, Scotland, or Ireland. Dr. Murchison kindly informed me, only a few days ago, that there have not been any cases of relapsing fever in the London Fever Hospital for fourteen years, excepting three doubtful cases in the course of last autumn. The first and second of these three cases were those of a Polish Jew and his wife, who were admitted last autumn in a state of great prostration; had no fever when they were examined at the hospital, but had had an attack of illness before admission. As they could not be induced to remain in the hospital, there was no chance of watching for a relapse. The third case was that of an Irish girl coming from Whitechapel, in whom the symptoms resembled those of relapsing fever, but in whom there occurred, if I remember aright, no relapse. Mr. Simon likewise is not aware of the existence at present of relapsing fever in England. It is further important to remark that all our patients were natives of either Russian or Prussian Poland, and that they all belonged to the Jewish persuasion. The first case occurred in the beginning of September, and was recognised as such by Dr. Bäumler, who saw my patients during my absence; the next, a patient of Dr. Sutro's, was admitted in November; and five more since then. Two of the patients mentioned that they came from 20, Castle-street, Whitechapel; and another (Dr. Sutro's case), who, unfortunately, gave his address indistinctly, stated that his was the fourth case of the same illness in the same house; but whether the other three cases were really relapsing fever or not, could not be made out. Two of the cases had resided from only a few days to four weeks in this country; the other cases from one to several years. They were not particularly ill nourished when attacked. Their ages varied from seven to twenty-eight years. Six were male, one a female.

To Professor Hirsch of Berlin, as well as to Dr. Murchison and Dr. Mackower of Wiesbaden, I owe the information that relapsing fever is prevalent in various parts of Prussia and Russian Poland, and in different districts of eastern Prussia. Professor Hirsch especially states that in several places, as Berlin and Königsberg, it is quite clear that the disease has been imported; and, further, that the cases lately admitted into the Clinical Hospital of Königsberg consisted entirely of Jews immigrated from Poland and Russia.

It will be a point of great interest to watch whether, in London, the disease will remain confined to the Polish Jews and to a limited district only, or whether the cases before us will form the beginning of a more general epidemic. The mildness of the weather, by which out-of-door work has not been stopped, and by which crowding together in confined rooms has been rendered unnecessary, may partly account for the slight spreading of the disease up to this time. The principal cause why the disease has, as far as we know, been confined to the Polish Jews, who must be regarded in the present instance as the importers, is probably to be found in the fact that they have but little intercourse with other portions of the population, owing partly to their religious persuasion, partly to the peculiarity of their dialect, which is almost equally incomprehensible to English and Germans, and perhaps also to a certain feeling of distrust in their neighbours, whom they do not understand, and by whom they are not understood.

Grosvenor-street, February, 1869.

CASES OF TETANUS.

By JAMES MORE, M.D.

CASE 1. *Traumatic tetanus*.—On April the 14th, 1863, John M—, aged thirty-six, a strong muscular labourer, received a compound comminuted fracture of the big toe. As the external wound was small, I endeavoured to save the toe; but ere many days had passed profuse suppuration set in, with certain symptoms indicating tetanus, and I was obliged to amputate.

April 30th.—During the first day or two after receipt of the injury, and before amputation, the patient complained of great pain in the foot—a pain similar to but more intense than cramp,—with stiffness at the angles of the jaws, and