

I may observe, were fully and fairly answered by me on their appearance, and I shall only be too happy if your readers do me the honour of perusing the reviews and replies for themselves. If these reviews, written apparently, like your correspondent's letters, for a purpose easily understood, were not printed in my "List of Works", it was because I did not wish to make my "List of Works" a controversial pamphlet. It was not, as your correspondent ungenerously and unjustly asserts, owing to a want of candour on my part. If I did not print the hostile reviews, neither did I print all, or nearly all, the favourable reviews. The want of candour argument consequently falls to the ground.

I further and most emphatically deny the accuracy of your correspondent's interpretation of my figure-of-8 movement. He says: "Dr. Pettigrew's diagram represents the twisting of the wing on its axis, but the arrows pointing out the direction of movement ought to be reversed." This is not so. My diagram is absolutely correct. Your correspondent, with the one-sidedness which characterises all his statements, or rather misstatements, makes it appear as if Professor Marey had only made experiments, and that my conclusions were based only on anatomical research. Now, I wish to inform your readers that I have made hundreds of experiments, not only with living and recent natural wings, but with every possible form of artificial wing. My conclusions, consequently, have been drawn from combined anatomical, physiological, and physical investigation. My results have, in every instance, been again and again tested by actual experiment. I hope this statement will extract the sting from the following bitter paragraph, penned by "A Physiologist who expresses no opinion".

"But I distinctly object to an anatomist bearing his claims to a physiological chair upon claims to a physiological discovery, with which his only connection, in reality, is that he has made a bad guess at an explanation of anatomical arrangements, which experiment has not verified, but refuted."

I beg to remind your correspondent that *Animal Locomotion* is not the only physiological work I have written, and that, therefore, my claims on the Chair of Physiology in Edinburgh do not rest on a single investigation. Your correspondent, having closed his own eyes, endeavours to lead others astray.

In conclusion, I desire nothing more sincerely than that your readers will peruse and examine for themselves my several works on *Animal Locomotion*, and compare them with similar works by Professor Marey. A deep, and I hope a proper, sense of professional and scientific etiquette will prevent my again replying to an anonymous writer, who makes a violent personal attack, and has neither the courtesy nor the manliness to sign his name.—I am, etc.,

J. BELL PETTIGREW.

Royal College of Surgeons of Edinburgh,
August 22nd, 1874.

THE RELATION OF HARD WATER TO STONE IN THE BLADDER.

SIR,—In Mr. Cadge's very able Address in Surgery, occurs the following observation. "I leave this question of the effect of hard waters, therefore, as an undecided one, requiring fuller investigation, and especially the tracing the absence or prevalence of stone in other countries, and connecting it with local influences or endemic causes." Living in a district in which stone is comparatively unknown, or, at any rate, of very unfrequent occurrence, I have often asked myself why it is so, and what peculiarities in the geological character of the country, the food of the people, their habits, or the nature of the drinking-water, could account for this, when the statistics of Derby and Leicester show that stone is more or less prevalent in their respective localities. I have only had two cases of stone under treatment in the last twenty years, in a district which numbers upwards of twenty thousand people. In one patient, a phosphatic calculus had been crushed by Sir James Paget some years before he came to live in this neighbourhood; and in the other, a lithic acid stone was passed, after great suffering, down the ureter, and subsequently voided with the urine.

As far as I know, no case has occurred in the town of Wirksworth in the last twenty years. It is built upon the carboniferous limestone. To the north of the town, we find the limestone formation everywhere; on the east and south, the millstone grit-measures; on the west, generally limestone. The drinking-water is soft and good, being conveyed in pipes from a covered reservoir supplied by springs which come from the gritstone; and this probably acts as a good natural filter. The following is a report upon this water some years ago by Dr. Bernays of St. Thomas's Hospital.

"It is beautifully clear and sparkling, very soft, and available for every household purpose. It contains a large amount of carbonic acid, to

which the briskness of this water is owing. On further investigation, I found in one gallon:

	Grains.
Sulphate of lime	0.6500
Bicarbonate of lime	2.4480
Bicarbonate of magnesia	0.1370
Bicarbonate of iron	0.0090
Carbonate of soda	Traces
Chloride of sodium	0.0258
Silica	0.0080
Carbonate of potassa	Traces
Organic matter	1.1210
Free carbonic acid	7.2160

"Its specific gravity is 1.00014.

"In conclusion, it is just such a water as one would expect from the millstone grit, and I have no hesitation in saying that no town in England is supplied with one of better quality."

Your correspondent Dr. Murray would probably expect a freedom from stone in persons drinking this water; but I am at a loss to account for its absence in some of the villages near Wirksworth, in which the water is very hard, and obtained directly from the limestone. I shall be glad if any light can be thrown upon this point.

In conclusion, let me state that the two patients to whom I have referred were in easy circumstances, and could obtain all the necessities and comforts of life. I am, etc.,

WILLIAM WEBB, M.D., F.R.C.S.

Wirksworth, Derbyshire, August 22nd, 1874.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

THE authorities of St. George's Union, at their usual meeting on August 21st, voted a sum of eighty guineas to Dr. Symes, medical officer of the Mount Street Workhouse, in recognition of his services in attending 239 lunacy cases, and giving certificates in 159 cases for admission to asylums.

APPOINTMENTS OF MEDICAL OFFICERS OF HEALTH.

PATTEN, Charles A., M.R.C.S., to the Ealing urban sanitary district.

CROOK, John E., M.D., to the Northfleet urban sanitary district.

HOLMES, Charles, F.R.C.S., to the Slough urban sanitary district.

CLENDINNE, William E., M.D., to the Stafford urban sanitary district.

SMITH, William J., L.R.C.P.Ed., to the Rawmarsh urban sanitary district.

APPOINTMENTS AS MEDICAL OFFICERS AND PUBLIC VACCINATORS.

TAYLOR, Frederick E., to the Wells district of the Walsingham Union.

THOMPSON, Edward T., L.K.Q.C.P., to the Whitmore district of the Newcastle-under-Lyne Union.

JACKSON, Joseph, L.R.C.P.Ed., to the Frodingham district of the Driffeld Union.

HUNTER, Christopher, L.R.C.P.Ed., to the Carrick Dispensary district of the Glenties Union.

POPE, John R., M.R.C.S.Eng., to the Harrow Weald district of the Hendon Union.

BEAMISH, Robert T., M.D., to the Blanchland district of the Hexham Union.

ATKINSON, John P., M.D., to the Bampton district of the Witney Union.

PIGGOTT, Edward A., L.R.C.P.Ed., to the Stoke Ferry district of the Downham Union.

GORHAM, Patrick C., L.R.C.P.Ed., to the Roundstone district of the Clifden Union, co. Galway.

GREER, William, L.K.Q.C.P., to the Grey Abbey Dispensary district of the Newtownards Union, co. Down.

O'FARRELL, Henry, L.K.Q.C.P.I., to the Spiddal Dispensary district of the Galway Union.

CHARTRES, William, L.K.Q.C.P.I., to the Strangford Dispensary district of the Downpatrick Union,

MAHON, Charles J., L.K.Q.C.P.I., to the Workhouse, Dromore Union.

SCOTT, Thomas H., L.R.C.P.Ed., to the Easky Dispensary district of the Dromore West Union.

HACKETT, John B., L.R.C.P.Ed., to the Ballyraggett Dispensary district of the Castlecorner Union.

KEYWORTH, John W., M.D., to the Aston Road district of the Aston Union.

BREWSTON, William, M.R.C.S.Eng., to the New Radnor district of the Kington Union.

LLOYD, Thomas Ll., L.R.C.P., to the Cheswardine district of the Drayton Union.

MILITARY AND NAVAL MEDICAL SERVICES.

INDIAN MEDICAL SERVICE.—List of the candidates for Her Majesty's Indian Medical Service who were successful at the competitive examinations held at Burlington House, on August 10th, 1874. Twenty-eight candidates competed for fourteen appointments, and all were reported qualified.

	Marks.		Marks.
1. Stocker, R. N.	2340	8. McCartie, C. J.	1898
2. Bomford, G.	2190	9. Lucas, J. C.	1885
3. Barclay, A.	2156	10. Adams, A. F.	1840
4. O'Hara, W.	2135	11. Sweetnam, M.	1800
5. Tootell, E.	2065	12. Oliver, J. P.	1795
6. Gray, H. A. C.	1935	13. Hume, T.	1755
7. O'Keefe, J. L.	1910	14. Parakh, D. N.	1720

ARMY MEDICAL APPOINTMENTS.

Surgeon SAMUELS has arrived at Athlone, from Enniskillen, and taken medical charge of the troops in that garrison.

Surgeon-General BALFOUR, M.D., has embarked for Gibraltar, to assume the duties of principal medical officer at that station.

Surgeon-Major M. PARISH has been posted to the 17th Lancers for five years, in place of Surgeon-Major Greer.

Surgeon BARROW has received instructions from the War Office to proceed from the Eastern to the Northern District for duty.

Surgeon-Major GORE has reported his arrival in Dublin to the Surgeon-General, and has been posted for duty to the General Hospital.

NAVAL MEDICAL APPOINTMENTS.

Staff-Surgeon Francis W. DAVIS, additional, to the *Royal Adelaide*.

Staff-Surgeon Patrick KEELAN (second class) to the *Sappho*.

Surgeon R. W. COPPINGER to the *Cambridge*, as supernumerary.

Surgeon H. A. W. RICHARDSON, to the *Topaze*.

MEDICAL NEWS.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the science and practice of medicine, and received certificates to practise, on Thursday, August 20th, 1874.

Key, Augustus Cooper, Elliott Road, North Brixton

Skinner, Edward, Red Hill, Sheffield

Stocker, Charles Joseph, Globe House, The Green, Stratford

The following gentlemen also on the same day passed their primary professional examination.

Chadwick, George Richard, Guy's Hospital

Karop, George Charles, Middlesex Hospital

Pitt, Richard Joseph, Charing Cross Hospital

MEDICAL VACANCIES.

THE following vacancies are announced:—

ACCRINGTON and DISTRICT DISPENSARY—Medical Officer. Applications, 31st instant, to W. C. Parker, Secretary, *pro tem.*, 5, Croft Street, Accrington.

ANDERSON'S UNIVERSITY, Glasgow—Professor of Chemistry. Applications, 1st September, to J. B. Kidston, Secretary.

ATKINSON-MORLEY CONVALESCENT HOSPITAL.—Resident Medical Officer: £75 per ann., furnished rooms, and board. Applications, 7th October, to Charles L. Todd, Secretary, St. George's Hospital.

BALLYSHANNON UNION, co. Donegal—Medical Officer, Public Vaccinator, and Registrar of Births, etc., for the Ballyshannon Dispensary District: £95 per annum, and fees. Applications, 19th September, to Robert Reynolds, Honorary Secretary, Mullins, Ballyshannon.

BIRMINGHAM GENERAL DISPENSARY—Additional Resident Surgeon: £130 per annum, rising to £150, £30 per annum for cab-hire, furnished rooms, etc. Applications, 29th instant, to A. Forrest, Secretary.

BRADFORD (Yorkshire) EYE AND EAR HOSPITAL—Assistant-Surgeon: £52:10 per annum. Applications, 8th September, to Wm. Maw, Secretary.

BRISTOL GENERAL HOSPITAL—Physician's Assistant: £50 per annum, board, lodging, etc. Applications, 24th Sept., to Henry Fox, R.N., Secretary.

CARLISLE DISPENSARY—Assistant House-Surgeon: £90 per annum, with apartments, coal, gas, and attendance. Applications to Mr. Davidson, Honorary Secretary, 8, Devonshire Street, Carlisle.

CORK SOUTH CHARITABLE INFIRMARY and COUNTY HOSPITAL.—Resident Apothecary and House-Surgeon: £100 per annum, and furnished apartments. Applications, 2nd September, to the House Committee.

FLOREST HILL DISPENSARY—Medical Officer.

GLENTIES UNION, co. Donegal—Medical Officer, Public Vaccinator, and Registrar of Births, etc., for the Doochary Dispensary District: £100 per annum, and fees. Applications, 31st instant, to John O'Donnell, Honorary Secretary, Knockletra, Stranolar.

GLOUCESTER COUNTY PRISON—Surgeon: £175 per annum. Applications, 15th September, to George Riddiford, Clerk of the Peace, Gloucester.

GREAT NORTHERN HOSPITAL—Physician-Surgeon. Applications, 15th September, to A. Phillips, Secretary.

HULL AND SCULCOATS DISPENSARY—Resident Surgeon: £150 per annum, with house-rent, coals, and gas free. Applications, 2nd September, to G. W. Stourton, Hon. Secretary.

HUNTINGDONSHIRE COUNTY HOSPITAL, Huntingdon—Medical Officer. Applications, 15th September, to R. H. Gatty, Honorary Secretary.

LUNESDALE UNION—Medical Officer for the Workhouse and Hornby District: £30 and £70 per annum, and fees, respectively. Applications, 8th Sept., to Robert Stephenson, Clerk.

NEWCASTLE-ON-TYNE INFIRMARY—Physician. Applications, 3rd September, to R. Y. Green, Secretary.—Senior House-Surgeon, and Junior House-Surgeon, if present one should be appointed Senior. Applications, 15th Sept.

NEWPORT UNION, co. Mayo—Medical Officers for the Ballycrocy and Achill Dispensary Districts: £100 per annum, each.

NORTHAMPTON GENERAL INFIRMARY—Dispenser: £100 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL—Resident Medical Officer. Applications, 7th September, to A. Boodle, Secretary.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road—House-Physician: £80 per annum.

SOUTHPORT CONVALESCENT HOSPITAL—Resident Medical Officer and Superintendent: £80 per annum to commence, with £10 additional each year to £100, with board, lodging, and attendance.

STOCKPORT URBAN SANITARY DISTRICT—Medical Officer of Health and Public Analyst: £150 for one year, office, and stationery. Applications, 14th September, to Walter Hyde, Town Clerk.

SUNDERLAND AND BISHOPWEARMOUTH DISPENSARY—Junior House-Surgeon: £60 per annum, with board and residence, with yearly increase of £10.

TYNEMOUTH UNION—Medical Officer for the Workhouse: £100 per annum.—Medical Officer for the Tynemouth District: £60 per annum.

UNIVERSITY COLLEGE, London—Professor of Comparative Anatomy and Zoology.

WESTMEATH COUNTY INFIRMARY—Medical Officer. Applications, 17th September, to J. Swift, Treasurer.

WEST WARD UNION—Medical Officer and Public Vaccinator for the Patterdale District: £10 per annum, and fees. Applications, 2nd September, to the Chairman, Hackthorpe.

YORK DISPENSARY—Resident Medical Officer: £130 per annum, apartments, coals, and gas. Applications, 3rd September, to S. W. North, Esq., Castle-gate, York.

YORKSHIRE LUNATIC ASYLUM—Resident Medical Superintendent: £300 per annum, house-rent and taxes free; coals, gas, vegetables, milk, and washing provided; £150 will be expended on substantial furniture. Applications, 19th September, to the Committee, under cover to R. D. Horne, Clerk.

MEDICAL APPOINTMENTS.

Names marked with an asterisk are those of Members of the Association.

*BARHAM, Charles, M.D., appointed Consulting Physician to the Royal Cornwall Infirmary.

CADBY, Henry, M.R.C.S.E., appointed Junior House-Surgeon to the Royal Southern Hospital, Liverpool, *vice* W. Williams, M.D., promoted.

CROWE, George W., M.B., appointed House-Surgeon to the Warneford Hospital, Leamington.

CROWE, John W., L.K.Q.C.P.I., appointed House-Surgeon to the Hartlepool Hospital.

FERRIER, David, M.D., appointed Assistant-Physician to King's College Hospital.

LLOYD, Edward J., M.D., appointed House-Surgeon and Secretary to the Denbighshire Infirmary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths, is 3s. 6d., which should be forwarded in stamps with the communication.

BIRTH.

LATTEY.—On August 21st, at Wood House, Southam, the wife of Walter Lattey, L.R.C.P., M.R.C.S., of a daughter.

MARRIAGES.

KENNY—COLLINS.—On August 12th, at Holme-on-Spalding Moor, by the Rev. G. A. Shanahan, Pastor of Holme Hall, York, assisted by the Rev. C. P. Kenny, of Limerick, brother to the bridegroom, and the Rev. F. Gorelli, M. A. Kenny, L.R.C.P.Ed., to Annie Mary, only daughter of George Collins, Esq., Holme, York.

PAGET—PRICE.—On August 12th, at Standish, Lancashire, William S. Paget, M.B. Lond., to Margaret Elizabeth, eldest surviving daughter of John Llewellyn Price, M.R.C.S., Standish.

HYDROPHOBIA.—A painful case of hydrophobia has been investigated by the Manchester coroner. Two or three months ago, a boy, named Dunstan, was bitten by a bull-and-terrier dog, and the wounds were afterwards cauterised and bathed. The wounds healed in a fortnight; but, shortly afterwards, all the symptoms of hydrophobia manifested themselves; and, after enduring frightful agony, the boy died on Monday last. The doctor who made the *post mortem* examination was of opinion that the boy had exhibited all the usual symptoms of hydrophobia.