TRANSACTIONS

OF

THE CLINICAL SOCIETY.

VOL. XXIX.
NOTICE.

The present Volume comprises the Proceedings of the Society during its Twenty-ninth Session, October, 1895, to May, 1896.

The Council think it proper to state that the authors of the several communications are alone responsible for the statements, reasonings, and opinions contained in their respective papers.

20, Hanover Square, W.;
September, 1896.
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CLINICAL SOCIETY OF LONDON.

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THE GENERAL MEETING, MAY 22, 1896.

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VOL. XXIX.
PRESIDENTS OF THE SOCIETY

(From its Formation).

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1873 SIR PRESCOTT GARDNER HEWETT, Bart., F.R.S.
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1877 GEORGE WILLIAM CALLENDER, F.R.S.
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1883 SIR ANDREW CLARK, Bart., M.D., LL.D., F.R.S.
1885 THOMAS BRYANT.
1887 SIR WILLIAM HENRY BROADBENT, Bart., M.D.
1889 CHRISTOPHER HEATH.
1891 SIR DYCE DUCKWORTH, M.D., LL.D
1893 JOHN WHITAKER HULKE, F.R.S.
1895 THOMAS BUZZARD, M.D.
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1881 Paget, Sir James, Bart., D.C.L., LL.D., F.R.S., 5, Park Place, W. (V.-P. 1867-8.) (P. 1869-70.)

1885 Simon, Sir John, K.C.B., D.C.L., LL.D., F.R.S., 40, Kensington Square, S.W.

1889 Gairdner, William Tennant, M.D., LL.D., St. Vincent Street, Glasgow.

1895 Humphry, Sir George Murray, M.D., LL.D., Sc.D., F.R.S., F.R.C.S., Professor of Surgery in the University of Cambridge, and Consulting Surgeon to Addenbrooke's Hospital. (V.-P. 1867-70.)


1895 Wilks, Samuel, M.D., LL.D., F.R.S., F.R.C.P., President of the Royal College of Physicians, Consulting Physician to Guy's Hospital, 74, Grosvenor Street, W.
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Elected


1881  von Esuchi, Friedrich, M.D., Professor of Surgery and Director of the Surgical Clinique in the University of Kiel.

1885  Gerhardt, Dr. Carl, Professor of Clinical Medicine in the University of Berlin.

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1895  Lucas-Championnière, Dr. Just, Surgeon to the St. Louis Hospital, Paris.

1881  Mazzoni, Costanzo, Professor of Surgery at the Royal University of Rome, and Surgeon to the Hospital of San Giacomo at Rome.

1889  Mitchell, S. Weir, M.D., Professor of Medicine in the University of Philadelphia.

1895  Nottnagel, H., Professor of Clinical Medicine in the University of Vienna.

1881  Ollier, Leopold, M.D., Honorary Surgeon to the Hôtel Dieu, Lyons.

1895  Virchow, Dr. Rudolf, D.Sc.Cantab., D.C.L.Oxon., Professor of Pathological Anatomy in the University of Berlin.

1874  von Ziemssen, H., M.D., Professor of Clinical Medicine at Munich.
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(P.) President. (S.) Secretary.
(V.P.) Vice-President. (C.) Member of Council.

The Surnames of Members who have compounded for their Subscriptions are printed in this type (TYPE). The Surnames of Members who have paid the Composition Fee for the 'Transactions' are printed in this type (Type). The figures succeeding the word Trans. show the number of Papers contributed to the 'Transactions.' C.S. refers to the Specimens exhibited by Card.

Elected

1893 Abbott, Francis Charles, M.B., B.S., St. Thomas's Hospital, S.E. Trans. 1.

1889 Acland, Theodore Dyke, M.D., 74, Brook Street, W. Trans. 1.
1883 Adams, William Coode, M.B., 1, Eton Avenue, South Hampstead, N.W.
1888 Addinsell, Augustus W., M.B., C.M., 30, Ashburn Place, South Kensington, S.W.
1884 Adeney, Edwin Leonard, M.D., 3, Sion Terrace, Mount Sion, Tunbridge Wells.
1883 Allchin, William Henry, M.D., 5, Chandos Street, W. (C. 1894–.)
1885 Allingham, Herbert William, 25, Grosvenor Street, W. Trans. 6.
1888 Anderson, John, M.D., 9, Harley Street, W.
1868 Anderson, John Ford, M.D., 41, Belsize Park, N.W.
O.M. Andrew, James, M.D., Sunncote, Emery Down, Lyndhurst, Hants. (C. 1872–4, V.P. 1885–6.) Trans. 1.
1885 Armstrong, Henry George, Heathcote, Crowthorne, Berkshire.
1888 Armstrong, Hugh, Aylestone Hill, Hereford.
O.M. Arnott, Henry. (C. 1871–5.) Trans. 3.
1894 Attlee, John, M.B., B.C., 58, Brook Street, W. C.S. 1.
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1880 BAKER, HENRY FRANCIS, 2, Mandeville Place, Manchester Square, W.
1895 BALDWIN, GERALD R., 33, Brompton Square, S.W. Trans. 1.
1883 BAXHAM, HENRY FRENCH, M.D., Sidmouth House, Reading.
1876 BANTOCK, GEORGE GRANVILLE, M.D., 12, Granville Place, W.
1882 BARKER, FREDERICK CHARLES, M.D., Surgeon-Major, Bombay Medical Service, India.
1894 BARTLING, HARRY GILBERT, 85, Edmund Street, Birmingham. Trans. 1.
1888 BARRS, A. G., M.D., 22, Park Place, Leeds.
1888 BARTON, EDWIN A., 35, Cheniston Gardens, Kensington, W.
1891 BARTON, J. KINGSTON, 2, Courtfield Road, S.W.
1888 BATTERHAM, JOHN WILLIAMS, M.B., B.S., Bank House, Grand Parade, St. Leonard’s.
1886 BATTLE, WILLIAM HENRY, 2, Mansfield Street, W. Trans. 5, C.S. 9.
1868 BÄUMLER, CHRISTIAN G. H., M.D., University of Erlangen. Trans. 4.
1896 BEATON, ROBERT MILNE, M.B., 7, Dartmouth Park Road, N.W.
1884 BENHAM, F. LUCAS, M.D., 33, Elizabeth Street, Eaton Square, S.W. Trans. 4.
1883 BENHAM, ROBERT FITZROY, Abercorn House, Castletown Road, West Kensington, W.
1878 BENNETT, STORER, 17, George Street, Hanover Square, W. C.S. 2.
1874 BENNETT, WILLIAM HENRY, 1, Chesterfield Street, W. (C. 1889, 1892–4, S. 1890–1, V.P. 1895–.) Trans. 4, C.S. 3.
1889 BENTLEY, ARTHUR J. M., M.D., Mena House, Pyramids, Cairo, Egypt.
1885 BERRY, JAMES, 60, Welbeck Street, W.
1890 BINDLEY, ROBERT ALFRED, Westbury House, Harlesden, N.W.
1882 BINDLEY, PHILIP HENRY, M.B., Braunksome Road, St. Leonards-on-Sea.
1879 BIXTON, WM. JOHN VEREKER, M.D.
1883 BISS, CECIL YATES, M.D., 135, Harley Street, W. Trans. 1.
1889 BISSHOPP, FRANCIS ROBERT BRYANT, M.A., M.B., B.S., Belle Vue, Mount Pleasant, Tunbridge Wells.
List of Members.

**Elected**

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<td>Blaxall, Frank Richardson, M.D.,</td>
<td>Rendlesham, Hornsey Lane, N.</td>
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<td>1893</td>
<td>Bond, James William, M.D.</td>
<td>26, Harley Street, W.</td>
<td>C.S. 1.</td>
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<td>1888</td>
<td>Bostock, Robert Ashton, 73</td>
<td>Onslow Gardens, Brompton.</td>
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<td>1883</td>
<td>Bowley, Anthony A.</td>
<td>24, Manchester Square, W.</td>
<td>(C. 1891-3.)</td>
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<td>1883</td>
<td>Bowles, Robert Leamon, M.D.</td>
<td>16, Upper Brook Street, W.</td>
<td>(C. 1890-1.)</td>
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<td>1896</td>
<td>Box, Charles R., M.D.,</td>
<td>St. Thomas's Hospital, S.E.</td>
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<td>1890</td>
<td>Bradford, John Rose, M.D.</td>
<td>F.R.S., 52, Upper Berkeley Street, W.</td>
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<td>Bridges, Robert, M.B., M.A.</td>
<td>The Manor House, Yattendon, Berkshire.</td>
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<td>Forest Hill, S.E.</td>
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<td>1887</td>
<td>Broock, J. H. E., M.D., B.S.</td>
<td>115, Adelaide Road, N.W.</td>
<td></td>
</tr>
<tr>
<td>1894</td>
<td>Brodie, C. Gordon, 30</td>
<td>Harley Street, W.</td>
<td>C.S. 1.</td>
</tr>
<tr>
<td>1890</td>
<td>Brown, Walter Henry, 19</td>
<td>Queen Street, Leeds.</td>
<td>Trans. 2.</td>
</tr>
<tr>
<td>1876</td>
<td>Browne, George Buckston, 80</td>
<td>Wimpole Street, W.</td>
<td>(C. 1891-3.)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Trans. 3.</td>
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<tr>
<td>1887</td>
<td>Browne, Oswald Auchinleck, M.A., M.B.</td>
<td>43, Bedford Square, W.C.</td>
<td></td>
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<tr>
<td>1883</td>
<td>Bruce, John Mitchell, M.D.</td>
<td>23, Harley Street, W.</td>
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<tr>
<td>1893</td>
<td>Bryant, John Henry, M.D., 8</td>
<td>St. Thomas's Street, S.E.</td>
<td></td>
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<tr>
<td>O.M.</td>
<td>Bryant, Thomas, 65,</td>
<td>Grosvenor Street, W.</td>
<td>(C. 1872, V.P. 1876-7.</td>
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<td></td>
<td></td>
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<td>P. 1885-6.)</td>
</tr>
<tr>
<td>1890</td>
<td>Buckland, Francis O., B.A., M.B., C.M., 6, Lower Sloane Street, S.W.</td>
<td>Trans. 8.</td>
<td></td>
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<tr>
<td>1891</td>
<td>Burghard, Frederic François, M.D., M.S.</td>
<td>46, Weymouth Street, W.</td>
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<tr>
<td>1881</td>
<td>Burnet, Robert William, M.D.</td>
<td>6, Upper Wimpole Street, W.</td>
<td>Trans. 1.</td>
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<tr>
<td>1870</td>
<td>Burton, William Edward, 24</td>
<td>Wimpole Street, W.</td>
<td></td>
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<tr>
<td>1887</td>
<td>Butler-Smythe, Albert Charles, 76</td>
<td>Brook Street, W.</td>
<td>Trans. 1.</td>
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<td>1881</td>
<td>Butlin, Henry Trentham, 82</td>
<td>Harley Street, W.</td>
<td>(C. 1887-9.)</td>
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<td></td>
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<td>Trans. 7, C.S. 1.</td>
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<td>1871</td>
<td>Butt, William F.</td>
<td></td>
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<tr>
<td>1884</td>
<td>Buxton, Dudley Wilmot, M.D., B.S., 82, Mortimer Street, W.</td>
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<tr>
<td>1891</td>
<td>Caddy, Arnold, 2/2,</td>
<td>Harington Street, Calcutta.</td>
<td></td>
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<tr>
<td>1886</td>
<td>Cahill, John, 12,</td>
<td>Seville Street, Lowndes Square, S.W.</td>
<td></td>
</tr>
</tbody>
</table>
List of Members.

Elected

1893 Cailey, Henry Albert, M.D., 24, Upper Berkeley Street, W.
1890 Calvert, James, M.D., 36, Queen Anne Street, W. Trans. 1 C.S. 2.
1893 Campbell, Harry, M.D., 20, Devonshire Street, W. C.S. 1.
1891 Canney, H. E. Leigh, M.B., 122, Brompton Road, S.W.
1891 Carless, Albert, M.S., M.B., 10, Welbeck Street, W.
1890 Carr, John Walter, M.D., 19, Cavendish Place, W. Trans. 1, C.S. 3.
1889 Carte, William Alexander, M.D., M.Cb., Surgeon-Major, Grenadier Guards’ Hospital, Rochester Row, S.W.
1890 Chapman, Charles William, M.D., 21, Weymouth Street, W.
1884 Chapman, Paul M., M.D., 1, St. John Street, Hereford. C.S. 1.
1873 Chisholm, Edwin, M.D., Abergeldie, Ashfield, near Sydney, New South Wales.
1868 Church, William Selby, M.D., 130, Harley Street, W. (C. 1874–6.)
1873 Churton, Thomas, M.D., 35, Park Square, Leeds. (C. 1889–91)
Trans. 5.
1874 Clapton, Edward, M.D., 22, St. Thomas’s Street, Southwark, S.E. (C. 1872–4.) Trans. 1.
1887 Clark, Andrew, 71, Harley Street, W. Trans. 1.
1887 Clark, Francis William, The Dispensary, Newcastle-on-Tyne.
1885 Clarke, J. Michelle, M.B., 28, Pembroke Road, Clifton, Bristol.
1885 Clarke, William Bruce, M.B., 46, Harley Street, W. (C. 1894– )
Trans. 2, C.S. 1.
1877 Clay, Robert Hogarth, M.D., 4, Windsor Villas, Plymouth.
1887 Clemow, Arthur Henry Weiss, M.D., C.M., 101, Earl’s Court Road, W.
Trans. 1, C.S. 1.
1877 Clutton, Henry Hugh, M.A., 2, Portland Place, W. (C. 1885–7.)
Trans. 11, C.S. 3.
1893 Cole, Robert Henry, M.D., Moorcroft, Hiltingdon, Middlesex.
1882 Collier, Herbert, M.D., The Grange, Gorleston, Great Yarmouth, Norfolk.
1896 Colman, Walter Stracey, M.D., 22, Wimpole Street, W. Trans. 1.
1882 Colquhoun, Daniel, M.D., Dunedin, New Zealand.
1872 Cooke, Thomas, 40, Brunswick Square, W.C.
1868 Cooper, Frank W.
1880 Cottle, Wyndham, M.D., 39, Hertford Street, W.
List of Members.

Elected

1892 Cotterell, Edward, 5, West Halkin Street, S.W.
O.M.


1886 Cousins, John Ward, M.D., Riversdale, Kent Road, Southsea. Trans. 1.

1882 Coxwell, C. F., M.B. Trans. 2.

1879 Cripps, William Harrison, 2, Stratford Place, W. (C. 1886-8.) Trans. 3.

1872 Critchett, G. Anderson, 21, Harley Street, W.

1877 Crocker, Henry Radcliffe, M.D., 121, Harley Street, W. (C. 1881-5.) Trans. 15.


1896 Crosse, William Henry, G, Half Moon Street, W.


1890 Crowle, Thomas Henry Rickard, 56, Harley Street, W.

1893 Curtis, Henry Jones, M.D., B.S., 111, Gower Street, W.C.


1896 Dalton, Norman, M.D., 4, Mansfield Street, Portland Place, W. C.S. 1.

1891 Dardenne, Henri, M.B., 12, Torrington Square, W.C.

1893 Dauber, John Henry, M.B., B.Ch., 29, Charles Street, Berkeley Square, W.


1879 Davy, Henry, M.D., 29, Southernhay, Exeter.

1889 Dean, Henry Percy, M.B., 84, Wimpole Street, W.

1879 Dennis, Frederic S., M.D., 542, Madison Avenue, New York, U.S.A.

1875 Dent, Clinton T., 61, Brook Street, W. (C. 1884-6.) Trans. 5.


1891 Dickinson, William Lee, M.D., 9, Chesterfield Street, W. Trans. 6.

1894 Dickson, Thomas Hugh, M.B., B.C., 32, Belvedere Road, Norwood, S.E.


1868 Drage, Charles, M.D., Hatfield, Herts.

1896 Drew, Douglas, 60, Gower Street, W.C.

1879 Drewitt, F. G. Dawtrey, M.D., 2, Manchester Square, W. (C. 1886-8.) Trans. 2.

Elected

1884 DUE, EDGAR, 30, Pevensey Road, St. Leonard’s-on-Sea.
1869 DUKE, OLIVER THOMAS, M.B., Surgeon, Bengal Army, India.
1889 DUNCAN, JOHN, M.D., St. Petersburg.
1889 DUNN, LOUIS ALBERT, M.S., 10, St. Thomas's Street, S.E. Trans. 2, C.S. 1.
1884 EDMUNDS, WALTER, M.C., 75, Lambeth Palace Road, S.E. Trans. 1.
O.M. ERIESEN, Sir JOHN E., Bart., LL.D., F.R.S., 6, Cavendish Place, W. (V.P. 1869-71.)
1868 EVANS, JULIAN, M.B., 123, Finborough Road, Redcliffe Square, W.
1893 EVANS, WILLIAM J., M.B., 10, Devonshire Street, W.
1889 EVE, FREDERIC S., 125, Harley Street, Cavendish Square, W. Trans. 3, C.S. 4.
1868 FAIRBANK, FREDERICK ROYSTON, M.D., 16, Eversfield Place, St. Leonards-on-Sea. Trans. 2.
1889 FARDON, EDWARD ASHBY, Middlesex Hospital.
1885 FENN, EDMUND LIVING, M.D., Grey Friars, Colchester.
1872 FENWICK, J. C. J., M.D., 25, North Road, Durham.
1893 FENWICK, WILLIAM SOLT,, M.D., 10, Devonshire Street, W. Trans. 2.
1878 FIELD, GEORGE P., 34, Wimpole Street, W.
1876 FINLAY, DAVID WHITE, M.D., 2, Queen’s Terrace, Aberdeen. (C. 1885-7, S. 1891.) Trans. 7.
1885 FITZ-PATRICK, THOMAS, M.D., 30, Sussex Gardens, Hyde Park, W.
1889 FLEMING, PERCY, M.D., 93, Gower Street, W.C. C.S. 1.
1894 FLETCHER, HERBERT MORLEY, M.D., 98, Harley Street, W.
1878 FON'MARTIN, HENRY DE, M.D., 26, Newberry Terrace, Lower Bullar Street, Nichol’s Town, Southampton.
1889 FORBES, DANIEL MACRAY, Shoreditch Infirmary, 204, Hoxton Street, N.
1890 FORMAN, E. BAXTER, M.D., 11, Bramham Gardens, S. Kensington, S.W.
1890 FOSTER, MICHAEL G., M.B., M.A., Villa San Giovanni, Alassio, Italy.
1881 FOWLER, JAMES KINGSTON, M.D. (Hon. Secretary), 35, Clare's Street, W. (C. 1887-9, S. 1896-.) Trans. 4, C.S. 5.
1893 FOXWELL, ARTHUR, M.D., 7, Newhall Street, Birmingham.
1887 FREEMAN, HENRY WILLIAM, 24, Circus, Bath.
1890 FULLER, HENRY ROXBURGH, M.D., 45, Curzon Street, W.
1891 FYFFE, W. KINGTON, M.B., B.C., 19, Duke Street, Manchester Square, W. Trans. 1.
1888 GAGE-BROWN, CHARLES HERBERT, M.D., 74, Cadogan Place, S.W.
List of Members.

Elected

1895  Galloway, James, M.D., 21, Queen Anne Street, W.
1887  Garrod, Archibald Edward, M.A., M.D., 9, Chandos Street, W.  
       Trans. 1, C.S. 1.
1885  Gibbons, Robert Alexander, M.D., 29, Cadogan Place, S.W.  
       Trans. 1.
1893  Gibbs, Charles, Charing Cross Hospital.
1875  Gilbart-Smith, T., M.A., M.D., 68, Harley Street, W.  (C. 1883–5.)
1868  Glover, James Grey, M.D., 25, Highbury Place, N.  (C. 1878–80,  
       V.P. 1892–4.)  Trans. 2.
1893  Glover, Lewis G., M.B., B.C., 1, College Terrace, Fitzjohn’s Avenue,  
       N.W.  
1875  Godlee, Rickman John, M.S., 19, Wimpole Terrace, Fitzjohn’s Avenue,  
       N.W.  
1882  Goldie, Robert William, Medical Superintendent, Poplar and Stepney  
       Sick Asylum, Devon’s Road, Bromley.
1878  Golding-Bird, C. H., M.B., 12, Queen Anne Street, W.  (C. 1887–9.)  
       Trans. 10, C.S. 1.
1894  Goodall, Edward Wilberforce, M.D., Eastern Hospital, Homerton.  
       Trans. 3.
1875  Goodhart, James Frederic, M.D., 25, Portland Place, W.  (C.  
1891  Goodman, Roger Neville, M.B., 3, Grove Crescent, Kingston-on-  
       Thames.
1869  Goodridge, Henry Frederick Augustus, M.D., 10, Brock Street, Bath.
1882  Gowsall, D. H., 17, Devonshire Place, W.
1877  Gould, A. Pearce, M.S., 10, Queen Anne Street, W.  (C. 1885–7,  
       1895–, S. 1892–5.)  Trans. 11, C.S. 5.
1875  Gowers, William Richard, M.D., F.R.S., 50, Queen Anne Street, W.  
       (C. 1881–2.)  Trans. 5.
1891  Grant, J. Dundas, M.D., 8, Upper Wimpole Street, W.
1868  Green, T. Henry, M.D., 74, Wimpole Street, W.  (C. 1877–9.)  
       Trans. 2, C.S. 1.
1875  Greenfield, William Smith, M.D., 7, Heriot Row, Edinburgh.  (C.  
       1881.)  Trans. 3.
1893  Griffith, Walter Spencer Anderson, M.D., 96, Harley Street, W.
1883  Gross, Charles, M.D., M.S., 112, Westbourne Grove, W.
1895  Gruene, Karl, M.D., Neuenahr, Germany.  Trans. 1.
1895  Guthrie, Leonard, M.D., 15, Upper Berkeley Street, W.
1887  Habershon, Samuel Herbert, M.D., 70, Brook Street, W.
1875  Hale, C. D. B., 3, Sussex Place, W.  Trans. 1.
1878  Hall, F. de Havilland, M.D., 47, Wimpole Street, W.  (C. 1885–87.)  
       Trans. 8, C.S. 4.
1889  Halstead, George Ezra, M.D., B.S., Ramsgate.
1888  Handfield-Jones, Montagu, M.D., 35, Cavendish Square, W.
List of Members.

Elected

1886 Handford, Henry, M.D., 14, Regent Street, Nottingham. (C. 1893-4.)
   Trans. 8, C.S. 1.
1886 Hardie, James, M.D., 15, St. John Street, Manchester.
1890 Harper, James, M.D., 25, Rosary Gardens, South Kensington, S.W.
1872 Harris, Henry, M.D., Trengweath, Redruth, Cornwall.
1889 Harris, Herbert Elwin, M.B., The Infirmary, East Dulwich Grove, S.E. Trans. 1.
1881 Harrison, Charles Edward, M.B., Grenadier Guards Hospital, Rochester Row, S.W.
1892 Harrison, Damner, 53, Rodney Street, Liverpool. Trans. 1.
1889 Hawkins, Herbert Pennell, M.D., B.Ch., 109, Harley Street, W. Trans. 1.
1890 Hawkins-Ambler, George Arthur, 162, Upper Parliament Street, Liverpool.

1879 Henderson, George Courtenay, M.D., Kingston, Jamaica, West Indies.
1882 Heron, George Allan, M.D., 57, Harley Street, W.
1888 Hetherington, George Haynes, 10, Museum Street, Ipswich.
1874 Holderness, William Brown, 15, Park Street, Windsor.
1868 Holman, Constantine, M.D., 26, Gloucester Place, Portman Square, W. (C. 1894-.)

O.M. Holmes, Timothy, 6, Sussex Place, Hyde Park, W. (C. 1867-9, V.P. 1873-5.) Trans. 16.

O.M. Holthouse, Carsten, Bath Terrace, Richmond. (C. 1870-2.) Trans. 8.
1883 Hopkins, John, Central London Sick Asylum, Cleveland Street, W. C.S. 1.
1895 Hough, Charles Henry, Full Street, Derby.
1880 Hovell, T. Marx, 105, Harley Street, W.
1893 Howard, R. J. Bliss, M.D., 31, Queen Anne Street, W.
1876 Howse, Henry Greenway, M.S., 59, Brook Street, W. (C. 1881-3, V.P. 1890-2.) Trans. 3.
1894 Hudson, Charles Elliott Leopold Barton, 16, Harley Street, W. Trans. 1.
List of Members.

Elected

O.M. Humphry, Sir George Murray, M.D., LL.D., F.R.S., Cambridge. (V.P. 1867-70.)

1892 Hunter, William, M.D., 54, Harley Street, W.


1879 Inkson, James, M.D., Brigade Surgeon, Army.


1883 Jackson, George Henry, "St. Levan's," Upperton, Eastbourne.


1888 James, James Thomas, M.D., 30, Harley Street, W.

1888 Jamison, Arthur, M.D., C.M., 18, Lowndes Street, S.W.

1875 Jessett, Frederick Bowreman, 1, Buckingham Palace Mansions, S.W. Trans. 1.


1893 Johnston, G., M.B., 6, Manchester Square, W.

1878 Johnston, William, M.D., M.C., 16, Lonsdale Terrace, Upper Kent Street, Leicester.

1872 Jones, Thomas Ridge, M.D., 4, Chesham Place, S.W. (C. 1892-3.)


1886 Juler, Henry Edward, 23, Cavendish Square, W.


O.M. Kelly, Charles, M.D., Ellesmere, Gratwicke Road, Worthing, Sussex.


1887 Knaggs, R. Lawford, B.C., Huddersfield. Trans. 1.

1878 Lacey, Thomas Warner, 196, Burrage Road, Plumstead.

1890 Lancaster, Ernest Le Cronier, M.B., B.Ch., Winchester House, Swansea, S. Wales. Trans. 1.

1895 Lane, James Ernest, 46, Queen Anne Street, W.


O.M. Langdon-Down, John Langdon Haydon, M.D., 81, Harley Street, W.

O.M. Langton, John, 62, Harley Street, W. (C. 1878-80, V.P. 1892-4.) Trans. 3.

1886 Lancaster, Herbert, M.D., Church Missionary House, Salisbury Square, E.C.

List of Members.

Elected

1893  LAWSON, ARNOLD, M.D., 12, Harley Street, W.


1896  LEECH, PRIESTLEY, M.D., King Cross, Halifax.

1877  LEDIARD, HENRY AMBROSE, M.D., 41, Lowther Street, Carlisle.  (C. 1880.)  Trans. 5.

1877  LEES, DAVID B., M.D., 22, Weymouth Street, W.  (C. 1885.)  Trans. 4.

1893  LENDON, EDWIN HARDING, M.B., 162, Holland Park Avenue, W.

1892  LEWIS, EDWARD JOHN, M.B., B.C., 87, Hamilton Terrace, N.W.

1895  LEWIS, ERNEST E., M.D., Springield, Chelmsford.

1879  LICHTENBERG, GEORGE, M.D., 47, Finsbury Square, E.C.

1890  LITTLE, JOHN FLETCHER, M.B., 32, Harley Street, W.  C.S. 3.

1868  LITTLE, LOUIS STROMEYER, Shanghai, China.


1875  LIVEING, EDWARD, M.D., 52, Queen Anne Street, W.


1881  LURBEECK, MONTAGU, M.D., 19, Grosvenor Street, W.


1894  LUFF, ARTHUR PEARSON, M.D., 31, Weymouth Street, W.

1879  LUNN, JOHN REUBEN, New Marylebone Infirmary, Rackham Street, Ladbroke Grove Road, W.  (C. 1890–1.)  Trans. 7, C.S. 10.

1893  LYS, HENRY GRABHAM, M.D., Southbrook, Suffolk Road, Bournemouth.

1889  MACBRIDE, P., M.D., 16, Chester Street, Edinburgh.

1871  MAC CORMAC, Sir WILLIAM, 13, Harley Street, W.  (C. 1877–9, V.P. 1888–9.)  Trans. 5.

1891  MACDONALD, GREVILLE, M.D., 85, Harley Street, W.

1881  MCHARDY, MALCOLM MACDONALD, 5, Savile Row, W.  Trans. 1.

1882  MACKENZIE, FREDERIC MORELL, 20, Hans Place, S.W.


1884  MACKERN, JOHN, M.B., St. German’s Lodge, Shooter’s Hill Road, Blackheath.

1879  MACLAGAN, THOMAS JOHN, M.D., 9, Cadogan Place, S.W.  (C. 1889–91.)  Trans. 3.

1885  MACLAREN, RODERICK, M.D., Portland Square, Carlisle.  Trans. 1.

1879  MAGILL, JAMES, M.D., M.C., Coldstream Guards, Queen Anne’s Mansions, S.W.

1885  MAGUIRE, ROBERT, M.D., 4, Seymour Street, W.  Trans. 1.
### List of Members

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Address</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1887</td>
<td>MALCOLM, JOHN D.</td>
<td>13, Portman Street, W.</td>
<td>Trans. 1, C.S. 1.</td>
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<tr>
<td>1890</td>
<td>MANSON, PATRICK</td>
<td>21, Queen Anne Street, W.</td>
<td>(C. 1895–9)</td>
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<td>1888</td>
<td>Marriott, HYDE</td>
<td>Dial House, Stockport.</td>
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<td>1887</td>
<td>Martin, SIDNEY</td>
<td>10, Mansfield Street, W.</td>
<td>(C. 1896–9)</td>
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<td>1888</td>
<td>Mason, David James</td>
<td>Maidenhead.</td>
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<td>1892</td>
<td>Masters, John Alfred</td>
<td>57, Lexham Gardens, Kensington, W.</td>
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<td>1884</td>
<td>Maudsley, Henry Carr</td>
<td>11, Spring Street, Melbourne, Victoria</td>
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<td>1888</td>
<td>May, Edward Hooper</td>
<td>High Cross, Tottenham, Middlesex.</td>
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<td>1888</td>
<td>May, William Page</td>
<td>Weymouth Street, W.</td>
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<td>1888</td>
<td>Menzies, J. Herbert</td>
<td>47, Earl’s Court Square, S.W.</td>
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<td>1893</td>
<td>Mercer, William Braceywell</td>
<td>Hospital for Sick Children, Moor Edge, Newcastle-on-Tyne.</td>
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<td>1894</td>
<td>Michels, Ernst</td>
<td>6, West Street, Finsbury Circus, E.C.</td>
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<td>1873</td>
<td>Mickle, William Julius</td>
<td>11, Spring Street, Melbourne, Victoria</td>
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<td>1890</td>
<td>Miley, Miles</td>
<td>21, Belsize Avenue, Hampstead, N.W.</td>
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<td>1882</td>
<td>Money, Angel</td>
<td>64, Wimpole Street, W.</td>
<td>(C. 1888–90) Trans. 3.</td>
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<tr>
<td>1888</td>
<td>Morison, Alexander</td>
<td>14, Upper Berkeley Street, W.</td>
<td>Trans. 2.</td>
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<td>1877</td>
<td>Morris, Malcolm Alex.</td>
<td>8, Harley Street, W.</td>
<td>(C. 1890–2) Trans. 1, C.S. 1.</td>
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<tr>
<td>1875</td>
<td>Murphy, Shirley F.</td>
<td>22, Endsleigh Street, Tavistock Square, W.C.</td>
<td>(C. 1888–90) C.S. 1.</td>
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<td>1885</td>
<td>Murray, Alexander Dalton</td>
<td>Colombo, Ceylon.</td>
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<td>1893</td>
<td>Murray, George Redmayne</td>
<td>2, Savile Place, Newcastle-on-Tyne.</td>
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<td>1894</td>
<td>Murray, John</td>
<td>133, Harley Street, W.</td>
<td>C.S. 1.</td>
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<td>1872</td>
<td>Myrtle, Andrew S.</td>
<td>8, Park Parade, Harrogate.</td>
<td>(C. 1892)</td>
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<td>1892</td>
<td>Nash, Walter Gifford</td>
<td>31, St. Peter’s, Bedford.</td>
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</tbody>
</table>
List of Members.

Elected

1889 Newman, D., M.D., 18, Woodside Place, Glasgow. Trans. 2.
O.M. Nunn, Thomas William, 8, Stratford Place, W. (C. 1873-4.) Trans. 9.
1880 O'Connor, Bernard, M.D., 25, Hamilton Road, Ealing, W. Trans. 1.
1886 Ogle, William, M.D., 98, Friar Gate, Derby.
1883 Oliver, George, M.D., 77, Wimpole Street, and West End Park, Harrogate. Trans. 1.
1887 Oliver, Thomas, M.D., 7, Ellison Place, Newcastle-upon-Tyne.
1887 Openshaw, Thomas Horrocks, M.B., 16, Wimpole Street, W. C.S. 1.
1868 Oppert, Franz, M.D., 128, Leipzigerstrasse, Germany. Trans. 1.
1887 Ormerod, Joseph Arderne, M.D., 25, Upper Wimpole Street, W.
1884 Ormsby, Lambert Hepenstal, M.D., 4, Merrion Square West, Dublin.
1883 Orton, George Hunt, M.B., 1a, Campden Hill Road, Kensington, W.
1888 Oxley, Alfred Rice, M.D., Streatham Common.
1888 Page, Frederick, M.D., 1, Savile Place, Newcastle-on-Tyne.
1890 Parkin, Alfred, M.S., 5, Albion Street, Hull. Trans. 1.
1893 Paterson, Donald Rose, M.D., C.M., 18, Windsor Place, Cardiff.
1892 Paul, Frank Thomas, 38, Rodney Street, Liverpool. Trans. 1.
1883 Paul, John Liston, M.D., 43, Queensborough Terrace, W.
1886 Payne, Joseph Frank, M.D., 78, Wimpole Street, W. Trans. 1.
1879 Peel, Robert, 130, Collins Street East, Melbourne, Victoria.
1886 Penny, William John, Coombe, West Crewkerne, Somerset.
List of Members.

Elected

1874 Phillips, Charles Douglas F., M.D., 10, Henrietta Street, W.


1885 Pitt, George Newton, M.D., 24, St. Thomas's Street, S.E. (C. 1894–6.) Trans. 3, C.S. 4.

1883 Pitts, Bernard, M.A., M.C., 109, Harley Street, W. (C. 1893.) Trans. 5.

1871 Playne, Alfred, M.B., Maidenhead.
1884 Poland, John, 4, St. Thomas's Street, S.E.

1868 Pollock, James Edward, M.D., 52, Upper Brook Street, W. (C. 1878–80.)


1873 Port, Heinrich, M.D., 48, Finsbury Square, E.C.
1881 Powell, H., A., M.A., 44, Sandgate Road, Folkestone.


1868 Prentis, Charles, Surgeon-Major, Bengal Medical Service; India.
1884 Pringle, John James, M.B., 23, Lower Seymour Street, W. Trans. 1, C.S. 1.


O.M. Quain, Sir Richard, Bart., M.D., LL.D., F.R.S., 67, Harley Street, W (C. 1867–9.)

1893 Rake, Alfred Theodore, M.B., B.S., 8, Sheriff Road, West Hampstead, N.W.
1895 Ramsay, Herbert Murray, Guards' Club, S.W.

O.M. Ramskill, J. Spence, M.D., 5, St. Helen's Place, E.C.
1889 Ranning, John E., M.D., Hanover House, Tunbridge Wells.

1883 Read, Thomas Laurence, 11, Petersham Terrace, Queen's Gate, S.W.
1891 Rempey, Leonard, M.D., 60, Great Cumberland Place, W. Trans. 1.

1868 Rice, Michael W., M.D. (C. 1876–8.)


1896 Risdon, William Elliot, M.D., 81, Chancery Lane, W.C.

1873 Roberts, David Lloyd, M.D., 11, St. John Street, Manchester.
1888 Roberts, Frank Ernest, Tulse Dale Villa, Lower Norwood, S.E.

Vol. XXIX.
List of Members.

Elected

1883 ROBERTS, FREDERICK THOMAS, M.D., 102, Harley Street, W. (C. 1892-4.)
1890 ROBERTSON, ROBERT, M.D., Belgrave Road, Ventnor, Isle of Wight.
1885 ROBINSON, ARTHUR HENRY, M.D., Mile End Infirmary, Bancroft Road, N.E. C.S. 3.
1890 ROBINSON, GEORGE SOMERVILLE, Surgeon-Major, 13, Lupus Street, St. George's Square, S.W.
1892 ROBINSON, HENRY BETHAM, M.D., M.S., 1, Upper Wimpole Street, W. C.S. 6.
1885 ROBSON, A. W. MAYO, 7, Park Square, Leeds. (C. 1893-6.) Trans. 13.
1889 ROLLESTON, HUMPHRY DAVY, M.A., M.D., 112, Harley Street, W. Trans. 2.
1889 ROSS, DANIEL McCLURE, Cedar Lodge, Littledown Road, Bournemouth.
1877 ROTH, BERNARD, 29, Queen Anne Street, W. Trans. 1, C.S. 4.
1890 ROUGHTON, EDMUND WILKINSON, B.S., 33, Westbourne Terrace, W.
1874 ROWLAND, EDWARD ROGER, Dordrecht, Wodehouse, S. Africa.
1887 RUTHERFOORD, H. T., M.B.
1885 RYLE, REGINALD JOHN, M.D., Green View, Hadley Green, Barnet.
1882 SAINSBURY, HARRINGTON, M.D., 63, Welbeck Street, W.
1893 SANSON, ARTHUR ERNEST, M.D., 84, Harley Street, W. Trans. 1, C.S. 1.
1873 SAVAGE, GEORGE HENRY, M.D., 3, Henrietta Street, W. (C. 1882-3.)
1886 SAYLIL, THOMAS DIXON, M.D., 60, Upper Berkeley Street, W. Trans. 1, C.S. 2.
1886 SCOTT, ALFRED, 15, German Place, Brighton.
1894 SCOTT, BERNARD, “Hartington,” Poole Road, Bournemouth.
1892 SCOTT, RICHARD JAMES HERBERT, 28, Circus, Bath. C.S. 1.
1869 SEDGWICK, LEONARD WILLIAM, M.D., 48, Gloucester Terrace, Hyde Park, W. (C. 1879-81.)
1892 SELWYN-HARVEY, JOHN STEPHENSON, M.D., 1, Astwood Road, S.W.
1884 SHARKEY, SEYMOUR, J., M.D., 22, Harley Street, W. (C. 1895-.)
1889 SHAW, LAURISTON ELGIE, M.D., 10, St. Thomas’s Street, S.E.
1875 SHERWOOD, ARTHUR PAUL, 8, Seaside Road, Eastbourne.
1879 SKERRITT, EDWARD MARKHAM, M.D., Edgecumbe House, Richmond Hill, Clifton, Bristol. (C. 1895-.) Trans. 2.
1872 SLIGHT, GEORGE, M.D., 14, Old Burlington Street, W.
1882 SMITH, E. NOBLE, 24, Queen Anne Street, W. Trans. 1.
1896 SMITH, EBENEZER STANLEY, M.D., 10, Kensington Gardens Square, S.W.
1888 SMITH, FREDERICK J., M.D., 4, Christopher Street, Finsbury Square, E.C. Trans. 1.
List of Members.

Elected

1884 Smith, R. Percy, M.D., Bethlehem Royal Hospital, St. George’s Road, S.E.

1893 Smith, Solomon Charles, M.D., 4, Portman Mansions, Baker Street, W.


1894 Smith Thomas Rudolph, M.B., B.C., 5, Stratford Place, W.

1893 Snape, Ernest Alfred, M.D., 41, Welbeck Street, W.

1888 Snow, William V., M.D., Richmond Gardens, Bournemouth.

1890 Solly, Ernest, M.B., Strathlea, Harrogate, Yorks. C.S. 1.

O.M. Southey, Reginald, M.D., 32, Grosvenor Road, Pimlico, W. (C. 1867–70, 1876–8, S. 1873–5, V.P. 1883–4.) Trans. 16.


1885 Spicer, Frederick, M.D., 282, Camden Road, N.W.


1882 Spooner, Frederick Henry, M.D., 4, Maitland Place, Lower Clapton, N.E.

1896 Spurrell, Charles, Sick Asylum, Dervis Road, Bromley-by-Bow, E.

1876 Squire, A. Balmanno, 24, Weymouth Street, W. Trans. 5, C.S. 4.

1892 Stabb, Ewen Catthew, St. Thomas’s Hospital, S.E. C.S. 1.

1879 Staples, Francis Patrick, Brigade-Surgeon, Army.

1896 Steward, Francis James, M.B., B.S., 15, St. Thomas Terrace, Maze Pond, S.E.

1889 Stewart, Edward, M.D., Brook House, East Grinstead.

1874 Stirling, Edward C., M.D. [care of Messrs. Elder & Co., 7, St. Helen’s Place, E.C.], Adelaide, South Australia.

1888 Stoker, George, 14, Hertford Street, W. C.S. 1.

1881 Stokes, Henry Fraser, 2, Highbury Crescent, N.

1878 Stokes, Sir William, M.D., 5, Merrion Square North, Dublin. Trans. 2.

1884 Stonham, Charles, 4, Harley Street, W. C.S. 3.

1878 Strugnell, Frederick William, 45, Highgate Road, Highgate, N.W. C.S. 1.

1878 Sturge, William Allen, M.D., 29, Boulevard Dubouchage, Nice, France.

1894 Sutherland, George A., M.D., 9, Old Cavendish Street, W.

1872 Sutherland, Henry, M.D., 6, Richmond Terrace, Whitehall, S.W. Trans. 1.


1876 Symonds, Horatio Percy, 35, Beaumont Street, Oxford.

1885 Tait, Edward Sabine, M.D., 48, Highbury Park, N.

1885 Tait, Henry Brewer, Lincluden, Sunnyside Road, Hornsey Lane, N.

1896 Targett, James Henry, M.B., M.S., 6, St. Thomas’s Street, S.E.
List of Members.

Elected

1891 Tate, Walter William Hunt, 4, Queen Anne Street, W.
1886 Tay, Warren, 4, Finsbury Square, E.C.
1878 Tayler, Francis Thomas, M.B., 224, Lewisham High Road, S.E.
1889 Taylor, Henry Herbert, 10, Brunswick Place, Brighton.
1890 Taylor, James, M.D., 49, Welbeck Street, W. C.S. 3.
1882 Taylor, Seymoxte, M.D., 16, Seymour Street, W. Trans. 1, C.S. 1.
1889 Taylor, W. C. Everley, 34, Queen Street, Scarborough.
1890 Thanu, Edgar Herbert, M.D., Wagga-Wagga, New South Wales.
1882 Thin, George, M.D., 22, Queen Anne Street, W. Trans. 1.
1886 Thompson, Charles Herbert, M.D., Junior Constitutional, Piccadilly, W.


1894 Thomson, St. Clair, M.D., 28, Queen Anne Street, W.
1896 Thorne, William Beastly, 53, Upper Brook Street, W.
1887 Thornton, John Knowsley, M.B., C.M., 49, Montagu Square, W. (C. 1890–1.)
1872 Thornton, William Pugin, 35, St. George's Road, Canterbury. Trans. 5.
1885 Thursfield, Thomas William, M.D., Selwood, Beauchamp Square, Leamington.
1891 Tomson, W. Bolton, M.D., Park Street West, Luton, Bedfordshire.
1892 Tooth, Howard Henry, M.D., 34, Harley Street, W.
1887 Totsuka, Kankai.
1874 Travers, William, M.D., 2, Phillimore Gardens, Kensington, W.
1884 Treeves, Frederick, 6, Wimpole Street, W. Trans. 7. (C. 1893.)
1882 Turner, George Robertson, 49, Green Street, W. Trans. 8.
1888 Turner, Philip Dymock, M.D., 95, Crawley Road, S.W. Trans. 1.
1893 Turney, Horace George, 68, Portland Place, W. C.S. 1.
1881 Uhthoff, John Caldwell, M.D., 46, Western Road, Hove, Brighton.
1868 Venning, Edcombe, 30, Cadogan Place, S.W. (C. 1876–8.) Trans. 2.
1886 Wade, Charles H., Greenway, Chelston, Torquay.
1863 Waostaffe, William Warwick, Purleigh, St. John's Hill, Sevenoaks. (C. 1878.)
<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Title</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1886</td>
<td>Wainewright, Benjamin</td>
<td>M.B., C.M.</td>
<td>67, Grosvenor Street, W.</td>
</tr>
<tr>
<td>1885</td>
<td>Wakley, Thomas, jun.</td>
<td></td>
<td>5, Queen's Gate, W.</td>
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<tr>
<td>1886</td>
<td>Walker, Charles Rotherham</td>
<td>M.D.</td>
<td>7, Grove Road, Leytonstone, E.</td>
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<tr>
<td>1890</td>
<td>Wallace, Cuthbert Sydney</td>
<td></td>
<td>St. Thomas's Hospital, S.E.</td>
</tr>
<tr>
<td>1890</td>
<td>Wallis, Frederick Charles</td>
<td>M.B., B.C.</td>
<td>26, Welbeck Street, W.</td>
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<tr>
<td>1875</td>
<td>Walsham, William J.</td>
<td>77, Harley Street, W.</td>
<td></td>
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<tr>
<td>1885</td>
<td>Wakiet, Thomas</td>
<td>M.B.</td>
<td>5, Queen's Gate, W.</td>
</tr>
<tr>
<td>1890</td>
<td>Walker, Charles Roxham</td>
<td>M.D.</td>
<td>7, Grove Road, Leytonstone, E.</td>
</tr>
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<td>1885</td>
<td>Waterhouse, Herbert Furnivall</td>
<td>M.D.</td>
<td>81, Wimpole Street, W.</td>
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<td>1879</td>
<td>de Watteville, Armand</td>
<td>M.A., M.D., B.Sc.</td>
<td>30, Welbeck Street, W.</td>
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<tr>
<td>1896</td>
<td>Weber, Fred. Parkes</td>
<td>M.D.</td>
<td>19, Harley Street, W.</td>
</tr>
<tr>
<td>1894</td>
<td>Washbourn, John Wychenford</td>
<td>M.D.</td>
<td>15, Trinity Square, S.E.</td>
</tr>
<tr>
<td>1891</td>
<td>Wells, Sir Thomas Spencer</td>
<td>Bart.</td>
<td>3, Upper Grosvenor Street, W.</td>
</tr>
<tr>
<td>1892</td>
<td>West, Samuel</td>
<td>M.D.</td>
<td>15, Wimpole Street, W.</td>
</tr>
<tr>
<td>1895</td>
<td>Wethered, Frank</td>
<td>M.D.</td>
<td>83, Harley Street, W.</td>
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<tr>
<td>1874</td>
<td>Wheelhouse, Claudius Galen</td>
<td></td>
<td>Hilary Place, Leeds.</td>
</tr>
<tr>
<td>1868</td>
<td>Whipple, Thomas Tillyer</td>
<td>M.D.</td>
<td>11, Grosvenor Street, W.</td>
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<tr>
<td>1874</td>
<td>Whistler, W. McNeill</td>
<td>M.D.</td>
<td>17, Wimpole Street, W.</td>
</tr>
<tr>
<td>1891</td>
<td>White, Charles Percival</td>
<td>M.B., B.C.</td>
<td>144, Sloane Street, S.W.</td>
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<tr>
<td>1882</td>
<td>White, Edwin Francis</td>
<td></td>
<td>Westlands, 280, Upper Richmond Road, Putney, S.W.</td>
</tr>
<tr>
<td>1890</td>
<td>White, Gilbert B. Mower</td>
<td>M.B., B.S.</td>
<td>105, Gower Street, W.C.</td>
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<tr>
<td>1894</td>
<td>White, Joseph</td>
<td>6</td>
<td>Southwell Gardens, South Kensington, S.W.</td>
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<tr>
<td>1883</td>
<td>White, William Hale</td>
<td>M.D.</td>
<td>65, Harley Street, W.</td>
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<tr>
<td>1883</td>
<td>White, William Henry</td>
<td>M.D.</td>
<td>43, Weymouth Street, W.</td>
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<tr>
<td>1894</td>
<td>Wilkin, Griffith Charles</td>
<td>M.D.</td>
<td>39, Weymouth Street, W.</td>
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<td>1884</td>
<td>Wilcockes, Frederick</td>
<td>M.D.</td>
<td>14, Mandeville Place, W.</td>
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<td>1894</td>
<td>Willett, Alfred</td>
<td>M.B.</td>
<td>36, Wimpole Street, W.</td>
</tr>
</tbody>
</table>

**List of Members.** xxxvii
List of Members.

Elected

1890 Willett, Edgar, M.B., 25, Welbeck Street, W.
1888 Williams, Campbell, 24, Welbeck Street, W.
O.M. Williams, Charles Theodore, M.D., 2, Upper Brook Street, W.
1888 Williams, Dawson, M.D., 101, Harley Street, W. (C. 1893-.)
1881 Williams, Sir John, Bart., M.D., 63, Brook Street, W. (C. 1885–6.)
1890 Williams, W. Roger, 28, Winckley Square, Preston.
1876 Williamson, James Mann, M.D., Ventnor, Isle of Wight.
O.M. Willis, Francis, M.D., The Spa, Braceborough, Stamford.
1893 Wills, Joseph Peace Budgett, M.D., Bexhill, Hastings.
1889 Wills, William Alfred, M.D., 29, Lower Seymour Street, W.
1888 Wilson, Claude, M.D., C.M., Belmont, Tunbridge Wells. Trans. 2.
1890 Wood, Neville, 42, Elvaston Place, Queen's Gate, S.W.
1888 Woodcock, John Rostron, Boston Spa, R.S.O. Yorkshire.
1879 Woodward, George P. M., M.D., Deputy Surgeon-General; Sydney, New South Wales.
1894 Woollett, Charles Jerome, 35, Telford Avenue, Streatham Hill, S.W.
1884 Worts, Edwin, 6, Trinity Street, Colchester.
1888 Wyman, William S., M.D., Red Brae, 18, Putney Hill, S.W.
1892 Wynter, Walter Essex, M.D., B.S., 30, Upper Berkeley Street, W.

[It is requested that any change of Title or Residence be communicated to the Secretaries before the 1st of July in each year, in order that the list may be made as correct as possible.]
LIST OF MEMBERS.

ORIGINAL MEMBERS (ALPHABETICALLY).

Sir Henry Acland, M.D., F.R.S.
James Andrew, M.D.
Henry Arnott.
Richard Barwell.
Henry Charlton Bastian, M.D., F.R.S.
Sir Wm. Henry Broadbent, Bart., M.D.
Bernard Edward Brodhurst.
Thomas Bryant.
Thomas Buzzard, M.D.
William Cayley, M.D.
William Selby Church, M.D.
Edward Clapton, M.D.
John Couper.
John Croft.
William Howship Dickinson, M.D.
Sir Dyce Duckworth, M.D.
Alfred B. Duffin, M.D.
Sir John Eric Erichsen, F.R.S.
Christopher Heath.
Timothy Holmes.
Carsten Holthouse.
Jonathan Hutchinson, F.R.S.
J. Hughlings Jackson, M.D., F.R.S.

Sir William Jenner, Bart., M.D., F.R.S.
Charles Kelly, M.D.
John Langdon-Down, M.D.
John Langton.
George Lawson.
Arthur Trehern Norton.
Thomas William Nunn.
John William Ogle, M.D.
Sir James Paget, Bart., F.R.S.
Frederick William Pavy, M.D., F.R.S.
Thomas Pickering Pick.
Richard Douglas Powell, M.D.
Sir Richard Quain, Bart., M.D., F.R.S.
J. Spence Ramskill, M.D.
Sydney Ringer, M.D., F.R.S.
Thomas Smith.
Reginald Southey, M.D.
Edward Symes Thompson, M.D.
Sir Henry Thompson.
Hermann D. Weber, M.D.
Alfred Willett.
Charles Theodore Williams, M.D.
Francis Willis, M.D.

ARRANGED ACCORDING TO DATE OF ELECTION.

1868 Constantine Holman, M.D.
Thomas Tillyer Whigham, M.D.
Christian G. H. Bäumler, M.D.
John Cavafy, M.D.
James Grey Glover, M.D.
T. Henry Green, M.D.
Howard Marsh.
Arthur Bowen Richards Myers.
Charles Prentis.
Edgecombe Venning.
List of Members arranged according to Date of Election.

1868
Sir Thomas Spencer Wells, Bart.
  John Ford Anderson, M.D.
  George Granville Bantock, M.D.
  George Charles Bright, M.D.
  Frank W. Cooper.
  Julian Evans, M.B.
  Edward Hooper May, M.D.
  William Warwick Wagstaffe.
  William Ogle, M.D.
  William V. Snow, M.D.
  Charles Drage, M.D.
  Frederick Royston Fairbank, M.D.
  Michael W. Rice, M.D.
  John Meaburn Bright, M.D.
  Louis Stromeyer Little.

1869
Robert Brudenell Carter.
  Leonard William Sedgwick, M.D.
  J. Warrington Haward.
  Henry Frederick Angustus Goodridge, M.D.
  Oliver Thomas Duke, M.B.

1871
Julius Althaus, M.D.
  Sir William Mac Cormac.
  Alfred Playne, M.B.
  William F. Butt.
  Ebenezer Diver, M.D.
  George Wight, M.B.
  George Vivian Poore, M.D.

1872
Thomas Cooke.
  I. Burney Yeo, M.D.
  Henry Harris, M.D.
  William Pugin Thornton.
  G. Anderson Crichtett.
  J. C. J. Fenwick, M.D.
  Andrew J. Myrtle, M.D.
  Sir William Bartlett Dalby.
  Thomas Ridge Jones, M.D.
  George Slight, M.D.
  Henry Sutherland, M.D.

1873
William Julius Mickle, M.D.
  Robert William Parker.
  David Lloyd Roberts, M.D.
  George Henry Savage, M.D.
  Heinrich Port, M.D.
  Edwin Chisholm, M.D.
  Thomas Churton, M.D.

1874
John Hammond Morgan.
  Edward R. Rowland.
  Claudius Galen Wheelhouse.
  George P. Field.
  Charles Douglas F. Phillips, M.D.
  W. M. Whistler, M.D.
  Thomas Warner Laceey.
  Thomas Colecott Fox, M.B.
  Felix Semon, M.D.
  Henry de Fonmartin, M.D.
  Edward C. Stirling, M.D.
  William Henry Bennett.
  William Travers, M.D.
  William Brown Holderness.
  Andrew Clark.
  Thomas Barlow, M.D.
  Sidney Coupland, M.D.
  Clinton T. Dent.
  C. D. B. Hale.
  Frederick Bowreman Jessett.
  Edward Living, M.D.
  Edward Nettleship.
  William J. Walsham.
  Rickman John Godlee, M.S.
  Arthur Paul Sherwood.
  T. Gilbert-Smith, M.D.
  James Frederic Goodhart, M.D.
  William Richard Gowers, M.D., F.R.S.
  William Smith Greenfield, M.D.
  Shirley F. Murphy.
  Herbert W. Page.
  Frederick Taylor, M.D.

1876
Arthur E. J. Barker.
  Horatio Percy Symonds.
  A. Balmanno Squire.
  David White Finlay, M.D.
  Henry Greenway Howse, M.S.
  Furneaux Jordan.
  R. Clement Lucas, B.S.
  James Mann Williamson, M.D.
  George Buckston Browne.
  Arthur Edwin Temple Longhurst, M.D.

1877
Robert Hogarth Clay, M.D.
  A. Pearce Gould, M.S.
  Henry Radcliffe Croker, M.D.
  David B. Lees, M.D.
  Walter Hamilton Acland Jacobson, M.B., M.Ch.
  Isambard Owen, M.D.
  William Ewart, M.D.
  Henry Morris, M.B.
  William Miller Ord, M.D.
  Walter Rivington, M.S.
  Henry Ambrose Lediard, M.D.
  Bernard Roth.
  Henry Hugh Clutton.
  Malcolm Alex. Morris.
1878 C. H. Golding-Bird, M.B.
  Donald Wm. Charles Hood, M.D.
  Sir Joseph Lister, Bart., F.R.S.
  Francis Thomas Taylor, M.B.
  F. de Havilland Hall, M.D.
  Storer Bennett.
  Sir William Stokes, M.D.
  William Allen Sturge, M.D.
  William Joseph Tyson, M.D.
  William Johnston, M.D.
  Charles Robert Bell Keetley.
  William Appleton Meredith, C.M.
  Frederick William Strugnell.

1879 William Edward Burton.
  James Magill, M.D.
  Wm. John Vereker Bindon, M.D.
  Edward Markham Skerritt, M.D.
  Henry Wilcox, M.B.
  James Inkson, M.D.
  John Abercrombie, M.D.
  F. G. Dawtrey Drewitt, M.D.
  Stephen Mackenzie, M.D.
  William Harrison Cripps.
  Francis Patrick Staples.
  Geo. Courteney Henderson, M.D.
  Thomas John Maelagan, M.D.
  Henry Davy.
  Thos. Walter Harropp Garstang.
  George Lichtenberg, M.D.
  Charles W. Mansell Moullin.
  John Reuben Lunn.
  Armand de Watteville, M.D.
  George P. M. Woodward, M.D.
  J. Neville Davies-Colley, C.M.
  Robert Peel.
  Frederic S. Dennis, M.D.

1880 T. Mark Hovell.
  Wyndham Cottle, M.D.
  Henry Francis Baker.
  Bernard O'Connor, M.D.
  Charles Edward Beevor, M.D.

1881 George Henry Makins.
  Robert William Burnet, M.D.
  James Kingston Fowler, M.D.
  Charles Edward Harrison, M.B.
  Malcolm Macdonald McHardy.
  Rushton Parker.
  Sir John Williams, Bart, M.D.
  Montagu Lubbock, M.D.
  William Pasteur, M.D.
  Henry Fraser Stokes.
  John Caldwell Uthoff, M.D.
  Henry Treatham Butlin.
  H. A. Powell, M.A.

1882 George Robertson Turner.
  E. Noble Smith.
  Robert William Goldie.
  Frederick Charles Barker, M.D.
  William Henry Keesteven.
  Frederic Morell Mackenzie.
  Daniel Colquhoun, M.D.
  Seymour Taylor, M.D.
  Francis Charlewood Turner, M.D.
  Philip Henry Bindley, M.B.
  Edward George Whittle, M.D.
  D. H. Goodsall.
  Frederick Henry Spooner, M.D.
  Frederick Haycraft Berry, M.D.
  Herbert Collier, M.D.
  Samuel West, M.D.
  Emile Emond, M.D.
  Charters James Symonds, M.S.
  Angel Money, M.D.
  C. F. Coxwell, M.B.
  George Allan Heron, M.D.
  Augustus Joseph Pepper, M.B.
  Harrington Sainsbury, M.D.
  George Thin, M.D.
  Edwin Francis White.

1883 Charles Gross.
  Anthony A. Bowlby.
  Cecil Yates Biss, M.D.
  Percy Kidd, M.D.
  William Henry White, M.D.
  George Oliver, M.D.
  Hubert Montague Murray, M.D.
  Robert Fitzroy Benham.
  William Henry Allchin, M.D.
  John Mitchell Bruce, M.D.
  William Arbuthnot Lane, M.S.
  Bernard Pitts.
  William Hale White, M.D.
  William Coode Adams, M.B.
  William Anderson.
  Robert Leamon Bowles, M.D.
  George Henry Jackson.
  George Hunt Orton, M.B.
  John Liston Paul, M.D.
  Thomas Laurence Read.
  Frederick Thomas Roberts, M.D.
  Charles Alfred Ballance, M.S.
  John Hopkins.
  John Rostron Woodcock.

1884 Frederick Willecocks, M.D.
  R. Percy Willcocks, M.D.
  Edgar Duke.
  John Mackern, M.B.
  Paul M. Chapman, M.D.
List of Members arranged according to Date of Election.

1884

Wilmot Parker Herringham, M.D.
Philip Henry Pye-Smith, M.D.
F.R.S.

Charles Stonham.
Dudley Wilmot Buxton, M.D.
Edwin Worts.

Seymour J. Sharkey, M.D.
Frederick Treves.

John James Pringle, M.B.
Frederick Lucas Benham, M.D.
Walter Edmunds, M.C.

Stephen Paget.
Lambert Hepenstal Ormsby, M.D.

1885

Frederick Spicer, M.B.
Herbert Larder.

A. Hughes Bennett, M.D.
James Berry.

Fred. Walker Mott, M.D., F.R.S.

W. C. Everley Taylor.

Sidney Phillips, M.D.
A. W. Mayo Robson.

Thomas Wakley, jun.
Herbert William Allingham.

Thomas William Thursfield, M.D.

Alexander Dalton Murray, M.B.
Robert Maguire, M.D.

Robert Alexander Gibbons, M.D.

Thomas Fitz-Patrick, M.D.

Henry Brewer Tait.

Charles Rotherham Walker, M.D.

Richard Caton, M.D.

Arthur Henry Robinson, M.D.

Edward Sabine Tait, M.B.

William Bruce Clarke, M.B.

Charles Barrett Lockwood.

Reginald J. Ryle, M.D.

J. Michell Clarke, M.B.

Henry George Armstrong.

Roderick Maclaren, M.D.

W. Watson Cheyne, F.R.S.

Edward Livinge Fenn, M.D.

1886

Thomas Dixon Savill, M.D.

John Cahill.

Charles Henry Wade.

Benjamin Wainewright

Waren Tay.

William John Penny.

William Henry Battle.

James Hardie, M.D.

Francis Henry Hawkins, M.B.

R. Hingston Fox, M.D.

Henry Edward Juler.

John Ward Cousins, M.D.

Joseph Frank Payne, M.D.

T. Pridgin Teale, F.R.S.

H. Lankester, M.D.

Arthur T. Davies, M.B.

Charles Herbert Thompson, M.D.

Arthur Quarry Silcock, M.D., B.S.

Henry Handford, M.D.

Alfred Scott.

Albert Wilson, M.D.

Archibald E. Garrod, M.D.

H. T. Rutherford, M.B.

Kankai Totsuka.

Thomas Oliver, M.D.

Francis George Penrose, M.D.

Samuel Herbert Habershon, M.D.

John Knowsley Thornton.

John Bland Sutton.

Oswald Auchinleck Browne, M.B.

Albert C. Butler-Smythe.

Joseph Arderne Ormerod, M.D.

C. J. Arkle, M.D.

J. H. E. Brock, M.B., B.S.

Francis William Clark.

A. H. Weiss Clemow, M.D., C.M.

E. Hurry Fenwick.

Henry William Freeman.

R. Lawford Knaggs, B.C.

John D. Malcolm, M.B., C.M.

Sidney Martin, M.D., B.S., F.R.S.

Thomas Horrocks Openshaw, M.B.

A. G. Barrs, M.D.

J. W. Batterham, M.B., B.S.

Montagu Handfield-Jones, M.D.

Alfred Rice Oxley, M.D.

Arthur Roper, M.D.

Robert Henry Scanes Spicer, M.D.

Campbell Williams.

Frederic S. Eve.

Alexander Morison, M.D.

Frederick Page, M.D.

Frederick J. Smith, M.D.

Frederick R. Walters, M.D.

Claude Wilson, M.D., C.M.

Charles H. Gage-Brown, M.D.

Arthur Jamison, M.D., C.M.

J. H. Menzies.

Frank Ernest Roberts.

George Stoker.

Robert Ashton Bostock.
List of Members arranged according to Date of Election.

1888
Hugh Armstrong.
Hyde Marriott, M.B.
Percy Warner.
J. T. James, M.D.
Edwin A. Barton.
W. P. May, M.D.
Philip D. Turner, M.D.
William S. Wyman, M.D.
Dawson Williams, M.D.
Augustus W. Addinsell, M.B., C.M.
John Anderson, M.D.
Henry French Banham, M.D.
George Haynes Hetherington.
David James Mason, M.D., C.M.
Walter G. Spencer, M.B., M.S.

1889
Theodore Dyke Acland, M.D.
Raymond Johnson, M.B., B.S.
H. Davy Rolleston, M.A., M.D.
P. MacBride, M.D.
D. Newman, M.D.
Herbert Elwin Harris, M.B.
John E. Ranking, M.D.
William Alfred Wills, M.D.
Edward Ashby Fardon.
Wm. Alexander Carte, M.D., M.Ch.
Stanley Boyd, M.B.
George Ezra Halstead, M.D., B.S.
Edward Stewart, M.D.
Henry Herbert Taylor.
John Duncan, M.D.
Wm. Wallis Ord, M.B., B.Ch.
Leonard Arthur Bidwell.
Arthur J. M. Bentley, M.D.
Francis R. B. Bissopp, M.B.
Henry Percy Dean, M.B.
Louis Albert Dunn, M.S.
Percy Flemming, M.D.
Daniel Mackay Forbes.
H. Pennell Hawkins, M.D., B.Ch.
D. M. Ross.
Lauriston Elgie Shaw, M.D.

1890
John Rose Bradford, M.D., F.R.S.
J. Fletcher Little, M.B.
Robert Robertson, M.D.
Ernest Solly, M.B.
James Taylor, M.D.
Francis O. Buckland, B.A., M.B., C.M.
E. Baxter Forman, M.D.
G. Somerville Robinson.
Edmund W. Roughton, B.S.
Edgar Willett, M.B.

1890
Thomas H. Rickard Crowle.
Robert A. Bindley.
James Calvert, M.D.
H. Roxborough Fuller, M.D.
Arthur F. Voelcker, M.D.
Neville Wood.
W. Roger Williams.
Gilbert B. M. White, M.B., B.S.
Frederick Charles Wallis, M.B., B.C.
Alfred Parkin, M.S.
George A. Hawkins-Ambler.
James Harper, M.D.
Walter Henry Brown.
John Walter Carr, M.D.
Ernest Le Cronier Lancaster, M.B., B.Ch.
Patrick Manson, M.D., C.M.
Miles Miley, M.A., M.B.
Edgar Herbert Thane, M.B.
Charles William Chapman, M.D.
Michael G. Foster, M.A., M.B.

1891
Frederic François Burghard, M.D., M.S.
H. E. Leigh Cannev, M.B.
Roger Neville Goodman, M.B.
Herbert Furnivall Waterhouse, M.D.
Leonard Remfry, M.D.
Walter William Hunt Tate.
William Lee Dickinson, M.D.
Greville MacDonald, M.D.
J. Kingston Barton.
Henri Dardenne, M.B.
J. Dundas Grant, M.D.
W. Kington Fyffe, M.B., B.C.
Albert Carless, M.B., M.S.
W. Bolton Tomson, M.D.
Harry Littlewood, M.D.
Hector W. G. Mackenzie, M.A., M.D.
Chas. Percival White, M.B., B.C.
Arnold Caddy.
Theodore Stacey Wilson, M.B., C.M.

1892
William Hunter, M.D.
Frank Thomas Paul.
Edward Cotterell.
Frank Richardson Blaxall, M.D.
Walter Essex Wynter, M.D., B.S.
Damer Harrison.
John Alfred Masters, M.D.
Walter Giffard Nash.
John Stephenson Selwyn-Harvey, M.D.
List of Members arranged according to Date of Election.

1892
Ewen Carthew Stabb.
Edward John Lewis, M.B., B.C.
Henry Betham Robinson, M.D., M.S.
Richard James Herbert Scott.
Howard Henry Tooth, M.D.

1893
John Ernest Paul, M.B.
James William Bond, M.D.
Harry Campbell, M.D.
W. Soltan Fenwick, M.D.
Ernest Alfred Snape, M.B., B.C.
Solomon Charles Smith, M.D.
William Bracewell Mercer, M.B., B.C.
Robert Henry Cole, M.D.
Donald Rose Paterson, M.D., C.M.
Walter Spencer Anderson Griffith, M.D.
Alfred Theodore Rake, M.B., B.S.
Francis Charles Abbott, M.B., B.S.
James William Browne, M.B.
Edwin Harding Lendon, M.B.
R. J. Bliss Howard, M.D.
Henry Jones Curtis, M.D., B.S.
Henry Albert Caley, M.D.
John Henry Dauber.
Theodore Henry Ionides, M.B., B.S.
Arthur Foxwell, M.D.
Horace George Turney.
Henry Grabham Lys, M.D.
Arthur Ernest Sansom, M.D.
John Henry Bryant, M.D.
G. Johnston, M.B.
Willmott H. Evans.
Charles Gibbs.
Robert Stephen Charsley.
Joseph Pearce Budgett Wills, M.D.
Arnold Lawson.

1894
Herbert Morley Fletcher, M.D.
John Wychenford Washbourn, M.D.
Edward Wilberforce Goodall, M.D.
Harry Gilbert Barling.
Ernst Michaels.

1895
Charles Elliott Leopold Barton Hudson.
Charles Jerome Woollett.
St. Clair Thomson.
George A. Sutherland, M.D.
Joseph White.
John Murray.
Richard Henry Anglin White-locke, M.B., C.M.
John Attlee, M.B., B.C.
Griffith Charles Wilkin.
Thomas Hugh Dickson, M.B., B.C.
C. Gordon Brodie.
Bernard Scott.
John Porter Parkinson, M.D.
Thomas Rudolph Smith, M.B., B.C.
Arthur Pearson Luff, M.D.
Herbert Murray Ramsay.
Arthur C. Phear, M.B., B.C.
Ernest E. Lewis, M.D.
Karl Grube, M.D.
Gerald R. Baldwin.
James Galloway, M.D.
F. B. Willmer Phillips, M.B.
Charles Henry Hough.
Leonard Guthrie, M.D.
James Ernest Lane.
Frank J. Wethered, M.D.
Richard Ackerley.
James Henry Targett, M.B., M.S.
Charles Spurrell.
Cuthbert Sidney Wallace.
Charles R. Box, M.D.
Walter Stracy Colman, M.D.
Edward Ward, M.B.
Norman Dalton, M.D.
Fred. Parkes Weber, M.D.
Francis James Steward, M.B., B.S.
William Bezly Thorne, M.D.
Douglas Drew.
Surg.-Capt. W. R. Crooke-Lawless, A.M.S., M.D.
William Henry Crosse.
William Elliot Risdon, M.D.
Robert Milne Beaton, M.B.
Priestley Lecceh, M.D.
Ebenezer Stanley Smith, M.D.
REPORT
OF THE
COUNCIL OF THE CLINICAL SOCIETY,
MAY, 1896.

THE COUNCIL is glad to be able to present a satisfactory report of the general prosperity of the Society.

The Members now number 568. Eight Honorary and twenty-one Ordinary Members have been elected since the last report. During the year one Honorary Member, Louis Pasteur, and three Ordinary Members, A. J. Collins, W. Wilberforce Smith, and A. Weir died, and three Ordinary Members, E. H. Ezard, E. Goddard, and James Rouse resigned.

A Special Meeting was held on March 30th, when Prof. Sylvanus Thompson, F.R.S., gave a demonstration of the Röntgen rays. Upwards of three hundred persons attended this demonstration, which was most successful, and a vote of thanks was unanimously accorded to Prof. Thompson for his great kindness.

A Committee of the Society has been appointed to make an Index to all the Volumes of Transactions which have been issued by the Society. The Committee consists of the President, the Honorary Secretaries for the time being, Dr. Dawson Williams, Mr. Pearce Gould, and Dr. A. E. Garrod, Secretary. To Dr. Garrod the task of preparing the Index has been entrusted, and the work has already been commenced.

The Committee appointed to investigate the Clinical Value of the Antitoxin of Diphtheria report that they have held twelve meetings. As the Metropolitan Asylums Board refused consent to their application for permission to utilize the material in the hospitals under the jurisdiction of the Board, the
Committee decided to obtain the necessary material from the Metropolitan General Hospitals and the London Fever Hospital. Owing to this restriction of their field, the Committee have not been able to obtain a sufficient number of cases to enable them to draw up a report such as they would like to present, but they hope to be in a position to do this during the coming year, and they feel that the necessity for the present inquiry has not been affected by the publication of reports on the use of antitoxin, either in this country or abroad.

The Treasurer's Statement of Accounts shows that the Finances of the Society are in a very satisfactory condition. The items of expenditure which appear under the heading "Payments made to clear accounts to close of year" have been included in addition to the expenditure for the Session 1894–95, in order to bring the end of the financial year in line with the close of 1895.
**THE CLINICAL SOCIETY OF LONDON.**

Statement of Receipts and Payments from 1st May, 1895, to 28th April, 1896.

**William M. Ord, Esq., M.D., Treasurer.**

<table>
<thead>
<tr>
<th>RECEIPTS</th>
<th>£</th>
<th>s</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance at Bank, 1st May, 1895</td>
<td>424</td>
<td>6</td>
<td>8</td>
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<tr>
<td>345 Subscriptions at 21s.</td>
<td>362</td>
<td>5</td>
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<tr>
<td>21 Admission Fees at £2 2s.</td>
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<td>2</td>
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<tr>
<td>1 Composition Fee (Life)</td>
<td>15</td>
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<td>0</td>
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<tr>
<td><strong>Sale of Transactions by the Publisher</strong></td>
<td>14</td>
<td>18</td>
<td>7</td>
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<tr>
<td>Dividends on Consols (£600):</td>
<td></td>
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<td></td>
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<tr>
<td>6 quarters (£3 19s. 9d.)</td>
<td>23</td>
<td>18</td>
<td>6</td>
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<tr>
<td><strong>Miscellaneous Receipts:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Received for Sale of old Bureau</td>
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<td>5</td>
<td>6</td>
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<tr>
<td>Less cost of new Safe</td>
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<td>19</td>
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<tr>
<td><strong>Amount invested in Consols (£600)</strong></td>
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<td>6</td>
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<table>
<thead>
<tr>
<th>PAYMENTS</th>
<th>£</th>
<th>s</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Transactions, Vol. XXVIII:</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Paper, printing, binding, and delivery</td>
<td>205</td>
<td>1</td>
<td>2</td>
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<tr>
<td>Illustrations</td>
<td>50</td>
<td>18</td>
<td>6</td>
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<tr>
<td>Meetings:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Expenses of rooms (Rent., &amp;c.)</td>
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<tr>
<td>Refreshments to 31st May, 1895</td>
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<td>A. Tapson, for attendance</td>
<td>7</td>
<td>10</td>
<td>0</td>
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<tr>
<td>Carriage of Apparatus, &amp;c., for Special Demonstration on March 30th</td>
<td>2</td>
<td>12</td>
<td>0</td>
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<tr>
<td><strong>Treasurer and Hon. Secretaries:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secretarial assistance for Session 1894-5</td>
<td>26</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Commission to Collector</td>
<td>15</td>
<td>15</td>
<td>0</td>
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<tr>
<td>Diplomas to Hon. Members</td>
<td>3</td>
<td>14</td>
<td>0</td>
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<tr>
<td><strong>Payments made to clear Accounts to close of year:</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Refreshments to 31st December, 1895</td>
<td>10</td>
<td>10</td>
<td>0</td>
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<tr>
<td>A. Tapson to 31st December, 1895</td>
<td>2</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Secretarial assistance to 31st Dec., 1895</td>
<td>13</td>
<td>2</td>
<td>6</td>
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<tr>
<td><strong>Petty expenditure</strong></td>
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<th>£886 12 3</th>
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<tr>
<td><strong>Balance at Bank</strong></td>
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<td>16</td>
<td>7</td>
</tr>
<tr>
<td>Do. (Bank of England) Dividends</td>
<td>23</td>
<td>18</td>
<td>6</td>
</tr>
<tr>
<td>Cash in hand</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

| £886 12 3                        |    |    |    |

Exempted with the vouchers and found correct.

A. F. VOELCKER, Auditors.

W. HALE WHITE, Hon. Sec.

28th April, 1896.
ADDRESS

DELIVERED AT THE

CLINICAL SOCIETY OF LONDON,

ON OCTOBER 25th, 1895,

BY THOMAS BUZZARD, M.D., F.R.C.P.,

PRESIDENT.

THE position which, by your favour, I occupy for the first time to-night is one that is unsurpassed, in my estimation, by any that can fall to the lot of a practising physician in this country. It is natural, in such circumstances, that the recipient of an honour as great as, in my case, it was unexpected, should feel no little diffidence in assuming the Chair, and considerable anxiety as to his ability to perform, without exciting very injurious comparison, the duties of an office which has been associated with the name of many of the most illustrious of the physicians and surgeons of the last half-century. Only too conscious of my shortcomings, I should have shrunk from undertaking a charge the dignity and importance of which loom large before me, but that I feel able to rest with confidence upon your clemency, satisfied that those who have thought fit to confer so signal a mark of their favour will view with kindly forbearance and indulgence my efforts to prove worthy of their confidence.

In the few words with which it is customary for the President of this Society to inaugurate the commencement of a session the personal element should doubtless be kept as much as possible in abeyance, and in the natural course of things I should here pass from the expression of my grateful

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appreciation of your kindness to other and more general topics. But in view of the fact that during the last ten years I have been somewhat conspicuous by my absence from the meetings of the Society, it is only fair to say that this has been but accidental, the result of various claims upon time such as happen to all who have been long in practice, and that it must not be looked upon as any evidence of lack of interest in a Society which in years gone by engrossed a very large share of my attention. It was my fortune to be the second medical secretary of this Society. I had the great honour of succeeding the present Regius Professor of Medicine at the University of Oxford, Professor Burdon-Sanderson, in that office,—a post which, I may say, involved at that time a good deal of the kind of anxious care which a nurse must feel on behalf of a new-born child. Other offices afterwards fell to my lot, and I think there were few members who failed less frequently to attend its meetings or contributed more often to its Transactions.

Returning now to the scene of my earlier life, after an absence the length of which I cannot but deplore, I am reminded somewhat of the position of Rip van Winkle when he regained his native village after a twenty years’ sleep in the Kaatskill Mountains! Like him I find the surroundings changed, and such an addition of fresh faces that it might be difficult to call up associations of the past were it not that happily I see so many members also still remaining who are identified with the history of the Society from an early date.

If we turn to the first volume of the Transactions and study the views which were apparently held by those who founded this Society eight-and-twenty years ago, we can hardly help observing that, in the passage of time, some of the aspirations which were then expressed have not been perhaps altogether fulfilled. This is not to say that the Society has really failed in the objects which were set before it, but only that its work has not exactly followed upon the lines which some were inclined to lay down for it at its commencement.

The inaugural address by our first President, Sir Thomas Watson, the memory of whom as a personality as well as the most delightful of writers is still fresh amongst many of us, shows, I think, what was uppermost in his mind at the time that he spoke, and doubtless reflects the sentiments of those of us who helped at the Society’s birth. In that address the greatest stress was laid upon the question of therapeutics
—the application of remedies for the cure or relief of disease. "Certainly," he said, "the greatest gap in the science of medicine is to be found in its final and supreme stage—the stage of therapeutics. . . . We want to learn distinctly and clearly what is the action of drugs and of other outward influences upon the bodily organs and functions." It is true that he added, "As there are many drugs and medicaments yet unproven, so there are also many shapes of disease of which the true nature and origin are still disputed or doubtful." But the question of therapeutics occupies the first place, for presently he says, "Full and faithful descriptions brought before the Society by competent and accurate observers of the symptoms, circumstances, and progress of disease in the living body, and of its behaviour under treatment by medicines prescribed with singleness and simplicity and a definite aim and object, it may be of its behaviour under no treatment at all; authentic reports of trials with medicinal substances upon the healthy human body; contributions of this order, multiplied in number, compared together, contrasted, sifted, and discussed by a variety of keen and instructed minds—of minds sceptical in the true sense of that word—must lead at length, tardily perhaps but surely, to a better ascertainment of the rules, peradventure to the discovery even of the laws by which our practice shall be guided, and so bring the therapeutic department of medicine to a nearer level with those other parts which are strictly ministerial and subservient to this."

One cannot but be struck with the fact that the existence of disease here appears to be looked upon as a foregone conclusion—as something which is necessarily inseparable from the conditions of humanity. Reading the address by our present light, it is startling to find no hint of investigation of disease with a view to its prevention as work to engage the attention of the Society, and it is sufficiently evident that the treatment of persons suffering from acute or chronic disease almost exclusively occupied the speaker's thoughts.

If we study the volumes of Transactions which record the work of this Society we shall find, I need scarcely say, much important information as to the application of drugs for the alleviation of suffering, but it will not be denied that after all this subject forms but a comparatively insignificant portion of their contents. Such a proportion would, it must be allowed, seem disastrously small, and suggestive of failure in carrying out the object originally set before us, were our ideas
upon the mode of treatment of disease so circumscribed as they were when this Society was founded. But, as we know, the last quarter of a century has brought an extraordinary change in this respect. We no longer search for a drug which shall perform an office as regards the conversion of diseased into healthy tissue somewhat akin to that ascribed to the imaginary "philosopher's stone" in the transmutation of metals. Our views are greatly enlarged, and the study of disease has resulted in remarkably increased light being thrown upon its cause. The revolution essentially due to the result of Pasteur's immortal researches, extended and applied to the domain of surgery by the genius of Sir Joseph Lister, illustrating which so large a number of most important communications have been made to this Society, it is unnecessary for me to dwell upon in such an assembly as this. I need only allude to it as an example of an advance in the treatment of disease a thousandfold more important in its far-reaching influence and possibilities than the effects wrought by any drug which has appeared or is likely to appear in our Pharmacopoeia.

So, again, if we turn to myxoedema, a disease the history of which is peculiarly associated with this Society, we shall find, I think, an apt illustration of the mode in which accurate observation of clinical symptoms, study of morbid anatomy, and experiment on the lower animals have resulted in the discovery of a therapeutical method, the success of which is not only extremely remarkable as regards the particular disease treated, but the principle involved in which is likely to have still more important and widely extending effects when more generally applied. I can well remember the late Sir William Gull reading his paper "On a Cretinoid State supervening in Adult Life in Women" in this Society more than twenty years ago, and how little one foresaw on that occasion the results which were destined to accrue from a study of the subject. We were all interested, no doubt, in a very graphic description of a diseased condition with which most of us were quite unfamiliar, but few of those who heard the paper accorded to it at the time, I think, more than the somewhat languid interest which is ordinarily bestowed upon cases presumably of such extreme rarity that the chance of meeting with examples of them appears very remote. It was not long, however, before an important light was thrown upon the pathology of the disease, especially by Dr. Ord, who gave, I believe, the first hint of its association with lesion of
the thyroid gland, and to whom, as is well known, we owe the graphic title which has been given to it. The mode by which, in the hands of different observers, the dependence of the disorder upon disease of the thyroid gland was proved beyond question, and its successful treatment arrived at, is full of almost dramatic interest and suggestiveness. It was especially at the hands of members of the Clinical Society, notably Drs. Ord, Semon, Duckworth, Hadden, and Mr. Victor Horsley amongst others, that the disease received fresh elucidation, which culminated in the exhaustive Report of the Committee on Myxœdema five years ago. Since then, and arising distinctly out of the clinical and pathological investigation, has come the brilliant suggestion of Dr. Murray, of Newcastle, to inject hypodermically the juice of the thyroid gland of the sheep, followed by Dr. Hector Mackenzie’s discovery (which from a practical point of view was scarcely less important) that the consumption of raw thyroid gland as a food was even more efficacious.

It has been sometimes urged, I believe, that those who follow the profession of medicine have no right to speak of their work as science. Such an opinion could only be held by those not conversant with the modern developments of our work, and has not been shared by those most competent to judge. I should like to know where in the domain of physics we shall find any more striking example of the scientific method than is contained in this story of the mode in which the nature and successful treatment of myxœdema were arrived at.

A few years before his death the late Professor Tyndall told me that, had he his time to come over again, he would certainly enter the medical profession. It appeared to him, if I rightly understood him, that experimental processes, especially in connection with microbiology, had shifted the practice of medicine from the position of an art founded upon empirical observation—that is, upon the observation of facts, apart from the principles which explain them and give the mind an intelligent mastery over them—to one which is the direct outcome of a rigid recognition of scientific method.

In the field of neurology the discovery of the extraordinarily frequent dependence of lesions of the nervous system upon syphilis has practically revolutionised the treatment of vast numbers of cases of convulsive and paralytic disorder, and the effects of the employment of specific treatment are often only second, in rapidity and brilliancy, to
those following the use of fresh vegetable juices in scurvy—another and earlier example, by the way, of the successful application of the scientific method. But it must always be remembered that the successful use of mercury and iodide in certain forms of paralysis and convulsive disorder has not been the result of a tentative employment of those drugs in a more or less haphazard fashion, but has followed logically upon the indications given by investigation of the morbid anatomy of the affections, their history and associations.

Of perhaps equal importance from a therapeutic point of view has been the discovery that a large number of cases of progressive paralysis of the extremities, associated frequently with more or less complications in the districts of cerebrospinal nerves supplied to other parts of the body, are due to the influence of alcohol. With our present knowledge of that which was formerly most frequently unsuspected, we can picture to ourselves the numerous cases of this description, which even at the time when this Society was founded went steadily on to death, uninfluenced in any degree by the various drugs and other measures which were employed. How little would here avail the most careful trials and comparisons and statistics of this or that drug! Volumes might have been published recording accurately the little changes day by day supposed to be consequent on the action of some therapeutic measure or another; but all in vain. In the absence of the key to the cause of the disease, success in treating it would necessarily be impossible. Never has there been a more striking exemplification of the old adage, "A disease known is half cured." The simple withdrawal of the toxic substance leads steadily and, if the mischief has not already gone too far, surely to recovery. It is true, unfortunately, that return to health too often fails to break the habit which has been the cause of the disease, but I think it is probable that the knowledge, which cannot fail to be spread more and more through the community, of the direful effects of alcoholism in inducing paralysis will be of constantly increasing influence in the cause of sobriety, and therefore in the prevention as well as in the cure of this particular form of disease. Whilst upon this point I would suggest that there is as yet hardly sufficient recognition of the fact that the epilepsy, or perhaps more properly speaking eclampsia, which we find occurring for the first time in middle life is very frequently the direct result of excess in alcohol. The effect of this agent in the production of convulsive disorder has been somewhat over-
shadowed, I think, by its influence, the knowledge of which is now widely spread, in the causation of multiple neuritis.

The connection of disease with the presence of microorganisms introduced by some means into the body, is a subject of such vast extent and supreme importance that I scarcely dare to touch upon it in the brief space at my command. I can but echo what must be the feeling of all members of this Society, that we probably stand on the threshold of discoveries as to the cause and treatment of disease far exceeding in interest and importance any which have hitherto had their place in the science and practice of medicine. In many cases the actual dependence of acute disease upon the introduction of a specific micro-organism is now generally conceded. This will probably be allowed to be true, amongst others, of anthrax, cholera, typhoid, tuberculosis, leprosy, actinomycosis, glands, diphtheria, and hydrophobia. But beyond these, what Babes calls "bacterial associations" in many diseases appear to point to the high probability that this list will have ere long to be greatly lengthened. There is reason to think that, besides the exanthemata, influenza, syphilis, pneumonia, and perhaps also acute rheumatism, are destined, if indeed they are not already there, to find a place in the category. As to the steps, consequent on this discovery, which have led to the possibility of procuring immunity against infective material, and successfully combating it by serum therapeutics, I can do no more than allude to them. It is difficult to speak in sufficiently sober terms of the advance in the prevention and treatment of disease which has been already made, though this, it seems probable, is as nothing compared with what the future has in store for us.

You will forgive me, I trust, for this necessarily brief and passing reference to that which is now common knowledge, but at the birth of this Society was hidden in the womb of time. The contemplation of such facts is calculated to explain the tendency of the work of this Society to diverge from the somewhat narrow lines which were at first laid down for it. 'Autres temps, autres mœurs; and the search for drugs to cure disease is very far indeed from representing the aspiration of the advanced medicine of to-day. At the same time we can never forget that our business in life is not only to seek out the means by which increasing immunity from disease may be prepared for those who will follow us, but to cure the disorders or at least alleviate the misery of
present sufferers. It is not likely that in a society with such practical ends in view as ours this part of our duty should be overlooked, and it will be allowed that recent advances in pharmacology have resulted in additions to the means of palliating suffering and modifying the symptoms of disease which transcend all experience in the past, and furnish us with therapeutic agents the value of which we all gratefully recognise.

And here, perhaps, I may be excused if I venture to turn to that very wide branch of medicine which is represented by diseases of the nervous system, and say a word in reference to the question of the infective origin of some of them. Although decisive proof that the bacillus of leprosy is the cause of the disease may still be wanting; owing to the fact that hitherto pure cultivations of it have not been able to be made, and that attempts to produce the disease by inoculation have apparently failed, the peculiar circumstances in which the presence of the bacillus is associated with the disease seem to leave it in but little doubt that we are dealing with cause and effect. Perhaps, however, we can hardly claim leprosy as a disease of the nervous system, although, in its anaesthetic or mutilating form, lesion of the peripheral nerves is of course the most prominent feature. The microbic origin of tetanus is, I suppose, beyond question; and although the evidence as regards hydrophobia is not quite so distinct, there can be but little doubt that a micro-organism bears an important part in the production of the disease. Diphtheritic paralysis has practically been shown by Sidney Martin to be dependent upon chemical substances, the products of the growth of a bacillus in the characteristic membrane.

So far as anything like ocular proof is concerned, we must here stop. It is, however, I think, not only allowable, but necessary to picture to ourselves the possibility of the dependence of other and more chronic forms of nerve disease upon micro-organisms or their products. This may, there is little doubt, open the way to a very profitable inquiry.

For many years past, in common doubtless with others, I have entertained the idea that some diseases of chronic character, in which the symptoms point to lesion of various parts of the nervous system, might possibly prove to be due to micro-organisms. Indeed, before microbiology had taken an assured position I remember suggesting to a friend the possibility that the scattered cases of progressive muscular
atrophy that we meet with might be the lineal descendants, in some way, of the leprosy which in former times (as is evidenced by the remains of numerous lazard-houses) was sufficiently common in England. That was a mere conjecture, which is probably valueless. We are at present, however, entirely unable to explain the origin of these cases, which occur in such varied circumstances of age, sex, and condition of life as seem to point, I still think, to the probability that they may be the result of an infective process.

You will say, perhaps, that this is very shadowy, and possibly it is, but if it be merely suggested as a basis for investigation, it is, to my mind, not only permissible but profitable.

There are, we know, those who scorn as mere speculation anything that departs from the position of a verified, or apparently verified observation; but surely, as Tyndall says, "without the exercise of the imagination our knowledge of nature would be a mere tabulation of co-existences and sequences."

There is, I need hardly say, a wide distinction between a suggestion of this kind and fancying that we have explained something by imagining the possibility of a certain mode in which it may have occurred.

Now in the form of progressive muscular atrophy to which I refer, the lesion is confined, at least to a very large extent, to the large ganglionic cells in the anterior horns of the spinal cord. Is it at all likely, it may be asked, that an infective disease could be so limited? There are reasons for thinking that this is quite possible. At the International Medical Congress held at Berlin in 1890, Dr. Medin of Stockholm read a very interesting paper upon an epidemic of spinal infantile paralysis, an acute disease in which, as is well recognised, the essential lesion is usually confined to these large ganglionic cells in the anterior horns of the cord. Reference is also made to some previously recorded epidemics.

In 1881 Dr. Bergenholtz, also of Sweden, had observed a small epidemic (thirteen cases) in a short time. In the London Medical Gazette, 1843, there is an account by Dr. G. Colmer of a case which he had seen, and he mentions that within a circle of a few miles, in the course of three or four months, eight or ten cases happened. In June and July, 1885, a small epidemic (thirteen cases) was observed at Cordier in the neighbourhood of Lyons. Only last week I saw a little boy affected with infantile paralysis whose sister a
day or two previously to his attack had sickened with precisely similar symptoms, which, however, in her case cleared off without leaving her paralysed.

As regards the epidemic recorded by Dr. Medin, which occurred in 1887, between the months of May and November, no less than forty-four cases were observed in Stockholm and its immediate neighbourhood, of which three died. With our present knowledge of the associations of epidemic disease it is impossible to doubt that the occurrence of such epidemics as these points to an origin by infection. Dr. Medin mentions that bacteria were not found, but they were only looked for in hardened preparations from the fatal cases, and the negative result of such an examination, it is hardly necessary to say, is not by any means conclusive.

It is interesting to note that in eleven of the cases symptoms of paralysis of cranial nerves, and also of polyneuritis and polio-encephalitis, were present. The association of polyneuritis with anterior polio-myelitis in cases of infantile paralysis is not uncommon in England. The occasional association, indeed, lends of itself some support to the view of an infective origin, for besides the very frequent acute polyneuritis connected with diphtheria, and the more chronic form usually seen in beri-beri, cases of acute multiple neuritis are not unfrequent in which the circumstances point forcibly to such a mode of production. Notably cases of acute "ascending" or, as Ross suggests, "centripetal" paralysis strongly suggest a septic origin, and in some of these investigation has shown lesion of peripheral nerves associated with changes in the cord.

Returning for a moment to the question of progressive muscular atrophy, all that seems substantiated appears to be that an acute disorder, evidently of infective origin, may cause lesions confined to the large ganglionic cells of the cord. It is, no doubt, a long step from this acute disease to a slowly progressive destruction of these cells, and it must be allowed that the evidence in regard to certain acute affections of the nervous system being probably due to the influence of micro-organisms is at present very much stronger than that which would support a similar origin for chronic diseases of degenerative character. Amongst these, however, the remarkable frequency of a syphilitic history in cases of tabes must be remembered.

Insular cerebro-spinal sclerosis, again, is a chronic disease which was shown many years ago by Kahler and Pick to have
been frequently preceded by infective disorder of various kinds. Pierre Marie also, in an important communication published in 1884, drew attention to the probable association of the disease with infection; whilst more recently Drs. Whipham and Myers contributed to our Transactions (in 1886) a number of cases presenting symptoms like those of multiple sclerosis which appeared to be definite sequelae of smallpox and enteric fever. Dr. Barlow, in 1887, published a case of early disseminated myelitis occurring in the exanthem stage of measles which has an important bearing on the question. Dr. Dawson Williams has also contributed a case in the sequel of smallpox.

Such cases seem to show that pathological changes like those which result in the symptoms of insular sclerosis may be the outcome of preceding infection by the microbes of various exanthemata. It is not unreasonable to infer that they may likewise be due in other instances to the introduction of micro-organisms not associated with any of the recognised exanthemata. It is certain, at all events, I think, that some mode of infection would best explain the clinical features and pathological anatomy of the disease. I would suggest especially that the frequent and remarkable tendency to more or less long-continued periods of remission of symptoms in the disease, and the occurrence from time to time of fresh outbursts, point with a good deal of force in this direction. This is a feature which reminds us strongly of that which is so very apt to occur in the course of constitutional syphilis, a typically infective disease.

An infective origin has been claimed for chorea and some forms of epilepsy, and I am disposed to find the suggestion plausible at least on clinical grounds.

One cannot help feeling, too, that as regards such "family" disease as certain myopathies, and the so-called Friedreich's ataxy, the supposed hereditary element may prove to be open to a similar doubt to that which many of us experience respecting tuberculosis and cancer, and that what appears to be an inheritance may be, at least in great part, the result of exposure of members of the same family to a local source of infection.

In this brief reference to the question of infective origin of some more or less chronic diseases of the nervous system I trust that I shall not be misunderstood. All that we can possibly say at present in regard to some of them is that there is a fair case for investigation. The subject is one
that must be approached from several sides, especially the clinical, bacteriological, and chemical. I can imagine no more interesting and important field of inquiry than this, and no Society the members of which are so well qualified to do justice to it as that which I have now the honour to address.
COMMUNICATIONS.

I.—Four cases of Excision of the Temporo-maxillary Articulation in Children. By W. Arbuthnot Lane, M.S. Read October 11, 1895.

BEING anxious to obtain from the Fellows of this Society some information as to the results which are usually obtained in operations upon ankylosed temporo-maxillary articulations in children, I am venturing to bring before them the records of the four cases which have come under my care.

Case 1.—W. S.,* a boy æt. 9, was admitted into the Hospital for Sick Children, Great Ormond Street, under my care, in September, 1892, with ankylosis of the left temporo-maxillary articulation. This had followed a fall sustained three years previously, the condition of ankylosis not being recognised by the parents till about six months after the receipt of the injury.

On exposing the bone in the position of the normal joint the neck of the jaw was found to be fused to the temporal bone, no sign of the head being recognisable. The zygoma was very irregular in outline, and a careful examination of the parts showed that this process must have been broken.

The bone corresponding to the upper and posterior angle of the ramus of the jaw, together with that part of the temporal bone which was continuous with it, were excised as freely as possible, till one was able to establish a considerable interval between the incisor teeth when the jaws were

* This boy formed the subject of a communication in vol. xxvi of the Clinical Society's Transactions, entitled "Cases illustrating a New Operation for Dorsal Dislocation of the Head of the Femur, and some points in the Surgery of the Hip."
Mr. Lane's Cases of Excision of the

Movement was commenced within a few days of the operation, and an excellent joint was developed. At the present time the movements permitted by the new joint are as free as one could wish. Fig. 1 is a photograph of W. S. taken quite recently.

Case 2.—E. H.,* a girl æt. 12, was admitted under my care into Guy's Hospital in September, 1893, suffering from an extreme condition of want of development of the lower jaw, which was continuous with the left temporal bone. This had resulted in consequence of the joint having been involved by an infective process in its vicinity when she was only eighteen months old.

By the same means as in the last case, assisted by section of the body of the jaw outside the incisor teeth subsequently in order to project the lower incisors forwards, an excellent joint was obtained. It was necessary to tracheotomise the child on both occasions, owing to obstruction of the larynx, it being impossible to get the tongue forwards.

* Her condition previous to operative interference was described and figured in a communication to the Clinical Society's Transactions, vol. xxvii, entitled "Bony Ankylosis of the Temporo-maxillary Joint with very Imperfect Development of the Lower Jaw."
Before the operation the upper incisors of the lower jaw, which were very much elongated, bit deeply into the mucous membrane of the roof of the mouth, and now the possible

interval between her incisor teeth considerably exceeds an inch in measurement (Fig. 2). The jaw has developed very definitely since the operation.

Case 3.—E. W., a boy aet. 4, was admitted into Guy's Hospital under my care in August, 1894, suffering from ankylosis of the right temporo-maxillary articulation. This developed after scarlet fever, which he had when a year old. The bone in the normal position of the joint was exposed, and much of the maxillary and temporal bones was freely removed. As in the preceding cases, there was no indication of the locality of the original joint, the head and neck of the jaw not being represented. Union ensued under a single dressing, and voluntary movement was commenced a few days after the operation. The new joint that was developed allowed of very free movement, and the present condition is most satisfactory. The photograph (see p. 4) of this case (Fig. 3) and those of the first and second cases were all taken at the same time.
Case 4.—W. B., a girl æt. 10, was admitted into the Hospital for Sick Children on August 23, 1895, suffering from ankylosis of the left temporo-maxillary articulation. When seven years of age she had numerous abscesses over the body, and a very bad one over the affected articulation. Since that time her jaw has been fixed on that side, a slight yielding being experienced on the right side when an attempt was made to force the jaws apart. The lower jaw was imperfectly developed, and the lower incisors were placed at an abnormally great interval behind the upper ones. The same operation was performed in this case, and the conditions found differed in no manner from those already described. The present state of the developing joint is excellent (Fig. 4).

Perhaps the thing that struck me most in these operations was the great difficulty experienced in getting away a sufficiency of the bone, which was always abnormally broad and thick. The relation of the parts is altered in a remarkable manner by the very imperfect development of the head and neck of the jaw, which is most evident in cases in which ankylosis has developed early in life and continued for a long period. The portion of the jaw that is continuous with the squamous portion of the temporal, and which must be very freely removed, is remarkably broad and deep, and dense
in structure, and its excision was in some of these cases a source of much trouble. The surgeon must remove very much more bone than would at first sight seem requisite if he wishes to secure a good joint.

I think it is not unlikely that much of the want of success experienced by earlier operators was due to infection of the wound, which would very possibly interfere with the formation of a new joint. Of this, however, I have no experience.

![Fig. 4.](image)

In young life excisions of the temporo-maxillary articulation, like those of other joints in which it is desired to develop a new articulation, do much better than in the adult, and this circumstance is, I suppose, familiar to all of us.

**Case 5.**—I have operated only once in the adult, with a very good result for a time, but later on movement became so limited that the incisor teeth could only be separated to a distance of a quarter of an inch. At a subsequent operation (October, 1895) I removed bone even more freely than before, and obviated up to the present any limitation of movement by making the patient wear a gag for a certain time each day, the jaws being separated to the extreme limit by it.

In this case I erred in not removing enough bone at first, though I did so till I was able to open the mouth freely to its
Cases of Excision of Temporo-maxillary Articulation.

extreme normal limit, and also in not keeping her under my observation and control as thoroughly as I should have. She was very troublesome in not attending after she left Guy's.

Fig. 5.

She has now a very satisfactory joint. Fig. 5 (taken six months after the reading of this paper) represents her condition on 11th April, 1896, the last operation having been performed in the commencement of November, 1895. The left eye was destroyed in infancy.
T. W., æt. 35, a strongly built, well-nourished man, was walking along the street on Sunday afternoon, October 7, 1894, carrying his little boy, when he suddenly fell down and expired. His corpse and the child were brought to St. Bartholomew's Hospital by the police. The body was examined on October 9 by Dr. Tooth. A meagre history could only be obtained, but it threw no light upon the case. I shall here only refer to the points in the morbid anatomy which bear on the questions before us. There was clear evidence of old syphilitic disease, for there were depressed scars on the glans penis and on the tongue. A small gummatous mass was situated near the root of the left lung. The heart weighed 22 oz. Long leathery adhesions were found on the posterior aspect of its apex; and the base, including most of the left auricle, was closely adherent to the pericardium. The right ventricle was hypertrophied and dilated. The valves were natural, and so was the right auricle. The left ventricle was hypertrophied and dilated. A round depression, about the diameter of a shilling and admitting the finger, was felt in its wall one inch above the apex, close to the septum. Many long adhesions covered it. It suggested a defect in the wall. A large pouch was found behind the posterior cusp of the mitral valve, forming a cardiac aneurysm. From without this pouch appeared like a tumour growing from the base, completely covering the left auricle. The pericardium was closely adherent over it, and the thickness of its wall was about half an inch. On section, the muscle was found to be replaced by tough fibrous tissue of a pinkish hue, with foci here and there of yellow gelatiniform matter. The endocardium of the ventricle was greatly thickened and fibrous. The depression near the apex proved to be due to thinning of the muscular wall, and there was much fibroid endocardial thickening over it. The aortic valves were natural. Microscopical examination (by Dr. Herringham) of the mass at the base proved it to be a gummatous growth with fibrosis and patches of caseation. The arterioles showed
endarteritis. The small mass in the lung was of the same nature. These appearances suggested a recent gummatous infiltration of the base of the left ventricle, with a similar but much older one of the apical region.

I do not bring forward this case as presenting any novel or unrecognised features. On the contrary, it has been already sufficiently established that death may supervene suddenly in cases where a large gummatous mass or many smaller ones exist in the cardiac walls. This fact has been brought to light within the last five-and-twenty years, and yet the cases on record, though sufficiently striking, are not very numerous.

I can find no account of a similar one in our 'Transactions,' now extending over thirty years. The fact is that the clinical history of these cases is necessarily very imperfect, and that hitherto they have been studied from the side of morbid anatomy. Hence the best accounts of them in this country have been given in the Pathological Society. From various sources I have gathered such particulars as I could of fourteen cases, and nine of these have been reported in this country. Death occurred in most of them before the subjects were properly examined during life, and that almost or quite suddenly by syncope. This was the case in eight out of the fourteen I have collected.

In seven of these eight cases the patient was a male. The only female of which I have a note was the subject of an autopsy in Edinburgh by the late Dr. Haldane, at which I was present, in 1862. The woman was a prostitute æt. 25. Death occurred suddenly after coitus. A gummatous mass was found in the heart. The ages of these patients varied from twenty-five to forty-five, the mean being thirty-two years. Little is recorded as to any antecedent symptoms pointing to heart disease. In some cases there is reference made to cardiac pains. Eight cases of this nature are reported by Lance-reaux in his classical work, one of them being Haldane's case, already referred to. In these death was rapid in one, sudden in four, slow and gradual in three.

It is certain that the clinical symptoms must vary in such cases according to the particular portion of the heart involved, and no less in respect of the age and evolutionary changes in the gummatous growths themselves.

We may fairly look for the graver effects when there is a spreading fibrosis resulting from an old gummatous mass, and expect less marked symptoms in the earlier stages while the growth is soft and yielding.
Death due to Cardiac Syphiloma.

We may note that the valvular structures of the heart are little apt to be involved, and hence the absence of murmurs during life. We must also note the tendency to the production of aneurysm of the ventricular walls due to the involvement of the ventricles by these growths, the septum and the left auricle being less often the seats of gummata than other parts of the organ. A cardiac aneurysm may rupture, but in most cases there is commonly much fibroid growth to prevent this accident. They may, however, prove a source of emboli with far-reaching results.

The mechanism of sudden death in these cases is not always readily apparent. There has been in some instances a history of exertion previously, as in the case I have related to-night, and the left ventricle suddenly fails. The new growth may, and probably often does, seriously interfere with the circulation in the coronary arteries, and in most cases there is almost certainly some degree, perhaps a very great degree, of endarteritis due to syphilis, leading to starvation of the ventricular walls, and the effect of this endarteritis is possibly increased by minute embolisms. In the event of a large gummatus mass being present, the cardiac walls may be so grossly degenerated as to fail on prolonged exertion.

The diagnosis of cardiac syphiloma may be made in cases where other and more obvious signs of old syphilis exist elsewhere in the body, provided indications of cardiac disease are present, and there is no history of rheumatism, and no pulmonary or renal complications are present to account for it. A diagnosis has sometimes been made, and the cardiac symptoms to be expected are those arising from hypertrophy or dilatation, with physical signs leading to suspicion of pericardial adhesion. In earlier stages palpitation has been noted, and amendment has followed treatment for late syphilis. In the later stages dropsy may come on, and pericardial pain be complained of, the latter due probably to progressive fibrosis and adhesions in various directions. Murmurs due to valvular lesions are not to be expected, judging from the morbid anatomy, and this fact points away from a rheumatic etiology. The easiest case for diagnosis is one in which the liver is enlarged and rough from gummata and fibrotic scars, together with indications of cardiac disturbance. Syncopal attacks, infrequency of the pulse, and inordinate cardiac action have been noted in some of these cases.
The great object is to recognise the nature of the disease as soon as possible, and to treat the patient by large doses of iodide of potassium. On these lines the best results may be anticipated.

I think it is probable that many instances of cardiac fibrosis, especially where this occurs in a patchy form, with pericardial adhesion, are really due to scar tissue, the outcome of antecedent gummata. The condition has been unrecognised in its progress, and the patient has long survived the ultimate result.

Giles Mills, aged 30, a miner, came to my house on June 15, 1894, to consult me about an injury to his left knee which he had received just a year before, and which almost entirely disabled him. The injury occurred at Johannesburg in South Africa; and as the effects were so serious, and seemed to require operative interference, he had come home with a view to undergo any operation which might restore to him a useful leg.

He was apparently a perfectly healthy man, not particularly bright, but shrewd, and had evidently heard and thought a great deal about the injury and its possible consequences, as also about the results which might be anticipated from operative interference, whether successful or unsuccessful.

His history was this. On July 3, 1893, when down in a mine, a large flat stone fell upon him from a height of about twenty feet, striking him upon the back while in the stooping position, and rendering him senseless. On regaining consciousness he found his left knee much swollen and very painful. He was removed to hospital and ice was applied to the part, but the swelling did not subside for twelve days. A back splint was then applied, and remained on for three weeks. At the end of that time the doctor forcibly flexed the knee, and the patient says that this produced a snap in the joint and a feeling of sickness for some hours. The limb was at once put up in plaster of Paris for five weeks, and he was then allowed to walk. A fortnight after its removal a second plaster case was applied, and remained on for five weeks. Since then nothing had been done except that the man had worn a leather splint, the state of the knee remaining as before.

When the patient entered the room he was still wearing a leather splint, and walked with a stiff limb. On removal of the appliance the first thing noticed was a lateral yielding of the knee, and a tendency when weight was thrown upon it to assume the position of genu valgum. It was also evident that the patient walked with great insecurity, and a distinct snap
could be heard as the knee bent inwards and forwards. There was some pain, but his chief complaint was of the total absence of any sense of security in walking on the leg, and its tendency to give way suddenly inwards with the snap described, which was quite audible at the end of a long room.

On examining the limb by passive motion the first thing noticed was a large amount of lateral movement of the tibia on the femur in the sense that there was a kind of lateral flexion. Also rotation both outwards and inwards of the tibia was freer than normal to a large extent. *Slight* over-extension of the knee was also possible. Lateral displacement of the tibia on the femur was doubtful, and if possible at all was only so to a very small extent. On the other hand, the tibia could be suddenly slipped back upon the femur, either by passive movement, or the patient could throw it back himself. When thus displaced he could not throw it forwards again by muscular action, but with the hand on the ham it could easily be brought into position in a moment, but not beyond the natural limits.

Traction produced no trace of separation between the surfaces of femur and tibia. There was some thickening of the synovial membrane of the joint, and slight crackling on movement. It was thought that there was also some "lipping" of the cartilage at the borders of the femur on the left, less on the right.

There were no symptoms of locomotor ataxy. There was no "locking" of the knee in any position. On first seeing this patient I was inclined to think that the internal lateral ligament was stretched or torn, and that this would account for the in-bending of the knee. But when the tibia was seen to slip back upon the femur the possibility of rupture of the posterior crucial ligament or fracture of the spine of the tibia at once suggested itself. The fact that traction on the tibia produced no separation of the bones appeared to negative the rupture of the lateral ligament, and it was difficult to account for the very remarkable slipping back of the tibia on the femur except by supposing that the latter had lost the control of the posterior crucial ligament, either by its rupture or by the tearing off of a portion of bone into which it was inserted. The increased power of rotation of the tibia on its long axis appeared also to favour the view that the lesion was in or about the crucial ligaments. The nature of the accident, in which the knee was probably forcibly over-flexed, lent support to the latter view.
Having explained to the patient the probable nature of the lesion, I discussed with him the prospects of relief from operation. In the first place it was quite clear that immobilisation of the knee for just one year had been productive of no benefit, and further rest seemed to offer but little prospect of cure. On the other hand, if the joint were opened, and a lesion either of the crucial ligaments of the spine of the tibia or of the lateral ligaments were found, it was very improbable that any fixation of the ruptured tissues could be brought about. The only hope of relief from opening the joint—and it was a slender one—seemed to me to be that perhaps, though I might not be able to suture the ligaments or pin down the spine of the tibia, still the mere fact of manipulating the ligaments and capsule of the joint might produce a certain amount of plastic exudation in them sufficient to thicken them and perhaps cause their shrinkage, and so give some extra support to the parts. I also felt that if by any accident the joint became stiff after the operation the limb would be more useful to the patient than in its flail-like condition.

All this was explained fully to the patient, who expressed himself as eager, at all events, for an exploratory operation. This I performed on June 21 as follows:—A transverse cut was made across the left knee exactly opposite the middle of the patella, which was then sawn across in the same line. The capsule was divided in the same direction as far as the external and internal lateral ligaments, which were left intact.

The knee was then flexed, and the anterior crucial ligament exposed. There was very little "lipping" of the cartilages of the femur. The synovial membrane was everywhere hyperemic and swollen, and its fringes were hypertrophied. The cartilage of the femur was striated, and over the outer condyle on its lower surface there was an area of erosion of the cartilage, which was ragged, though the bone was not exposed. The anterior crucial ligament was intact.

To gain a more complete view of the joint I made a vertical cut downwards from the ends of the transverse incision on either side for about one inch, and turned down the resulting flap with the lower half of the patella.

No satisfactory view of the posterior crucial ligament was obtained, however, but there was no evidence that it was anything but intact. The semilunar cartilages were in their normal situations.

Round the outer side of the spine of the tibia there was an irregularity of the cartilage of the articular end between
the attachments of the outer semilunar fibro-cartilage. From this a groove passed round the base of the spine of the tibia. This groove was large enough to take the end of a dissecting forceps or a blunt periosteal elevator. When these were pressed into it they did not appear to touch exposed bone, but rather softer tissue. The groove had all the appearance of having resulted from a horizontal fracture of the spine of the tibia,* with imperfect coaptation of the broken surfaces. With my blunt elevator in the groove I made very cautious tests as to the mobility of the spine of the tibia, and at one moment it was thought to be still unfixed. But this is uncertain. And after examining the state of the parts very carefully I came to the conclusion, which was shared by those present, that though the union of the broken spine of the tibia (if the groove represented such a fracture) was not perfect either as to position or quality of band, it was probably as good or perhaps better than any which could be obtained by again loosening the broken fragment and pegging it down into a better position. One had to recognise the fact that in this instance the derangements of the movements of the knee could be produced by displacements of merely a millimetre or two in extent. And the groove as it was would only correspond to a displacement of perhaps one to two millimetres in the fragment of bone, and it was questionable whether this could be more accurately adjusted by loosening it again and digging out a bed for it at a deeper level in the head of the tibia. The specimens shown from our museum indicate the nature of the supposed accident, and the difficulty there would be in pegging down a broken spine of the tibia. I therefore desisted from any further interference, and closed the wound carefully. The divided patella was united again by surrounding its two halves with a stout silver wire passed from above downwards, as in my operation for fractured patella, and the ends were twisted over the front of the bone and flattened down on either side. The capsule of the joint was closed by six fine silk permanent sutures on the inner, and six on the outer side. The skin wound was also carefully sutured all round with fine silk. There was no provision for drainage. A salicylic wool dressing completed the operation.

After the operation there was some pain in the joint, which was relieved by an ice-bag applied over the dressings. The temperature rose on the second day to 100.6°, and then slowly

* Such as that seen in these two specimens from University College Museum, Nos. 284 and 285.
Derangement of the Knee-joint.

felled to normal. Convalescence was absolutely uneventful. The superficial stitches were removed at the first dressing on the tenth day, when the wound was found to be absolutely healed by first intention. The limb was kept upon a splint for some weeks, and finally the patient was allowed to return to his friends on July 24.

I next saw him at my house in October, 1894, some three months later. He walked into the room with a good deal of stiffness, but stated that the limb was far more useful to him than before, and that he was going back to his work in Africa. He had not yet attempted to flex the knee, and I cautioned him against doing so for a long time to come. On manual examination of the joint I found the patella moveable, and a certain amount of flexion possible. There was still some fulness about the knee and a little tenderness. But the patient was well content with the result, although I explained to him that I had done little more than explore the part and confirm the diagnosis made. I pointed out to him, however, that the amount of exudation about the ligaments, provoked by their exposure and manipulation, might very possibly strengthen them, and lead to their becoming contracted sufficiently to give the necessary support as before the accident. This would only be possible if he abstained for a long time from flexion of the knee and over-exertion. This he promised to observe.

In this case, of the alternative diagnoses placed before my class of students, before operating, I was inclined to favour that of rupture of the posterior crucial ligament, or, what was almost the same thing, the tearing off of that part of the spine of the tibia into which the latter is inserted. This appeared to be confirmed by opening the joint. But the operation showed clearly that after twelve months from the injury nothing better could be done than to leave the fragments alone, although they were defectively united. I do not think even now that if I had loosened it with the elevator I could have secured it in better position. That the patient was, so far, benefited by the operation was satisfactory, and at least justified the exploration.

It is, I venture to think, not too much to hope that the posterior crucial ligament may in time contract sufficiently to make up for the approximation of its two points of insertion due to the injury; and judging from what occurs with other ligamentous structures when irritated, this may possibly be favoured by the effects of the operation upon the ligament.
This case possesses a special interest as a contrast to one shown at this Society last year by Mr. Stanley Boyd. In his case the diagnosis was that rupture of the anterior crucial ligament had taken place. The tibia could be both thrown in front of and behind its normal axis. In the present case it could only be thrown well behind it, and only returned to its normal situation.

I last saw this patient in July, 1895, more than a year after operation. He walked well, and none of the abnormal movements observed before operation were present. Flexion was still somewhat limited, and I urged him still to abstain from it. He was returning to Africa quite contented.
PLATE I.

Illustrating Dr. Radcliffe Crocker's paper on Impetigo Contagiosa Gyrata.

The chromo-lithograph shows the eruption as it appeared on the back of Mabel L—.
IV.—Cases of Impetigo Contagiosa Gyrata, with remarks on its relation to pemphigus contagiosus tropicus. By H. Radcliffe Crocker, M.D., F.R.C.P. Read October 25, 1895.

IMPETIGO contagiosa, although a very common disease, is somewhat protean in its manifestations, and although dermatologists are sufficiently well acquainted with it, it is often much misunderstood in the profession at large.

Not long ago much correspondence was going on in the journals, and there were leaderettes on what was said to be a new disease, and was provisionally, and to some extent, no doubt, jocularly called "football impetigo." This affection was particularly rife in public schools, and was said to occur more frequently in football players than amongst those boys who excluded that somewhat dangerous form of exercise. Boys were kept for weeks in the school infirmaries, and I believe that the Medical Officers of Schools Association appointed a committee of inquiry, and had bacteriological investigations made in order to unravel this new and mysterious affection. Yet the boys whom I saw with this eruption had only impetigo contagiosa in a very ordinary form. I only instance this as an example of the mistakes which are often made with regard to this common affection. It is not, however, of typical cases that I propose to speak to-day.

In some cases, not nearly so common, the eruption occurs in the form of distinct bullæ, which again give rise to many errors; and there is little doubt that most, if not all of the localised epidemics of what are commonly reported as "pemphigus contagiosus" are really examples of impetigo contagiosa bullosa.

A tropical form of this has been described by Dr. Patrick Manson as "pemphigus contagiosus," of which I shall have more to say presently.

The form of eruption I am about to describe is a rare one, or at least has been so hitherto, and when I showed the first case at the Dermatological Society of London no one had seen anything like it, or would venture upon a diagnosis; and it was not until after I had seen the patient on her second visit to the hospital that the true nature of the affection was suspected, when she was admitted into the hospital for further investigation.
The following is an account of the case.

Mabel L., æt. 5 years, was admitted into University College Hospital on July 14, 1894, with a rather copious eruption on the back and chest, with a few lesions on the left foot. She had, however, been attending as an out-patient since July 3, the eruption having appeared four or five days before that date. At that time, there was a bullous eruption, chiefly on the back, for about halfway down; there were also one or two on the front of the body and in the axillæ, but there were none on the arm. The lesions varied from a hemp-seed to half an inch in diameter, and where they were unruptured formed small flaccid bullæ with sero-purulent contents; the larger ones had ruptured, and had a red areola round them; immediately within this, was a border raised by the fluid beneath, and within that again a thin flaky crust of a greenish hue formed another circle, the centre having cleared in the largest of the lesions. By the time she was admitted eleven days later, the eruption had extended all over the back, from the nucha to the loins; there were a few bullæ on the upper third of the arm posteriorly in the right subclavicular region, and on the chest about the breasts; there were about a dozen in the left axillary region, and a few in the right; there was one on the side of each buttock; a group of papules without vesiculation were situated in the right popliteal space, and one in the left, and there were three or four slightly vesicular lesions on the flexure of the left ankle. The lesions in the back were now, for the most part, in irregular slightly crusted rings, with a nearly clear centre in the larger patches, while the whole was thinly crusted in the smaller ones. Those that were large enough to have cleared in the centre, had a thin crust with a ragged inner edge round this centre, and a bright red areola nearly an eighth of an inch across, forming the boundary of the whole lesion, whether single or compound; while between the crust and the areola the epidermis was slightly raised up by a small quantity of fluid exudation. The single lesions were from a quarter to three quarters of an inch in diameter, but the larger compound patches were gyrately outlined, elongated, and one was between two and three inches long; these represented the later stages of the process. The earliest lesion was a pink papule the size of a hemp-seed, with slight indications of vesiculation; this enlarged, and formed first a tense, and later a flaccid bulla from a quarter to a third of an inch in diameter, containing sero-pus, and surrounded by a faint, narrow, red
areola. A good example of this may be seen on the right shoulder in the drawing (vide Plate 1). The bulla dried into a thin scab while enlarging at the periphery, where there were still indications of fluid, while beyond that the areola had become pronounced; thus were formed the scabbed lesions already described and well represented in the drawing.

Feeling satisfied that the disease was due to some kind of microbe, probably pus cocci, a one in two thousand solution of perchloride of mercury was ordered to be sponged firmly over all the lesions, and a week later the whole eruption was much fainter and less scabbed, though many of the patches had enlarged considerably, and the whole back was thickly covered with the gyrately outlined eruption. The perchloride of mercury lotion had to be stopped on July 23, as the patient was seized with diarrhœa, with blood and mucus, headache, and a temperature of 104° in the afternoon; but in the evening it had fallen to 101°, and the next day was normal. Boric acid ointment was now substituted for the mercury lotion. The eruption on the whole continued to improve, but a few new lesions appeared, one of them a bulla the size of a pea between the right labium and the thigh; there were several others on the antero-internal aspect of the left thigh. By August 7 the rash had almost entirely disappeared, leaving pigmented areas with serpiginous outlines, but there were a few fresh bullæ, but they did not extend as the others had done. The child was discharged on August 15, with still a few small bullæ on the chest. When she was seen again on the 21st a fresh eruption of vesicles had appeared on the chest, abdomen, and back. Since the end of July she had been under the care of my assistant, who had regarded it as a form of pemphigus, and had abandoned local treatment. That the disease was, however, really an impetigo contagiosa was proved by the fact that the brother was brought the week after her admission to the hospital with the ordinary form of impetigo contagiosa, and also because an almost pure culture of Staphylococcus aureus was obtained by planting some fluid from an unruptured bulla in a tube of bouillon gelatine.

A slighter case of this form of eruption was seen about three weeks after the first one, and two others in the October following. From one of these a pure culture of Staphylococcus aureus was obtained. The child came of a phthisical stock, but was herself fairly healthy, and no reason for the disease taking this special and rare form could be discovered, while the
atmospheric temperature was not particularly high at the time.

Subsequently Dr. Abraham showed a well-marked case at the Dermatological Society of Great Britain in which there were also some lesions of the ordinary type, which made the diagnosis easy; and on January 26, 1895, a girl of eleven was brought to University College Hospital with a single horseshoe-shaped lesion on the right cheek, flat-crusted patches elsewhere on the face, but on no other part of the body.

It is evident, therefore, that there are many cases about, and probably we shall see still more of them in the ensuing summer, but it is curious that a new variety should suddenly spring into existence for which there are no special characters in the pathogenic organism to account, nor can I discern any special conditions in the patients or in the atmospheric state which appear likely to exercise any influence in the modification of the usual characters of the disease.

If the disease had appeared before, at all events under the cognizance of dermatologists, its striking characters would have led to its being described and probably figured, but I am not aware of any such record. There is, however, a disease resembling it, which is fairly common in the tropics, which has been ably described by Dr. Patrick Manson (and called by him pemphigus contagiousus), who says that it is indigenous to South China, though it has also been seen in the Malay Archipelago. It is prevalent from May to October; it attacks Europeans and Eurasians, but the pure Chinaman appears to be exempt. Both adults and children are liable to it, and there are two forms, one in which the disease is almost confined to the non-hairy part of the axilla, which is chiefly seen in adults; while the diffuse form is almost confined to children, and may occur on any part of the body except the scalp, palms, and soles.

At first the bulla is tense and the contents clear; but the latter soon gets turbid and the bulla flaccid, and when it ruptures instead of healing it spreads at the border with an undermined sinuous edge, forming circles with pink slightly crusted centre, or the circles may be broken, and crescentically outlined gyrate figures are produced. The disease occurs chiefly in hot weather. In the second edition of my book I remarked upon the close resemblance of the disease to the bullous form of impetigo contagiosa, except as regards the peripheral spreading after rupture.
Now, however, as in the form of the disease we have just been considering, this character of peripheral spreading does occur, and there can be little doubt that what I have ventured to call impetigo contagiosa gyrata is identical with Manson's pemphigus contagiosus tropicus, in which I may observe he has found micrococci single and in twos and fours though he had not tried to cultivate them.

It would seem that a high atmospheric temperature is an important favouring factor for the affection, and although the summer of 1894 was not by any means characterised by a high temperature, the summer of 1893 was, as we all can remember, almost tropical in its heat; and may it not be possible that the gyrate form of impetigo contagiosa was really generated in 1893, but escaped record, possibly from not having well-marked cases, and that the cases of 1894 were recrudescences of the modified virus of 1893? That a high temperature is not absolutely necessary is proved by the occurrence of a case in January on the face of a girl to which allusion has already been made; but it is possible that the modification once made can continue itself for a considerable time, even with a lower temperature than that required for its original production.

The cure of the disease is readily brought about by similar means to that usually employed, and need only be local. Sponge firmly the affected area with a 1 in 3000 solution of perchloride of mercury, and then smear on freely some diluted ammoniated mercury ointment, so that a thin layer of ointment may cover the lesion until it heals soundly. Of course, if there is a large area a non-mercurial microbeicide would be safer, such as iodoform, loretin, or other inodorous iodine antiseptic. In the text case, the perchloride solution was used too freely, and symptoms of mercurial absorption ensued. When that was stopped, the disease in my absence was allowed to get ahead, as its nature was not understood. In the other cases the treatment was more prompt and speedily successful.

Since this paper was written, Assistant Surgeon Narain Singh, of Bankipur, is reported, in the Lancet of February 23, to have read a paper at the Indian Medical Congress recently held in Calcutta on cases of contagious pemphigus which, as far as I can judge from the report, appear to be cases of impetigo contagiosa bullosa.
ELLEN W., æt. 13 years, was admitted into the East London Children's Hospital on February 16, 1886, on account of a tumour on the right patella, which had been growing slowly during the preceding nine months.

Previous history.—The mother stated the girl had been pushed down some stone steps while playing with her schoolfellows; the tumour had been growing for some time before the mother's attention was called to it, and a further time elapsed before the mother sought advice at the hospital. In all nine months were said to have elapsed since the accident.

Family history.—This was good; there was no cancer or malignant disease in the family.

Condition on admission.—A well-grown girl, of a somewhat nervous and irritable temperament. On the right patella, close to its inner border, there is a hard cartilage-like swelling as large as an orange, freely moveable with the patella, and in a less degree independently of the patella. Its surface is generally smooth; the skin over the tumour is tense, but apparently not involved; around its base there is a network of enlarged veins. There is no pain or tenderness. In Scarpa's triangle there are some enlarged glands, quite moveable, painless, as large as peas, not very obviously dependent on or in relation to the tumour. The diagnosis was sarcoma of the patella.

Operation.—An incision was made over the tumour, which included an ellipse of skin along the central and most prominent part of the growth; the lateral portion of the superficial coverings was easily separated, but the growth itself was so firmly attached to the patella that its complete removal without this bone was impossible. After the patella had been removed the joint appeared quite healthy and unaffected; the latter was irrigated freely to rid it of all blood, the capsule was brought together as far as practicable, and the edges of the outer incision were closed. The girl recovered with a stiff joint; she was kept under close observation for several

months, during which there were no signs of recurrence, and her general health appeared quite normal; a gutta-percha splint was moulded to the limb as a protection against injury. The glands in Scarpa's triangle remained as before. On section the tumour was found to consist of a brownish translucent fibrous tissue, through the centre of which some strands of a whiter tissue were seen radiating; the latter started from the fibrous covering of the patella, with which the tumour appeared to be continuous. The central part of the patella appeared normal. The tumour was of a very firm consistence, dry on its cut surface and glistening. Microscopical examination showed it to be a closely-set spindle-celled sarcoma.

On February 6, 1889, the girl, now aged sixteen years, again came under my care on account of a slight local recurrence, which began to show itself shortly after a fall on to the knee, "a week or so before last Christmas." On her admission to hospital I found a small new growth about the size of a hazel-nut, starting in the lower part of the old scar; the growth was moveable to a limited extent, its surface was smooth and incorporated with the scar tissue. The glands in Scarpa's triangle were still slightly enlarged.

The tumour, including a portion of the scar tissue from which it arose, was removed; the subjacent parts appeared quite normal; the edges of the incision were brought together with a continuous suture and healed without delay, the girl leaving the hospital on February 18. I continued to see her at intervals for some months, and she remained well.

On February 5, 1892, she again presented herself on account of swelling in the groin, and was admitted into the German Hospital, being now nineteen years of age. On examination there was a considerable swelling about and above Poupart's ligament coming from within the pelvis. It consisted evidently of the enlarged deep lymphatic glands; they were matted together, rather firm and painless: the glands in Scarpa's triangle (which had always been unusually perceptible) were not involved.

As this glandular mass appeared moveable I decided to attempt its extirpation. Accordingly, under anaesthesia, I exposed it through an incision along Poupart's ligament, and succeeded in getting out a very considerable portion of it; the mass was, however, intimately connected with the sheath of the iliac vessels. After removal some other glands still deeper down in the pelvis could be felt, the removal of which I did not venture to attempt.
The glands were found very adherent among themselves by their thickened and vascular capsules. When cut into they presented a pink and white streaky appearance; they were very firm, and showed no signs of breaking down. There was no subsequent oedema of the limb, nor any evidence of disturbed circulation. Within a short time of the operation recurrence occurred, most probably from direct extension. The girl died of exhaustion on March 4, 1893.

At the autopsy masses of glandular new growth were found deep down in the pelvis. There were no secondary deposits in any of the organs, nor in any bone.

Remarks.—Sarcoma of the patella seems to be quite an exceptional occurrence, very few cases being recorded. This is the more remarkable if we bear in mind the close etiological relationship which is held to exist between injury and the development of sarcoma, whether in bone or other connective tissue; of all bones in the body few are more exposed to injuries than the patella. The remarks apply equally to other forms of disease; while very subject to fracture, caries necrosis and inflammation of the patella are comparatively seldom met with.
VI.—Three cases illustrating the Treatment of Acute Pleural Effusion by early Incision. By Albert Wilson, M.D. Read October 25, 1895.

My object in this paper is to bring forward the experience of three cases of acute pleural effusion treated at the commencement by incision, and to suggest this mode of treatment as being safer, simpler, and more certain than the present system of aspiration.

If there be empyema there is no question as to incision, and if done early the lung may expand fully; if late, the lung will not expand at all.

I opened an empyema of eighteen months' duration in a young man who had previously been robust, and without tubercular history. In this case there were tubercle bacilli in the pus cells at the time of incision, and though he lived fifteen months his lung was so fixed and compressed above the fourth rib that it never expanded. In no way could the lung have expanded, for the pleura was converted into a thick fibrous membrane, whose surface excreted sero-pus freely. The roof of this cavity, being a dense fibrous membrane stretched and fixed from side to side of the ribs, sealed the lung firmly at the top of the thorax, effectually preventing its expansion.

The same thickening and adhesions of the pleura are liable to occur in serous effusion if delayed too long. Emptying by aspiration is no preventative if the chest fills again quickly, as commonly occurs.

A case published in the British Medical Journal for July 13 illustrates this.

Dr. R. Morrison, of Newcastle, reports a case where he aspirated six times in a month, removing about ten pints of clear fluid. He finally incised about six weeks after the commencement of the illness. The sixth day after this the chest was tympanitic, and there was complete pneumothorax, but on the fourteenth day all was healed and the chest normal.

In my three cases, on account of the early incision, the lung expanded completely by the second day at latest.

The first case was about 1881, a woman with effusion on the left side; she recovered in about two weeks.
The second case was similar, but more severe; also a woman. I first saw her March 3, 1885. She had then been ill a week, the result of a chill. Temp. 102°, pulse 140, resp. 50. The physical signs of pleural effusion on the left side were well marked, and the heart's apex was pushed to the right of the sternum.

On the 5th of March the dulness began at the third rib in front, and about in a line with the fourth dorsal spine behind. The apex-beat was under the right nipple. I made an incision between the seventh and eighth ribs in the mid-axillary line. Five pints of clear serum escaped. Introducing the finger I could feel nothing, but in half an hour I could reach the opposite pleura, which was rough. The heart returned to the normal position, and friction sounds from the apposed pleurae were heard all over the back half an hour after the incision.

I specially wish to emphasise the fact that there was lymph effused on the smooth surfaces of the pleura, as indicated both by touch and auscultation. This explains why the lung in Dr. Morrison's case was so slow to expand. The lymph had organised, forming adhesions, which being young had ultimately to yield to the expanding lung. Hence the danger of delay; even while the effusion is serous there is risk of the lung being fixed down.

Returning to this case, the temperature did not fall to normal for a week, due to some pneumonia on the right side. The antiseptic spray was used, and a simple india-rubber drainage-tube four inches long, directed downwards.

For two days air entered freely with inspiration; on the third day the orifice was closed by the lung, but I separated the adhesions of the lung, as I found some air and serum enclosed at the lower part.

Five days after the operation there were no abnormal physical signs, and ten days after the operation the patient was left as cured.

Before the operation the left half of the chest was two inches more than the right; after the cure each half of the chest was sixteen inches. The patient died two years after from an accident, and in the meantime had good health.

The third case is of special interest, as it was complicated by that powerful enemy, influenza.

Miss R., aet. 20, seen on June 2, 1894. She had been ill two days; temp. 103°, pulse 130, resp. 36. On the fourth day of the illness signs of copious right pleural effusion appeared.
Acute Pleural Effusion treated by Early Incision.

All palliative means, including blistering with iodine, failed. The patient, who was previously very anaemic, got worse, and appeared to be dying.

On the fifth day of the illness I made an incision between the ninth and tenth ribs on the right side in the post-axillary line. Five pints of clear serum were collected, and much was lost. The respiration fell from 46 to 30, and the pulse from 140 to 120. Oxygen, which had been used for two days, was now in constant use, about three cylinders a day being used. I inserted an old tracheotomy tube to drain the fluid and permit free egress of air.

For three days the patient was in great danger from her influenza, there was a suspicion of pneumonia on left side, and no improvement in pulse, temperature, or respiration, and as rigors followed the exposure necessary for the dressings I could not easily examine the chest. But within forty-eight hours of the operation the lung had completely expanded, so that I heard friction all over the base and could feel the lung through the incision. On the fourth day the lung closed the wound, and on this day also she turned herself in bed for the first time, showing how weak she had been. In this case strychnine hypodermically was of the greatest use in relieving dyspnœa.

A week after the operation she had pneumonia of the left lung well developed, and this threw her back considerably. A fortnight after the operation the wound was healed with normal physical signs, except around and below the incision, where there were dulness and only faint vesicular sounds.

The temperature for some weeks kept rising at night, and as there was every appearance of a rapid decline, and I suspected general tuberculosis, I sent her to Margate. Here she regained the power of standing and walking. In August Dr. Nicholls reopened the incision, as there was bulging, and four ounces of sweet pus escaped. Her temperature now came to normal, and she improved.

Evidently the empyema was due to a secondary abscess or inefficient drainage after the operation, therefore I would emphasise the importance of constantly detaching the lung at the lower part from the wound till the dependent part of the chest is quite empty and healed.

This case also illustrates how, after tapping a paracentesis, the little fluid which must be left behind may form an empyema instead of being absorbed.

In October, five months after the operation, I examined
her chest, and found a cavity radiating about 2 inches all round the incision, and holding 4 to 5 ounces of fluid; otherwise the physical signs were normal. The pus cells contained large cocci; there were no tubercle bacilli, and the discharge was sweet. Yet she had all the appearances of rapid consumption.

In November, when walking out, she got a chill, followed by acute catarrhal jaundice with enlargement of the liver. The temperature rose to 104°. The temperature after this rose every night, and she looked like phthisis, but I found the cause was imperfect drainage, for about 2 ounces of pus were constantly retained. This abscess was drained by a fine india-rubber drainage-tube inserted downwards, and after the insertion of this the temperature never rose.

The cavity was washed out daily with carbolic and salicylic acids, and lastly with weak sulphate of copper, which dried up the sinus, so that it eventually healed in January. The patient now is in perfect health, fat and strong, walking five to six miles a day, and no abnormal physical signs nor shrinkage of the chest.

Some dangers are suggested by the operation. Thus entrance of air to the chest is supposed to prevent expansion of the lung, but this is not so, especially if there be free egress for the air.

More likely is there risk of septic infection, especially without a carbolic spray. But in the third case, where no antiseptic ever entered the chest, there was no septic infection. There never was any putrefaction, and as cocci lived in the pus one may infer that the pleura can protect itself from putrefactive germs.

I certainly feel encouraged to treat similar cases again by incision; my only anxiety will be to do it soon enough. But this only applies to very large effusions when nature's efforts are paralysed.
VII.—Two cases of Supra-pubic Cystotomy and Prostatectomy in patients suffering from Multiple Calculi.

By C. Mansell Moullin. Read November 8, 1895.

J., aet. 66, a very stout man, was admitted into the London Hospital on October 2, 1894, suffering from vesical calculus. His previous history presents little of importance. Until the last few years he had been a free drinker. He had suffered from several attacks of what he called rheumatism, but not from gout, though in his youth he had frequently passed gravel. There was no definite history of renal colic. During the last twelve months he had suffered frequently from attacks of pain, which began in the loins and spread round to the middle line in front, and down to the root and occasionally to the end of the penis. These attacks were especially severe at night. Micturition had of late become much more frequent. Sometimes he had to get out of bed twice in the hour to pass urine. Blood was of common occurrence, preceding the bulk of the urine, and the stream was often stopped abruptly. Walking about did not make the pain worse, lying on his back did. During the last few months he had passed five calculi about the size of a pea, with well-marked facets. The urine was highly acid, of good specific gravity, and contained a trace of albumen with a good deal of mucus and blood. A soft catheter passed easily; an ordinary metal one was stopped by the middle lobe of the prostate, which bled as soon as it was touched. Per rectum the prostate was hard, enlarged, irregular in shape, and very tender when pressed.

Supra-pubic cystotomy was performed on October 11, and eighteen calculi removed from a deep pouch behind the prostate. They were larger than those passed before, about the size of a small bean, but of the same shape and character—more or less square, with angles and edges rounded off a little, and composed chiefly of uric acid. On splitting them open they presented the ordinary radiate structure of uric acid calculi, and evidently were of separate origin, not fragments of a larger one broken up and then ground into shape by friction. The middle lobe of the prostate, which projected upwards into the bladder, was then removed with scissors and
cutting forceps, so as to leave a smooth and level route from the trigone to the opening of the urethra. The hæmorrhage was very slight, and the mass taken away was altogether about the size of a walnut. The upper part of the wound was closed by sutures; the lower part was left open, and a large drainage-tube passed down through it into the bladder; this was removed on the third day. Six days after the operation a typical attack of gout occurred in the left foot, causing some rise of temperature. With this exception there is nothing to record in the subsequent course. The wound closed very rapidly, urine was passed by the catheter at the end of three weeks, and a fortnight later the scar was sound and firm. At the time of his discharge there was still an ounce of residual urine, but the amount was steadily diminishing, and two months later it was scarcely perceptible.

J. B., æt. 64, a man of much the same build as the former, but not quite so stout, was sent to me by Dr. Birch, of Clapton, with a history of having passed small uric acid calculi on several occasions, and of having recently suffered from attacks of renal colic and hæmaturia. There had never been pain at the end of the penis, nor sudden stoppage in the stream. Micturition had, however, become much more frequent of late, both by day and by night, and there was some difficulty in starting and in stopping the stream. On examination the middle lobe of the prostate was found to project considerably into the bladder, and after some manipulation a calculus was detected in the pouch behind it. Per rectum the enlargement of the prostate appeared fairly uniform.

Supra-pubic cystotomy was performed on November 14, and Trendelenburg's position being adopted, there was no difficulty in finding or extracting the calculus. It was circular, flat, about the size of a penny, thicker in the centre than at the edges, and had evidently been shaped in the pouch behind the prostate. The middle lobe, which projected upwards into the bladder, but was not pedunculated, was then punched out with cutting forceps, about the same quantity being removed as in the former case, and the same after-treatment was adopted. There was no rise of temperature or trouble of any kind until about three weeks later, when a smart attack of epididymitis followed on the passage of a catheter. The wound was slow in closing, but was soundly healed at the end of six weeks. Progress was much assisted by a truss devised by Dr. Birch, and which I have used on several other
occasions, so arranged as to bring the deep surfaces of the wound together. Micturition after the operation was less frequent and much more free than it had been for some years past.

I have brought forward these two cases because they illustrate a principle which was suggested and carried into practice some time ago by Mayo Robson, that in cases of multiple or recurrent calculi associated with enlargement of the prostate the operation of election is supra-pubic cystotomy with excision of the whole of the intra-vesical upgrowth, so as to obliterate the post-prostatic pouch. Lithotry or lithotomy without this addition is to be looked upon only as a palliative measure. In men of a certain time of life, who have suffered from multiple calculi as these two did, it is more than probable that, as they grow older, fresh ones will either form in the bladder or descend from the kidney; and then, unless prostatectomy has been performed, the operation has to be repeated. There can be no doubt that in both the above cases, had the prostate not been enlarged, no operation would have been required; the calculi would have been got rid of while still small enough to pass down the urethra. One patient had already got rid of five in this way, and the other of three. Unhappily, owing to the obstruction at the neck of the bladder, the rest did not escape at once; they fell back into the post-prostatic pouch, and increased in size until they could not pass; nor does the removal of the projecting portion of a prostate add materially to the gravity of the operation so long as the urine is acid. The high rate of mortality after supra-pubic prostatectomy arises from the fact that it has nearly always been performed as a last resource in hopeless cases, where everything else has been tried and has failed, where the patient's strength has been completely broken, and where the wall of the bladder is infiltrated with septic organisms from long-continued suppurative cystitis. In cases in which the urine is acid, and is kept aseptic, the prognosis is entirely different.

On April 4, 1895, there was admitted into Guy’s Hospital, under my care, a male infant of four weeks old, thin, almost collapsed, and incessantly whining as it lay in its mother’s lap. There was no vomiting or other active symptom, and the general aspect of the child was marasmic.

The story told was that when the cord separated four days after birth the motions began to be passed through the navel; and that up to twenty-four hours ago the bowels had been relieved both by the navel and the rectum. During all this time there had been a red lump or projection at the navel, through the top of which the discharge had taken place.

Twenty-four hours before admission a further protrusion was observed at the navel, and the bowels ceased to be relieved per rectum, and discharged only at the navel; and that not through the apex of the new protrusion, but at its base, where it seemed to emerge from the original swelling.

On examination an elongated tumour, much the size and length of the little finger, was seen depending from the umbilicus, and inclined toward the left groin. It was covered with mucous membrane, congested and bleeding, and on manipulation it felt firm; all these conditions, together with the fact that it had an opening at its apex, gave the exact appearance of an intussusception.

Around its base was a rolled collar or cuff of mucous membrane, out of the middle of which the protrusion described emerged, the two being separated from each other by a sulcus, from one part of which yellow intestinal contents were excreted. The outside of the collar or cuff of mucous membrane was directly, at its base, continuous with the skin around the navel.

A probe passed in at the apical opening entered for three inches, and then met with obstruction; it was quite clean when withdrawn, and nothing was passed through the opening; but when it was inserted into the basal groove, where yellow intestinal contents were coming out, it passed for several inches, and met with no resistance.
The diagnosis of this case was difficult, and various opinions were expressed regarding it, but the view generally held was that it was one of extreme prolapse of a patent Meckel's diverticulum (Fig. 6). At first I thought this to be the case, but on consideration it was clear that this view was untenable, since the opening at the end of the longer projection was not bordered by the cuff of mucous membrane before described, but was independent of it. For had it been a case of mere extreme prolapse of mucous membrane, it would have had the anatomical relations of prolapsed bowel after a colotomy, where both the proximal and distal openings are bordered on the one side by the spur, and on the other by the mucous membrane that is continuous with the surrounding skin, and which, in the case I am narrating, formed the cuff or ring round the main protrusion, and was the lining membrane of Meckel's diverticulum, more or less prolapsed.

The only condition which seemed to explain the symptoms was one of intussusception through Meckel's diverticulum, itself prolapsed; and inasmuch as the bowels were open still through the diverticulum, it was clear that the intussusception was from below upwards, and formed by the forcing of distal ileum, and not of proximal, through the navel. This view I therefore finally adopted, and, as the sequel showed, it was borne out at the autopsy.

For the relief of the patient an attempt was at once made to reduce by manipulation the intussusception, but this failed; and whilst by abdominal section, and subsequent traction on the gut from within, reduction might have been effected, the general condition of the child was so bad that such an operation—let alone intestinal resection—must have meant certain death. Inasmuch, therefore, as the child's bowels were sufficiently open, and there were no symptoms
due immediately to the local condition, I decided to wait to see if general improvement occurred. However, on the third day the child died; but shortly before, noticing the protrusion to be softer, my house surgeon was able to return much of it.

The autopsy showed no peritonitis or objective cause of death, whilst the state of the intestine was exactly that that I have described; viz. through a short Meckel's diverticulum, itself prolapsed at the navel, an intussuscepted piece of ileum from below had emerged (Fig. 9). A passage was left everywhere around it at its base, leading into the lumen of the proximal bowel, and giving exit for intestinal contents; but the opening at the extremity of the intussuscepted distal portion only admitted a probe for a limited distance. Above the intussusception the gut was distended, below it was collapsed.

In searching for a similar case I can find but one, mentioned by Barth in his paper on the subject of "Prolapse of Meckel's Diverticulum," in the Deutsche Zeitschrift für Chirurgie, 1887, vol. xxvi. He gives about a dozen cases of prolapse, some simple, some complicated, but only one in which the complication was that of intussusception; and though in nearly all particulars resembling mine, it yet differed in this that the prolapse was from the proximal into the distal gut, and not the reverse, as in my case.

His paper is of great clinical interest, as it gives the clue to the diagnosis of these difficult and rare cases. The extreme form of prolapse he describes—and which my case was first thought to be—is where not only the lining membrane of the diverticulum prolapses, but a spur from the ileum, as after colotomy, comes forwards, and being protruded some inches, forms a sausage-shaped umbilical tumour (Fig. 7),—it also may bend on itself, and become hammer-headed (Fig. 8); and this Barth explains by unequal and unsymmetrical dragging of the
mesentery, and it thus comes to pass that there may be an apical and a basal opening, as in my case: but it will be at once seen that the mucous membrane that makes the outside of the apical opening is continuous with the skin at the navel. In fact, in these cases of extreme prolapse the form taken seems always that just described; and the basal opening is the one that usually communicates the more readily with the proximal gut, and thus discharges faeces, so that the distinction between such a case as the one I have brought forward and mere prolapse must depend upon whether the mucous membrane covering the tumour is seen to be continuous with that lining Meckel's diverticulum when traced from the apical opening; for if it cannot, then the tumour occupies a central position in the lumen of the diverticulum, and so is evidently something that is being centrally extended, as an intussusception always must be.

The treatment of these cases, judging by Barth's account, seems to offer no chance of success unless a laparotomy can be undertaken. All the cases he quotes died, whether operated upon or not; but in none was the abdomen opened, and in the one complicated by intussusception, the intussuscepted protrusion was cut off, its nature not having been recognised, with a fatal result.

The plan of treatment I had formulated for my case was to have done a laparotomy, and to have excised that part of the ileum concerned, including Meckel's diverticulum, and then with Murphy's button, or otherwise, to have united the ends of the gut; but the general condition of the child never justified me in taking this step.
IX.—A Case of Osteopsathyrosis (Fragilitas ossium) in which, after firm union of several fractures had taken place, disunion occurred in some several years afterwards. By John Langton. Read November 8, 1895.

In June, 1883, I was requested by Dr. Bland to see, in consultation with him, a gentleman at. 23, who was the subject of an ununited fracture of the right femur.

His history was that in 1872, when eleven years of age, whilst throwing a cricket ball he sustained a fracture of the right humerus in the upper third. The fractured arm was placed in splints, and excellent union ensued in about four weeks. Two years later he slipped and fell, breaking the left humerus just above the condyles, and this also united well. When eighteen years old, whilst playing football, he fell and again broke the right humerus, but this time immediately above the condyles, and, as on the previous occasions, perfect union resulted without unusual delay. A year later the patient sustained a severe fall, but only sprained his right wrist.

In June, 1880, when twenty years of age, the patient fractured the right femur in the middle third, from a twist due to his left leg slipping under him. He was treated with a long splint, which, however, does not seem to have reached higher than his waist. He was kept in bed for ten weeks, when a gutta-percha splint was applied for another two months. The bone united, but not firmly, and there was marked eversion of the leg and foot. The union not being very firm, the patient was advised to consult a "bone-setter," who at once declared "the knee was out, and must be at once reduced." Considerable violence seems to have been used in the attempt to rectify the deformity, with the result that the patient's condition was rendered worse. Shortly afterwards the patient noticed for the first time slight movement at the site of the old fracture, where there was much thickening due to callus. As time went on the mobility increased with progressive shortening of the limb, and it was at this time that the patient first came under my notice, when I found the limb shortened to the extent of nearly three inches. Owing, however, to compensatory obliquity of the pelvis, the shortening in the erect position was reduced to an inch and a half. In the recumbent position, with the thigh muscles at rest, free mobility could be obtained
between the overlapping ends of the bone, but on the muscles being placed in action the ends became so fixed as practically to prevent any movement taking place between them. The patient could walk sixteen miles at a stretch with the aid of a walking-stick at the rate of three and a half miles an hour. Under these circumstances I did not recommend any operation for uniting the two ends of the broken bone.

There was no heredity of any disposition to fracture in any members of his family. The patient himself was a typically robust, well-developed man, and one who thoroughly enjoyed an active and athletic life. His father and mother are still alive and healthy, whilst his three brothers are unusually athletic and keen sportsmen.

In February, 1884, when twenty-four years of age, on coming downstairs, the patient's right heel slipped, and for safety he swung himself round by holding the banisters with his two hands, and in doing so his left femur broke at the junction of the middle and lower thirds. He was positive that he neither fell nor struck his femur in any way. This fracture united well in the usual way, and remained firmly united till two years afterwards, when the patient noticed some bending at the site of the break, and three years later, or five years after the fracture, mobility was first discovered between the two ends.

In September, 1888, seventeen years after the fracture, the patient observed some movement at the side of the first fracture of the right humerus, due in his opinion to excessive use; and eight months afterwards some enlargement of the bone was noticed. This swelling increased till November, 1889, when I again saw him, and diagnosed a new growth in connection with the bone. I amputated the limb at the shoulder-joint, and he made a good recovery, being about in three weeks after the operation.

The examination of the amputated arm revealed an extensive spindle-celled sarcoma of the right humerus, which seemed to have entirely replaced the shaft of the bone, but the articular ends were unaffected with the disease.

Recurrence took place in the soft tissues of the stump within four months after the operation. The mass of new growth was removed, but the patient died in June, 1890, with numerous secondary deposits in the internal viscera.

At the post-mortem examination the right femur exhibited a united, or probably a disunited fracture, the two ends overlapping to the extent of three inches, the upper
end lying in front of the lower fragment. The left femur, which was broken at the junction of the middle and lower thirds, was in a bad position, inasmuch as the upper fragment was lying for some distance in front of the lower end. As on the right side, the two surfaces were firmly bound together by dense fibrous tissue. In the left humerus, which had been broken at the junction of the upper and middle thirds, the union remained firm, and the ends were in fairly good position.

No sarcomatous growth was discovered at the sites of the fractured femora, nor of the left humerus. There were, however, extensive secondary deposits in the lungs and liver, but with these exceptions all the other viscera were normal.

Instances of so-called spontaneous fractures of long bones are not rare, and with few exceptional cases union ensues with the same rapidity and firmness as in ordinary fractures; and, moreover, numerous examples have been recorded where multiple spontaneous fractures in the same patient have followed the ordinary course of perfect union.* The case of this patient does not further our knowledge of the pathological causes of so-called spontaneous fractures, but it serves to strengthen our belief that these fractures are not really spontaneous, but have their origin in some slight injury or in muscular action.

The failure of the right femur to unite firmly may not unfairly be ascribed to the ignorant and excessive zeal of the bone-setter, who, in his eagerness to rectify the deformity of the knee, forcibly separated the uniting ends of the broken bone, which were at this time in good position and tolerably firm. Viewed in the light of the later developments of this case, it is not improbable that this uniting fracture might, like some others, have become disunited after the lapse of a shorter or longer period.

The chief interest of this case is centred in the fact that two out of the total number of fractures, which had for some years continued firm, became subsequently, without any assignable cause, disunited, and that one of these became eventually the seat of a sarcomatous growth.

X.—A Case of Tumour of the Brain successfully treated by Internal Medication. By Julius Althaus, M.D. Read November 8, 1895.

In April, 1883, I was requested by a practitioner in Surrey to meet him in the case of a married lady, aged 39, who had been ill during the last twelve months. She had had four children, and had generally been in good health until her last confinement, soon after which she was seized with severe headache, which was more or less constant, and resisted various forms of treatment to which she was subjected. After a time a gradual change in her manner and habits had been noticed; for while she had in former years been cheerful, active, and energetic, and attended most systematically to her domestic duties, she had latterly become disinclined for any physical or intellectual exertion, often felt drowsy in the daytime, and more or less indifferent to the events of her daily life. About a month before I saw her she was, in addition to this, taken with epileptiform attacks, which recurred at frequent intervals. Her medical attendant now looked upon the case as one of epilepsy, and gave her bromide of potassium; but since that treatment had been commenced a fresh crop of symptoms had appeared, the most important of which were loss of sight and paresis of the left side of the body.

On examination the patient appeared to be slim, and had a sallow complexion. She complained chiefly of agonising headache of a throbbing character, which never left her, but was at times more severe than at others. She also suffered from insomnia, giddiness, and faint sensations, attacks of sickness and vomiting, impaired memory and eyesight, and a difficulty in thinking; indeed, she felt "as if she would soon be unable to think at all." The fits were ushered in by cold shivers and "pins and needles" and pain in the left side of the body, after which there appeared first left-sided and then general convulsions, with semi-consciousness. After a fit most of the other symptoms would become aggravated.

Cranial percussion showed extreme tenderness in the whole of the skull, but more especially in the space corresponding to the right central convolutions. In this latter place a tympanitic sound was elicited by percussion. The eyes appeared
swollen, the lids heavy, and the ophthalmoscopic examination of the fundus of the eye disclosed signs of optic neuritis. Both discs were red, swollen, and cloudy, the margins hazy, the arteries small, and the veins engorged. Her sight was so much impaired that she could only just distinguish very large print, and she had for some time past been unable to recognise her friends.

There was also loss of power in the left arm and leg, more particularly in the latter, together with numbness and tingling. The left leg and foot felt to her as if they were encased in wadding. She could hardly raise the foot from the ground, had great difficulty in standing, and dragged the left foot when walking. She walked very lame. The knee-jerk was exaggerated in the left and normal in the right side. There was no ankle-clonus. The grasping power of the left hand was diminished, and the tendon reflexes in the left upper extremity were exaggerated, while they were normal in the right side. The left portio dura did not seem affected.

The tongue was dry, the appetite tolerable, except when sickness was troublesome; the pulse 64, small and hard, the temperature slightly subnormal. The patient had lost flesh during her illness. The urine was normal.

I gave the opinion that the case was one of tumour of the brain, seated in the right central convolutions, and which had very gradually formed after the last parturition. The group of symptoms which I have described could not be due to any other lesion, while all the clinical signs which were present could be easily accounted for by assuming the existence of a tumour in that region. This view was also supported by the insidious onset and the steady development of the disease. I gave a guarded prognosis, and advised treatment by full doses of mercury and iodide of potassium.

Nine days after my first visit to the patient I went to see her again, and found her considerably improved. She had had only one epileptiform seizure, the headache was less, she could stand and walk better, and found thinking easier. She had, indeed, felt much relieved on the second day of the treatment. She progressed so well during the days subsequent to my second visit that she began again to receive visitors, and to attend to her domestic duties; but after this she had another convulsive attack, the lameness increased, and she suffered again from sickness. From that time forward she was more careful in avoiding over-exertion, and now made a nearly uninterrupted recovery. Indeed, when I saw her
again, in the second week of June, about six weeks after the commencement of the treatment, she was practically well, most of the objective as well as the subjective symptoms having disappeared.

I did not see the patient again during the next seven months, as she kept well for that time. In January, 1884, however, she once more became subject to headache and fainting sensations, found her left leg unsteady, could not raise the foot well from the ground, and showed cranial tenderness; but no tympanic sound could be elicited. Treatment on the same lines as before was now resumed, and the patient soon felt so well that I saw no more of her during the next two years.

In March, 1886, she came to see me again, and informed me that she had felt quite comfortable until Christmas last, when, after a good deal of over-exertion, she began to feel tired after walking. She had a feeling in the left foot as if she stood with it in cold water, and was apt to drag it. Both wrists felt weak, and she could not hold a kettle, much less lift a coal-scuttle. She had choking and anxious sensations at night, and was obliged to sit up in bed, and to have everything about the neck very loose. There was again difficulty in thinking, and sometimes everything appeared a blank. The sight was not so good, and the discs were again congested. Percussion of the patellar ligament sent a "nasty feeling" up to the pit of the stomach. The left knee-jerk was much exaggerated. Treatment was now resumed, and in four days there was great improvement. She felt calmer, could think better, recovered the power in the leg, and presently felt quite well again.

The patient now remained in good condition for two years, but in the beginning of 1888 there was another relapse. She was troubled with feelings of fulness and soreness in the head, felt giddy, especially on stooping, and was very forgetful. A curious difference from the previous state was that the leg did not cause any trouble now, and that the left knee-jerk was normal, while there was loss of power in both hands, showing a somewhat different localisation of the lesion. While on former occasions she had squeezed the dynamometer with the right hand to 60°, and with the left to 50°, she could now do no more than 12° and 10°, and the tendon reflexes in both upper extremities were increased. In spite of these somewhat alarming symptoms, however, she regained her health by a comparatively short treatment.

She now remained in a satisfactory condition for nearly four years; but in November, 1891, she came once more to
consult me. The symptoms had then again assumed a somewhat different aspect. This time there was no headache, giddiness, loss of sight, or trouble with the limbs, but the signs were exclusively mental. The memory was impaired, she often felt confused, disliked society, wanted to be left alone, and found it a great effort to talk. A short spell of the previous treatment removed all these troubles.

The last time I saw the patient professionally was in September, 1892. She then had had a good deal of excitement in connection with the marriage of one of her daughters, but the only thing she complained of was a feeling of heaviness in the head. She said that she would hardly have taken notice of this but for her previous experience. There were then no objective symptoms whatever. The patient had now reached the climacteric period, being forty-nine years old, and had apparently no trouble in passing through that ordeal. I have not seen her since, but have been assured that her health is satisfactory, and that she is able to enjoy life.

I would add that the preparations of mercury which I used at various stages of the malady were the oleate (by inunction), the perchloride, the tannate, and the red iodide; and that the doses of the iodide of potassium varied from five to twenty grains, given three times daily.

Remarks.—The case I have just related is a remarkable one, not only because the patient recovered from a severe structural disease which is generally considered incurable except by surgical operation, but perhaps even more so on account of the rapidity with which the therapeutical results were produced. When I first saw her she had been seriously ill for twelve months, and had steadily deteriorated all the time; yet there was a change for the better two days after the treatment I advised had been commenced, and in less than six weeks she had become free from all symptoms of a malady which had seriously threatened her life. The same rapid results were obtained on all subsequent occasions when relapses had taken place, showing a truly specific action of the drugs employed. I have in several similar cases seen good results from a similar treatment, but habitually a much longer time was required for producing beneficial effects.

That a tumour really existed in this case, and by pressure on the central convolutions caused the striking clinical signs which were observed, cannot, I think, be doubtful. Indeed, the diagnosis was comparatively easy, for there is no other
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disease which will produce the whole group of symptoms which I have described; while these latter are, one and all, easily accounted for by assuming the presence of a tumour. Indeed, the case is truly remarkable on account of not a single symptom having been wanting which we associate with tumours affecting the Rolandic convolutions, and it might for this reason have served exceedingly well for a clinical demonstration.

I will avoid any speculations about the nature of the growth, as this latter was, fortunately for the patient, never seen and handled; but it would seem probable that it partook of the characters of glioma.

With regard to aetiology, I would remark that syphilis could be absolutely excluded in the present instance. The patient led a perfectly regular and open life in a small country place where everything is known, was thoroughly happy in her domesticity, had never aborted, and not shown any signs whatever of primary or secondary syphilis. The children were free from any stigmata of inherited lues, and I ascertained that her husband had never suffered from infection. It appears to me more probable that the disease was owing to an old injury to the head which the patient had received many years ago when playing with children. One of them had accidentally dropped a large wooden hammer on her head, and the patient had suffered from severe headache for some time afterwards. This had happened when she was eighteen years of age, that is twenty-one years before symptoms of a brain tumour supervened. This seems certainly a very long interval, but I would remark that cases are on record where, even after a longer time, tumours have appeared in places which had previously been subject to trauma. Thus a former leader of our profession, Sir Benjamin Brodie, fell, while travelling in the Isle of Wight in 1834, from a pony, and dislocated his right shoulder, a joint in which malignant disease became developed in September, 1862, that is twenty-eight years after the receipt of the injury. It is therefore possible that the blow from the hammer, which the patient received early in life, may have created a predisposition for the growth of a tumour, which became active after the puerperal state, this latter being notoriously liable to lead to a large variety of different maladies. In addition to this there appears also to have been some hereditary influence, for the mother of the patient had died from cancer of the uterus.

In conclusion I would remark that a case like the one
which I have just related, and in which such ominous symptoms as optic neuritis, epileptiform convulsions, and loss of mental power were traced to their origin, and removed by acting upon the seat of the malady, not only tends to give us confidence in our power over disease, but also furnishes a very clear reply to that therapeutic nihilism which is so frequently paraded by those who do not know how to use the remedies which are at our disposal.

MISS E. P—, æt. 30, was sent to one of us by Dr. Walter F. Smith, of Dublin, in the spring of 1895. He informed us that the family history in no way bore upon the case, but that the patient herself was distinctly neurotic; and this statement our observations quite confirmed.

The patient gave the following history:—Ten years ago (1885) she got wet through while walking in Switzerland, and had to sit some hours in her wet clothes. Since then she has always suffered from constipation, and, except during one or two subsequent short intervals, the motions have contained a marked but varying amount of mucus. Six years ago (1889), finding herself no better, she drank the waters at Kissingen, and subsequently tried the grape cure at Meran. Neither of these methods improved her condition; in fact, she found herself worse, the constipation becoming more marked, the quantity of mucus greatly increasing, and for the first time she now had pain on the passage of a motion. Four years ago (1891) she was at Zurich, and the pain was still very severe, the constipation very marked, and large quantities of mucus were passed. She now began to suffer from vomiting, and had a dull abdominal pain, much increased by walking or the vibration of a vehicle. From Zurich, in 1891, she came to London, and under the advice of a well-known physician she kept in bed for some time, took nothing by the mouth but milk, and had nutrient suppositories and enemata per rectum. She now for the first time began to pass blood; the enemata caused much pain, and were frequently returned.

In 1892 the quantity of mucus passed was very large. There was much pain and soreness about the sacrum, and a burning pain just inside the anus. The motions often consisted of nothing but mucus, and in every way, excepting that the vomiting had ceased, the patient was much worse.

Not long after this she came under the care of Dr. Walter Smith, of Dublin, who ordered her to bed for some months, with the result that she much improved, as may be judged by the remark of Dr. Walter Smith in a letter to one of us,
in which he says, that "although the disease did for a time subside, and she appeared to be doing well for some months about a year ago, now I think with you there is a poor prospect of recovery under medical treatment."

Notwithstanding this slight respite she again relapsed, and spent the winter of 1894–5 at San Remo, where all her old trouble returned in greater severity. She passed quantities of mucus and often casts of the large bowel, thick, tubular, frequently 18—20 inches long, and of such consistency that they could be held up without breaking. The motions often contained much blood; the pain on defaecation was intense. On more than one occasion she fainted at stool, and was compelled, after each motion, to use a morphia suppository.

The pain, which was agonising, was worst about the anus, but was also severe on the left side of the abdomen and in the left iliac fossa. She was never free from it, but had exacerbations for thirty to sixty minutes before the bowels were open, and a motion could only be obtained after the use of strong purgatives, even as much as 6 drachms each of liquid extract of cascara and extract of senna for a single dose.

Her general condition at this time, and when she came under our observation, was one of prostration attributable to her sufferings, and to the fact that she had accustomed herself to the light and limited dietary of a valetudinarian.

When we first saw the patient, in April, 1895, she was markedly anaemic, but not wasted, though thin; and our examination showed then much tenderness over the descending colon and sigmoid, as well as a general abdominal pain. We refrained from making a rectal examination on account of the pain it would have caused, but there was nothing suggestive of piles or prolapse to be observed. The patient was a complete invalid, spending most of her day in bed, and only walking from one room to another on the same floor.

A recent motion examined by us consisted of semi-solid faeces, together with a considerable quantity of blood. There were some ounces of shreds of casts and some complete ones, tubular, 4 to 6 inches long, much stained by faeces, very slimy, distinctly coherent, and with their walls \( \frac{1}{16} \) to \( \frac{1}{8} \) inch in thickness. Under the microscope a shred of membrane showed fatty epithelial cells, granular leucocytes, \( \textit{débris} \) of cells, some sarcinae-like micro-organisms, and some bacteria, all being embedded in a structureless mucus. The heart and lungs were healthy, and the urine normal.
For reasons that we shall give subsequently, and in furtherance of a view that had already been published by one of us (Lancet, March, 1895), we advised right colotomy as the best means of giving the large bowel complete rest. Accordingly the operation was performed in the usual way on the 10th of May, the bowel being fixed to the surface, but not opened until May 17. The gut was then found quite empty, and a finger introduced towards the hepatic flexure discovered nothing, but gave rise to severe pain, suggesting that the mucous membrane was hypersensitive. Three days later we injected hot water through the wound into the colon; subsequently, by an ordinary enema of hot water, getting the large bowel to empty itself from the anus. The dejecta, which were mostly water, contained no membrane, although carefully examined. We must here add that warm water thrown into the rectum flowed out through the colotomy wound, showing that there was no obstruction, and that our cleansing of the bowel was complete. In the course of the next few days a good spur formed, and after the administration of a purge by the mouth feces came through the colotomy wound. From this time purgatives were very seldom required. On several occasions during the first fortnight we washed out the colon from the rectum, but the water as it flowed out of the artificial opening was clear, and contained neither membrane, mucus, nor blood. The tenderness of the mucous membrane gradually disappeared, and the introduction of the finger gave no pain.

On June 28, all her original symptoms having disappeared, and as we judged that the large bowel had been rested long enough, the colotomy wound was closed. The bowel was freed all round, and to such a depth, short of opening the peritoneum, that it could be drawn out for nearly two inches, and three rows of Lembert’s sutures were introduced through the raw outer aspect of the bowel, and the opening in it was thus closed. It was allowed to fall back, and the skin brought together over it. Perfect and rapid union resulted, and the patient was allowed to get up in sixteen days. The bowels were kept confined with opium for eight days after the closure of the wound. Some compound liquorice powder was then administered, and a motion which was free from blood, mucus, or casts was passed the natural way. From this date the bowels were regularly opened, compound liquorice powder being given as required, and every motion up to the present time (end of July) has been natural. She
has had no return of abdominal pain or tenderness, and though she has severe rectal pain on some occasions during an action of the bowels, we have found this to be due to a cause distinct from the bowel itself, namely, a small pelvic tumour, probably a prolapsed ovary. The patient herself now is quite able to distinguish this brief pain from that which was associated with the membranous colitis. She is now entirely free from the severe abdominal pain which used to last an hour before the bowels were relieved, and which, as far as we can judge, was caused by peristaltic movement of the inflamed bowel. Her general health and strength are much improved, and she expresses herself as feeling perfectly well. She went into the country on July 24th.

We bring this case before the Society on account of the comparative rarity of the disease and of the novelty of the treatment. We are aware that others are working on the same lines, but we feel that every case which illustrates any method of possibly relieving such a hitherto incurable malady should be at once presented for criticism.

The symptoms of our patient need not be commented upon, as they were those usually present in a severe example of the disease, and they show how a patient suffering from membranous colitis in its extreme form is a complete invalid. We urged operative treatment not only for this reason, but because our patient had been ill ten years; she had twice tried prolonged rest in bed and milk diet, she had countless drugs, and had made several journeys to health resorts, in spite of which she was getting steadily worse, thus illustrating the known incurability of the malady by ordinary means. We decided on a right colotomy, for we hoped by that to give absolute rest to the whole length of the colon, and to be able to thoroughly irrigate the entire length of the affected bowel, and because we considered it undesirable to operate nearer than we were obliged on that part of the bowel which pain and tenderness indicated as the most affected, namely, the descending colon and sigmoid.

The operation itself calls for no remark. It presented no difficulty, and was completed in two stages with an interval of seven days. The right colon when opened was empty, and although extremely tender to the touch presented no other signs of disease; and a foot of rubber tube passed through the hepatic flexure failed to reveal blood or membrane, thus satisfying us that we were well above the focus of disease, which probably, as symptoms had suggested, was in
the descending colon. The bowels were moved through the artificial anus by a purge, but were afterwards relieved by the same opening without the assistance of drugs, except on a few occasions, thus indicating to our minds that the constipation which is so prominent a symptom of the disease is due to a paresis of the musculature of the large intestine.

We on several occasions irrigated the large bowel with boiled water. We did not employ antiseptic solutions, as the patient improved so rapidly that we did not consider them necessary, and we felt there was the possibility of their acting as irritants.

By the fifth week, the patient having gained strength and flesh, and having for some time completely lost all symptoms, objective and subjective, we felt justified in closing the wound and re-establishing the normal route of the passage of faeces.

Since this account of the case was written the patient has died, but as we believe there was no return of her former symptoms we do not think that we closed the wound prematurely. Exact particulars of the patient's state of health from July 24, when she left our care, up to the end of August, when she died, are not obtainable, since no medical attendance was required; but we feel justified in assuming that she remained in the same state as when we last saw her. Her death was quite unexpected: she was seized with severe abdominal pain and vomiting one day, and on Dr. Adeney of Tunbridge Wells being called in, he found her (so he informs us) dying of acute peritonitis. Unfortunately no post-mortem examination was permitted, so that the cause of the peritonitis remains unknown. It will, however, be remembered that we have already mentioned that the patient had a small pelvic tumour. The precise site of this was difficult to determine, and Dr. Galabin, who made a thorough pelvic examination, came to the conclusion that it was in all probability a displaced ovary, but the mode of our patient's death we think gives some weight to the view that it was glandular; since had it been such, and eventually suppurated and burst into the peritoneum, it would have brought about the sudden fatal result that we have described.

The fact that the patient lived only a month after leaving our care prevents our claiming a permanent cure, as there was not time enough in which to judge of its permanency; but since we cannot see that death in any way resulted from the operation, we feel justified in submitting this form of
treatment for severe cases of membranous colitis to the criticism of the Society; and we are ourselves of opinion that it offers a far better chance of cure than any other means yet employed, and more especially if it be possible to operate in an earlier stage of the disease than we had an opportunity of doing. Our patient when we first saw her was cachectic and worn out by the pain, not only of the colitis but of the pelvic trouble which we discovered to be present.
XII.—A Case of Congenital Median Cervical Fistula:  
Operation: Recovery.  By Richard Barwell,  
F.R.C.S.  Read December 13, 1895.

In April, 1895, Miss — was sent to me by Dr. Bezley Thorne on account of a rather well-marked spinal curvature, which I treated by rachilysis twice a week, this frequency of visits being due to her limited stay in England.

On June 11 the back was very nearly straight, and she showed me a small fistula-like opening in the middle line of the neck, with which she said she was born; but her mother afterwards told me that it did not appear till a short time after birth, when a small lump was noticed, which quickly opened, discharged a little watery fluid, and has since remained open. My patient says that every morning, and occasionally also at other times, a watery fluid exudes from the opening. The orifice, situated strictly in the middle line on a level with the lowest angle of the thyroid notch, was surrounded by a margin of depressed and reddened skin, measuring from side to side about a quarter of an inch, and slightly longer from above down, the opening itself being minute. The upper end of the coloured portion was overhung by a narrow transverse fold of healthy skin, which, unless she threw back her head, partially concealed the defect. While the deeper parts of the throat were at rest the coloured depression was very shallow, but when she swallowed it deepened considerably, being drawn in and up, gliding more completely under the fold of skin, which thus became more decided and overhanging; increasing at the same time in width, so as to reach almost from one sternomastoid to the other, getting of course less and less conspicuous as it passed outward. On pinching up between finger and thumb the soft parts above and behind this opening, a line of cylindrical, somewhat hard tissue, apparently about the size of a cedar pencil, could be felt; it could readily be traced as far as, but not beyond the hyoid. She would not submit to the use of a probe.

I diagnosed a tubular remnant of a supra-hyoid accessory thyroid, a condition which appears to me more consistent with foetal development than persistent thyreo-glossal duct. Although in such cases the infant is never born with an
external opening, the condition is nevertheless congenital, the outer orifice being merely temporarily closed by a growth of epidermic tissue. The problem of treatment was even less simple than that of diagnosis; for the patient is a very handsome girl, extremely sensitive to this defect, for which reason she always wore a necklet of velvet or some such material, which accounts for my not having observed the opening till she showed it to me. Evidently to make an incision large enough to dissect out the duct, even as far as the hyoid and the portion traversing the tongue to the foramen cæcum, would entail the risk of leaving a larger and less easily concealed blemish. I found, however, that the cylin- drical line of hard tissue could be rolled and otherwise moved within the subcutaneous structures, to which its attachments appeared very loose. Examination under good lighting by the laryngoscopic mirror showed that the foramen cæcum was not larger than usual. I concluded that through a small opening the duct could be drawn down, its attach- ments being freed pari passu with the knife, while raising the skin would thus render its whole length accessible as far as the hyoid. Of course there would be some risk of recur- rence; but the normal size of the blind foramen of the tongue seemed hardly favorable to such an event. I con- sented, therefore, to undertake the operation.

June 19.—Dr. Bezley Thorne, Mr. Harold (who gave ether), and I met at 5 p.m. A letter of instructions had been very curiously misread, and the patient had been kept without food since a very light breakfast at ten in the morning, which accounts probably for profuse secretion of saliva setting in as soon as ether was inhaled. The fluid gathered in the back of the mouth and fauces, giving a good deal of trouble and causing much retching; also—and this is more important—it flowed slightly from the external orifice; be- tween 25 and 30 minims must have thus come away, causing me to reconsider the propriety of the proposed operation. I noticed, however, that the stillicidium only took place just after retching, and when more ether eliminated that trouble the oozing ceased.

I passed a probe into the opening; there was some resis- tance at the entrance, but beyond that it was free—not as in a cavity, for it was encased in a tolerably thick sheath, which could be moved by the instrument pretty widely from side to side. The probe impinged on the hyoid bone, beyond which it could not be made to travel.
An oval incision, just big enough to remove all the discoloured portion round the orifice, was made. This isolated piece of skin was seized with a vulsellum and drawn downward; the tube became visible, and the strands of connective tissue attaching it to the surroundings being divided successively with the scalpel, the greater part was gradually withdrawn when it suddenly broke. By gliding the skin and wound upward towards the jaw the truncated end was easily brought into view, again grasped with the vulsellum, and the rest removed from the front of the hyoid.

The little opening was closed by deep sutures placed a little beyond the floor of the wound, and secured by narrow lead buttons rather longer than the incision, and two fine superficial sutures. It healed by the first intention. When I removed the dressing on the third morning there was no moisture upon it, in spite of rather severe ether-vomiting. On the fifth day, i.e. on the 23rd, she went down to dinner with her relatives.

June 29.—She went to the country with special directions to keep the throat very quiet. But on July 8, everything having gone well, and the wound apparently soundly healed, she was tempted to sing several songs and duets; and on the 10th I received the following:—"Yesterday I noticed a change. The place has swelled, and it is, in the middle, of a greasy white colour, and a red rim round it, as if the old opening had got wider."

She came to see me, and I found a semi-globular enlargement about one third of an inch in diameter. It consisted only of epidermis protruded by fluid. This I punctured with a tenotome, letting out a drop of slightly turbid, not puriform fluid. On squeezing in the locality of the excised tube I could find no trace of thickening, nor was any more fluid expelled. I told her that a little saliva found its way down during the exertion of singing, and that if she would avoid doing so, and keep the throat quite quiet for some weeks, she would get well.

She went abroad, and my prediction was soon verified; for on September 5 I received a short note in which are the words, "I am only too delighted at the present condition of my neck."

October 20.—Another letter from Venice says, "Nothing remains of the place but a little reddish mark, quite flat and smooth; it is completely healed. It is delightful that my collars do not get dirtied."
The case calls for but few remarks. I am extremely sorry that while I was dressing the wound the part removed was thrown away by the maid; but the arrangements in a private house and without a professional nurse are not always complete. Thus I cannot say if the mucous membrane that lined the fibrous tube was endued with mere pavement or with ciliated epithelium. Mr. Herbert Durham, in his well-known paper,* lays great stress on this point, saying that its absence or presence settles the question as to whether the central fistula is or is not a persistent thyroid duct. I would submit, however, that such a fistula originating in a supernumerary, i.e. a supra-hyoid accessory thyroid gland, would equally with a persistent duct be lined by ciliated cells. This I believe to be the etiology of this case. The thick-walled fibrous tube and its communication with the foramen cæcum would militate against the idea that it was merely non-closure of a branchial fissure or of an operculum, while the situation of the opening is higher in the neck than is recorded in most cases of persistent thyreo-glossal duct.

It may be permitted me to say a few words about the operation, for it is surely within the knowledge of us all that these median fistulae communicating with the mouth, whatever be their origin, have a great tendency to relapse, chiefly, I believe, on account of drainage of saliva. Now if this patient had had a wide funnel-shaped foramen cæcum I should not have ventured to operate as I did; but the laryngoscope showed me one a little, or not at all, bigger than normal. The problem presented was to remove the blemish without leaving a large unsightly scar; and the condition of the tube as felt beneath the surface, and the moveable condition of the skin of the neck, warranted the belief that I could, through a very small opening, remove everything flush with the hyoid, and that by using very deep sutures I could get a secure union up to that bone. If this succeeded, I believed the probably very narrow passage thence to the foramen cæcum would close, as mucous canals which cease to transmit fluids constantly do. She gave the condition a very severe trial by singing a good deal within a month of the operation, than which nothing could be more likely to open the upper part of the tract; and doubtless a little saliva did find its way down, and for a time caused both her and me considerable anxiety. But it has only served to show still more clearly that my view as to the feasibility of the method chosen was correct.


CASE 1. Moveable kidney; transitory hydronephrosis; no tube casts, but intermittent albuminuria; cure by operation.—M. H., æt. 35, a housemaid, enjoyed good health until January, 1889, when she commenced to complain of vague pains, as she thought, in the region of the stomach, but these were not so severe as to interfere with her regular occupation.

Fig. 10.

Case 1.—M. H., æt. 35. The space occupied by perpendicular lining indicates the position of the hydronephrosis when fully distended; that occupied by the horizontal lining shows the space within which the kidney could be palpated.

She, however, gradually became thin and anæmic; steadily the pain increased, and after a time it became complicated by dyspeptic symptoms, such as nausea, severe attacks of vomiting, diarrhœa, and occasional constipation.
When I saw her first in November, 1891, she had developed all the characteristic symptoms of moveable kidney on the right side, and on palpation the right kidney could be easily made out. The radius of movement of the kidney is indicated in the diagram above, also the space occupied by the hydronephrosis. The most interesting feature of the case, however, was the occurrence of a transitory hydronephrosis. At first occasionally, but afterwards more frequently, she had more or less sudden attacks of severe pain associated with sudden diminution in the urinary excretion, sometimes amounting to total suppression. This apparent suppression was coincident with a rapid increase in size of the moveable tumour within the abdomen, and also with severe paroxysms of pain, which lasted until the swelling was suddenly relieved by the escape of a large quantity of dilute urine. No albuminuria. At all times she suffered from more or less dull aching pains in the loins, extending at times over the whole abdomen, and sometimes down as far as the right knee. This pain differed entirely from what was experienced during an attack. The paroxysmal pain did not last more than six or eight hours, and while it lasted the patient was unable to lie in bed, but nearly always occupied a sitting posture, at first almost erect, but when the hydronephrosis attained a large size she would bend the chest forwards over the abdomen and elevate the knees so as to relieve pressure.

The symptoms just mentioned were accompanied by sickness, nausea, and vomiting. The following is a note of the examination of the urine before, during, and after one of these attacks:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Quantity in ounces</th>
<th>Sp. gr.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1890</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May 7</td>
<td>8 A.M.</td>
<td>5</td>
<td>1016</td>
<td>Acid; no albumen</td>
</tr>
<tr>
<td>&quot;</td>
<td>12 noon</td>
<td>16</td>
<td>1014</td>
<td>Severe pain; trace of albumen till 8 P.M. on the 8th May.</td>
</tr>
<tr>
<td>&quot;</td>
<td>4 P.M.</td>
<td>6</td>
<td>1026</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>8 P.M.</td>
<td>36</td>
<td>1008</td>
<td>Pain gone; trace of albumen.</td>
</tr>
<tr>
<td>&quot;</td>
<td>9 &quot;</td>
<td>4</td>
<td>1012</td>
<td>No pain; no albumen.</td>
</tr>
<tr>
<td>&quot;</td>
<td>11 &quot;</td>
<td>6</td>
<td>1014</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>1 A.M.</td>
<td>5</td>
<td>1012</td>
<td></td>
</tr>
</tbody>
</table>

At 4 P.M. on the 7th of May six ounces of urine of high specific gravity was passed, and almost immediately following the paroxysm of pain set in, and continued with increasing severity for twenty-eight hours, when it was suddenly relieved after the passage of 36 oz. of urine of low specific gravity.
Case 2. Right moveable kidney with transitory hydronephrosis from kinking of the ureter; no albuminuria; operation; cure.—C. G., æt. 34, single, was admitted into the Glasgow Royal Infirmary on the 1st November, 1895, complaining of a dull aching pain in the right loin, which commenced five years ago, and from then till now has steadily increased both in frequency and in severity. This pain is described as being almost constantly present, but over and above it she suffers now frequently from paroxysmal attacks of sharp colicky pain, which almost always assumes a very severe character.

Fig. 11.

Case 2.—C. G., æt. 34. The lining indicates the same conditions as in Case 1.

During the acute attacks the patient was herself able to feel a distinct swelling in the lumbar region, which on pressure was very tender. These acute paroxysms of pain occurred only at intervals of several months at the onset of the disease, but as time passed they have become more frequent. At the present time they recur nearly every second day. The pain increases more gradually than it is relieved. Her own description of an attack is as follows:
"Suppose the pain begins to increase about one o'clock in the day, it steadily becomes more severe until about night (six or seven o'clock). At the same time the swelling in the loin gradually enlarges, and sometimes extends beyond the middle line in front; as the swelling increases, so also does the pain." During the period of the enlargement the urine is scanty and highly coloured, and of high specific gravity; suddenly a copious flow of urine takes place, the swelling subsides, and the pain suddenly diminishes. While the hydro-nephrosis is accumulating the patient is generally compelled to go to bed, but very soon she is unable to lie in the recumbent position, and requires to sit up with the knees flexed over the abdomen and the chest thrown well forward.

On examination of the abdomen between the attacks the walls are observed to be very flaccid. When the patient lies upon her back a distinct bulging is observed in the lumbar region on the right side, which on palpation is found to be quite soft, but on firm pressure pain is elicited over a considerable area extending from the crest of the ilium to the ribs, and as far forward as the middle line: the amount of swelling varies greatly from time to time. When she is suffering from an attack of pain the swelling always increases, and the pain is relieved by a copious flow of pale urine.

Since admission to the hospital the worst attack occurred on the 12th November. The paroxysms of pain began at 5 a.m. and continued until 10 p.m., and towards the end of that period the patient suffered agony of pain, so that morphia required to be administered. Relief came about 10 p.m., accompanied by a copious flow of urine measuring 1000 c.c., the first quantity passed since 6 a.m. in the morning.

During the paroxysm of pain the swelling could be felt about two inches to the left of the middle line, between the umbilicus and pelvis, and extending downwards in the right iliac fossa till within one and a half inches from Poupart's ligament. During the intervals between the attacks of the pain the right kidney could be found to be distinctly moveable, with the excursion ranging from the position of the gall-bladder above to within four inches of the symphysis pubis below, and at the level of the umbilicus the kidney can be pushed one and a half inches across the middle line. Beyond the condition of the kidney the patient was absolutely healthy. The following is a note of the characters of the urine before, during, and after an attack:
### Dr. Newman’s *Cases of Moveable Kidney.*

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Quantity in ounces</th>
<th>Sp. gr.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov. 13</td>
<td>3 P.M.</td>
<td>13</td>
<td>1016</td>
<td>Acid; no albumen.</td>
</tr>
<tr>
<td>&quot;</td>
<td>13</td>
<td>9 P.M.</td>
<td>11</td>
<td>&quot; &quot; Pain.</td>
</tr>
<tr>
<td>&quot;</td>
<td>14</td>
<td>11 P.M.</td>
<td>40</td>
<td>&quot; &quot; Pain relieved.</td>
</tr>
<tr>
<td>&quot;</td>
<td>15</td>
<td>6 A.M.</td>
<td>6</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot;</td>
<td>15</td>
<td>2 P.M.</td>
<td>13</td>
<td>&quot; &quot;</td>
</tr>
<tr>
<td>&quot;</td>
<td>15</td>
<td>9 P.M.</td>
<td>7</td>
<td>&quot; &quot;</td>
</tr>
</tbody>
</table>

At midnight on the 13th November pain was very severe, and continued so till 11 p.m. the following day, when 40 oz. of dilute urine was passed.

*Remarks.*—The hydronephrosis in these two cases was probably due to torsion of the ureter leading to the obstruction. In the following case the symptoms pointed rather to torsion of the renal vein as well as of the ureter, and caused not only hydronephrosis, but also *considerable albuminuria and the presence of tube casts.*

### Case 3. Right moveable kidney causing torsion of the ureter and renal vein, and leading to hydronephrosis, albuminuria, and the presence of tube casts; operation; cure.—The patient, Miss A., came under my observation at the beginning of 1895. The history of the case, the physical signs, and the symptoms all pointed to right moveable kidney of some years’ duration. The patient was anaemic and emaciated, and it was considered desirable before an operation was performed to try the effect of complete rest in bed. This treatment by rest and by careful dieting was adopted during January, February, and March, but with comparatively little success, and it was resolved to perform nephorrhaphy early in May. Frequent examinations were made of the urine during the first three months of the year, and on all occasions it appeared to be strictly normal. The day previous to the one on which the operation was arranged for a careful examination was made of the kidney, when it was found to be swollen and unusually tender; and when the urine was examined it was discovered for the first time to contain a considerable amount of albumen, and some hyaline and finely granular tube casts; but these were not found in the deposit, but only when separated by a centrifugal machine. On account of the albuminuria and the presence of tube casts in the urine the operation was postponed, and on the 3rd of May all the samples of urine were carefully examined as shown in the following table. At first the possibility of a nephritis being present was considered, but as no symptoms beyond the
albuminuria and the presence of the tube casts could be discovered, I carefully watched the course of the urine to see if any other explanation of the albuminuria could be discovered. Every sample passed was kept for the examination, with the following results:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Quantity in ounces</th>
<th>Sp. gr</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1895.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 29</td>
<td>9 A.M.</td>
<td>9</td>
<td>1023</td>
<td>Acid; considerable albumen and tube casts; pain in kidney severe.</td>
</tr>
<tr>
<td>&quot;</td>
<td>8 A.M.</td>
<td>7</td>
<td>1023</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>12 noon</td>
<td>10</td>
<td>1019</td>
<td>Acid; trace of albumen; pain much less; tube casts.</td>
</tr>
<tr>
<td>&quot;</td>
<td>4 P.M.</td>
<td>13</td>
<td>1010</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>9 P.M.</td>
<td>6</td>
<td>1015</td>
<td>Acid; no albumen; no tube casts.</td>
</tr>
<tr>
<td>May 1</td>
<td>2 A.M.</td>
<td>17</td>
<td>1009</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>7 A.M.</td>
<td>13</td>
<td>1009</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>1 P.M.</td>
<td>10</td>
<td>1013</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>9 P.M.</td>
<td>7</td>
<td>1014</td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>6 A.M.</td>
<td>10</td>
<td>1010</td>
<td></td>
</tr>
</tbody>
</table>

With the onset of the attack of paroxysmal pain, sometimes there was present hydronephrosis, sometimes it was absent or not observable, but high sp. gr. of the urine, albuminuria, and tube casts always appeared in the urine at such
times, and disappeared at the same time as the pain. Since
the operation was performed no albumen or tube casts have
been found.

**Case 4. Left moveable kidney causing torsion of the renal
blood-vessels; albuminuria, tube casts, severe pain and suppres-
sion of urine; no hydronephrosis; operation; cure.—J. D.,
aet. 41, married, and has a family of nine children. She was
at one time very stout, but during the last three years had
been steadily emaciating. She first complained of pain in
the left kidney in 1887, and when I saw her first in 1894 she

**Fig. 13.**

**Case 4.—J. D., aet. 41.** Lining indicates the space in which the kidney
moved.

was greatly reduced in weight. The abdominal walls were
flaccid, and she complained of almost continual pain located
in the left lumbar region. At irregular intervals most severe
paroxysms of pain set in, and these lasted from three to seven
hours, and were accompanied by sickness, nausea, and
vomiting. During an attack the patient always lay upon her
left side. In one or two instances, after the paroxysms had
passed off, the patient suffered from undue excitability, severe
and persistent headaches, and dimness of vision, pointing probably to some uraemic poisoning. On examination of the abdomen the left kidney could be distinctly detected freely moveable within the abdomen, and could be pushed upwards under the left costal cartilage across the middle line in front, and down into the pelvis. When the organ was handled it produced considerable pain and feeling of sickness. The following is a note of the urine passed during one of the paroxysmal attacks:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Quantity in ounces</th>
<th>Sp. gr.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894.</td>
<td>Feb. 11</td>
<td>2 P.M.</td>
<td>15</td>
<td>1013</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>11 P.M.</td>
<td>17</td>
<td>1012</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>9 A.M.</td>
<td>18</td>
<td>1018</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>8 P.M.</td>
<td>10</td>
<td>1020</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>7 A.M.</td>
<td>18</td>
<td>1023</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>2 A.M.</td>
<td>11</td>
<td>1022</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>9 A.M.</td>
<td>16</td>
<td>1012</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>8 P.M.</td>
<td>15</td>
<td>1010</td>
</tr>
</tbody>
</table>

Remarks.—In the first two cases there was little or no difficulty in understanding the condition. The increase in size of the moveable tumour at the time the symptoms arose, and the disappearance of the hydronephrosis before they are relieved, indicated very clearly that the attacks were due to obstruction to the flow of urine through the ureter. The character of the urine, and the position which the patient assumes in bed, aid us in forming a diagnosis. In cases of hydronephrosis from torsion of the ureter in moveable kidney the patient is unable to lie down in bed, but almost always sits up with the knees flexed on the abdomen, and the thorax thrown forwards. In transitory hydronephrosis the quantity of urine is suddenly diminished in amount, as illustrated in Cases 1 and 2, and previous to the paroxysm of pain being relieved a large flow of dilute urine is observed to escape. On the other hand, in cases of torsion of the renal vessels, as in Cases 3 and 4, the paroxysmal attack is associated with a sudden and transitory albuminuria, without suppression of urine or increase in the size of the renal swelling. In Case 4, from 8 P.M. on the 12th of February till 2 A.M. on the 15th, only 34 oz. of urine was passed, but of high specific gravity, and containing albumen and tube casts. In all four cases nephorrhaphy was performed with an admirable result, no recurrence of the symptoms having been observed by the patients.
XIV.—Spontaneous Thrombosis of the Cerebral Veins and Sinuses in Chlorosis. By Lee Dickinson, M.D. Read January 10, 1896.

The patients who form the subject of this communication died in St. George’s Hospital. My connection with the first case was that of house physician; in the second I made the post-mortem examination; with the third I had nothing to do. My best thanks are due to the physicians in charge of the cases for permission to report them, and I am not less indebted to Dr. Sisley, Dr. Penrose, and Dr. Cyril Ogle for the use of their notes where my own were deficient.

In none of the cases was there any primary disease of brain, vessels, ears, or bones.

Case 1.—A dressmaker, æt. 19, moderately but distinctly anaemic, was admitted under Dr. Whiphams at 7 p.m., July 20, 1887. The history given was that she had been suffering from vertical headache for a fortnight, and began to scream four hours before admission. She was apparently insensible, screaming inarticulately, and violently convulsed in the right limbs and on the right side of the face, with paresis of the left arm and leg. Morphia was injected, and she soon became quieter, assuming a pained expression when roused, but without sign of intelligence. Temp. 102°. At 2.30 a.m. there was distinct paralysis of the left side, with a varying squint, flushed face, and full pulse. Eight ounces of blood were taken from the arm. The convulsions returned in the course of the morning, and lasted most of the day, involving both sides. The temperature rose to 104°. She became gradually quite comatose, and died in the evening.

Post-mortem.—The superior longitudinal, left occipital, and left lateral sinuses contained thrombi, in places partly decolorised and beginning to soften. Several of the superior cerebral veins were firmly thrombosed.

Case 2.—A general servant, æt. 20, was admitted under Dr. Ewart on September 24, 1893. It was stated that she had been suffering from anaemia with the usual train of symptoms for a year. On September 13 she was attacked by pain on the right side of the chest and faintness, and took
to bed; but two days later was a good deal better, remaining so for three days, when she fainted again. On September 23, during a fit of laughing and crying, she temporarily lost the use of the right arm and leg. On the evening of the 24th a definite convulsive fit occurred, after which she did not speak. She was now brought to the hospital, and was found to be in a state of incomplete insensibility, with some paralysis of the right arm and leg, inequality of the pupils, and moderate optic neuritis. There were frequent convulsions on the right side affecting the lower half of the face, the pectoral muscles, and the upper arm. The convulsions continued during the next day, but ceased early on September 26, to be followed by gradually deepening coma, and death in the afternoon.

Post-mortem.—Rigor mortis fairly marked twenty-four hours after death. Surface waxen, fat abundant and yellowish, muscles dark. Venous blood everywhere firmly clotted. Right auricle greatly distended by black clot. Right ventricle contained pale sub-mortem clot, continuous with black clot extending up pulmonary artery. Heart healthy, its muscle not fatty. Both lungs somewhat congested and oedematous: lower lobe of right lung in a greyish broncho-pneumonic condition, parts of it sinking in water. Liver and kidneys pallid. Recent false corpus luteum in right ovary.

The superior longitudinal sinus was occupied throughout by a thrombus, which appeared to have been formed some, but not many days before death. In the right lateral sinus was an ante-mortem thrombus, probably of more recent formation, not extending into the jugular vein. These thrombi were firm, somewhat granular, not adherent to the vessel, mostly black, but here and there for short lengths of a light brown colour. The torcular Herophili was occupied by mixed clot; and the left lateral and other sinuses contained ordinary post-mortem clot. The cerebral veins opening into the superior longitudinal sinus were extensively thrombosed, more especially on the left side, where in their course was much punctate extravasation and some softening of the convolutions. In the right fissure of Sylvius the veins were thrombosed. Behind this superficially was a large area of punctate extravasation, and in the white matter internal to the island of Reil some of the same thing. At the base of the brain, in the interpeduncular space and over the anterior surface of the pons Varolii was much recent clot, the blood probably having come from a ruptured venule.
Case 3 was very similar to the others, and may be more shortly described. A housemaid, æt. 24, was admitted under Dr. Ewart on December 13, 1888, for extreme anæmia. The temperature was slightly raised, but there were no cerebral symptoms. On December 16 she complained of headache and appeared stupid, and next day had a series of bilateral epileptoid fits, attended by loss of consciousness. Coma ensued, with some paralysis of the right cheek. The temperature rose to 105.2°, and death occurred early on December 18.

Post-mortem.—Thrombosis of superior longitudinal and other sinuses, veins of Galen, right Sylvian and many other cortical veins. Numerous small hæmorrhages in right basal ganglia and temporo-sphenoidal lobe. Slight optic neuritis.

Remarks.—Spontaneous thrombosis of the cerebral sinuses, as an event of clinical importance, is less rare in chlorosis than in any other one disease. The records of St. George's Hospital contain at least two cases in addition to those which I have related.* Many others have been published. I may refer particularly to a paper by Dr. Brayton Ball.†

The condition has hardly received the attention it seems to deserve as a complication and result of chlorosis. That the blood in this disease is morbidly prone to coagulate within the vessels is evident from the frequency with which it does so in the veins of the lower extremities. It is always conceivable that a superficial vein, such as the femoral, popliteal, or saphena may have received some slight injury, which was at any rate the determining cause; but when the cerebral veins or sinuses become thrombosed without discoverable injury or disease in their neighbourhood, there can be no doubt that the coagulation is spontaneous—that is, entirely due to a fault in the blood.

The pneumonic state of part of one lung in my second case is worth remarking, because in pneumonia the blood is highly fibrinous and coagulation in the right heart a recognised danger. Sinus thrombosis, however, is extremely rare as the result of pneumonia simply. Other forms of venous thrombosis are not common; so I conclude from my own observation while Medical Registrar. During my period of office the number of cases of lobar pneumonia was 367, and veins became blocked in only seven. Two were men; one was an elderly woman. The remaining four were young women between

* St. George's Hospital Reports, vol. ix, pp. 49 and 427.

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the ages of eighteen and twenty-three, of whom one was extremely and another slightly chlorotic.

Why chlorotic blood, which is not very highly fibrinous, is so prone to thrombosis it may be premature to speculate; but there is one physiological experience which seems to the point. Intra-vascular coagulation, brought about by injection of foreign substances (snake-venom and nucleo-proteid) into the circulation of animals, takes place by preference in the venous system, and is greatly favoured by excess of carbonic acid in the blood. Chlorotic blood, by reason of its poverty in hæmoglobin, is certainly deficient in oxygen, and probably equally overloaded with carbonic acid. The comparative infrequency of thrombosis in the sinuses, where the mechanical conditions seem so favorable, is perhaps explained by the recent observation by Dr. Leonard Hill that the blood obtained from the torcular Herophili contains far less carbonic acid than that from the femoral vein.

The lesser degrees of sinus thrombosis are known to be sometimes recovered from, and are perhaps less rare than is supposed. Optic neuritis is a recognised complication of non-fatal chlorosis, and in some of the recorded cases in which this connection has been observed the severity of the headache was out of all proportion to the degree of anæmia.* In the only two cases of this kind which I have seen the headache was very striking. Optic neuritis and severe headache are two of the most prominent symptoms of sinus thrombosis.

Case 4.—I may perhaps be permitted to append this case, which is essentially similar to the others, although there was no chlorosis.

A female servant, æt. 16, was admitted under Dr. Whipham about midday on June 7, 1889. She had been suffering from headache for a fortnight, but was able to work till June 6, when she took to bed in consequence of the severity of the headache, and later became unconscious.

On admission she was unconscious, and could not be roused to answer questions. Teeth clenched. No paralysis. Temperature 99°. Soft systolic murmur over pulmonary artery. In the evening restless movements of left arm and leg. Soon after midnight began a series of convulsions involving chiefly the muscles of respiration and the arms. Pupils now unequal. The temperature rose rapidly to 106·5°,

* See especially two cases by Dr. Burton-Fanning, Brit. Med. Journ., 1894, i, 1354.
and death occurred at 10 a.m., respiration ceasing before the heart's action.

Post-mortem.—Convolutions flattened. Cerebrum generally petechial, especially left centrum ovale. Left lateral ventricle full of blood-stained fluid, with some shreds of lymph; surrounding parts intensely congested and softened. Fornix diffuent. In right lateral ventricle excess of fluid. Veins of choroid plexus and venae Galení filled by firmly adherent thrombi. Sinuses not thrombosed. Hæmorrhagic area of the size of a filbert in left corpus striatum just below angle of internal capsule.

The examination was carefully and skilfully made by the late Dr. B. V. Sortain, who supposed the haemorrhage into the corpus striatum to be of arterial origin, although there was no evidence of arterial disease, and the kidneys and other organs of the body were healthy. Dr. Sortain's excellent description of the whole condition, taken in connection with the clinical history, leaves no room for doubt that the primary lesion was the venous thrombosis; and it is at least possible that this hæmorrhage, like the sanious fluid in the ventricle and the scattered petechiae, was due to backward venous pressure.

The patient was not chlorotic, but it is to be noted that she was of an age when chlorosis is common, and had a murmur over the pulmonary artery. Spontaneous thrombosis in the cerebral venous system has before now been observed in apparently healthy subjects,* but, so far as I know, always in females and during the period of liability to chlorosis. The limitation of the thrombosis to the cerebral veins in this case is of interest as tending to show that the mischief begins in the veins and not in the sinuses.

* See a case in St. George's Hospital Reports, vol. x, pp. 49 and 423.
XV.—A case of Addison's Disease treated with Supra-renal Extract (with an abstract of previously recorded cases). By Sydney Ringer, M.D., F.R.S., and Arthur G. Phear, M.D. Read January 10, 1896.

The number of recorded cases in which Addison's disease has been treated by the administration of supra-renal tissue is not so far great. Early in 1894 M. Chauffard* published an account of the case of a woman, æt. 35, who presented all the characteristic symptoms of Addison's disease. There was well-marked pigmentation, typical in its distribution; she was with difficulty persuaded to take food; nausea and vomiting were of frequent occurrence; there was feebleness to an extreme degree, and notable loss of flesh. The lungs showed no sign of disease. Subcutaneous injections of supra-renal extract were given, prepared according to M. d'Arsonval's formula,† 13·5 c.c. in the course of nine days. The result is described as none, except perhaps a slight increase of vigour, and that was doubtful. On the day when the last injection was given there was a sudden aggravation of symptoms; the heart failed, and death occurred in the course of a week. There was no post-mortem examination.

In the same year Dr. Thomas Oliver‡ recorded the case of a woman, æt. 20, who for six months had been losing flesh and suffering from great weakness, with vomiting, epigastric pain, and pigmentation of the usual type and distribution. There was no evidence of spinal caries nor of disease of the lungs. Twenty minims of supra-renal juice were injected under the skin, and immediately the quantity of urine, previously 18—42 oz. per diem, rose to 82 oz. daily. The injections were repeated every four days. The treatment was continued for eleven weeks, the juice being obtained from the supra-renals of rabbits, except in the case of the last two injections, for which sheep's supra-renal was employed. No striking benefit resulted from the treatment;

* La Semaine médicale, 1894, p. 74.
† This, as stated in M. Bra's work on La Méthode Brown-Séquard (p. 532), contains 10 grammes of supra-renal tissue to 10 grammes of glycerine and 5 grammes of solution of sodium chloride. It is macerated, filtered, sterilised, and diluted with an equal quantity of boiled water before injection.
on the whole the pigmentation was moderated, but there was no marked gain in strength or weight.

M. Bra, in his recent work on La Méthode Brown-Séquard, quotes M. Chauffard's case alluded to above, and also gives details of two cases under the care of M. Langlois,* in neither of which was any substantial benefit derived from the supra-renal mode of treatment. The first case was that of a man aged 37, in whom there was advanced tubercular disease of the lungs in addition to the unmistakable symptoms of Addison's disease. The treatment adopted was rest, oxygen inhalations, theobromine, and sparteine, vapour-baths, and every other day a subcutaneous injection of 1—3 c.c. of supra-renal fluid containing about one part of the gland in ten. He became for a time re-invigorated, but the improvement was only temporary, although the injections were continued; later he left home and was lost sight of. The second case (that of a woman aged forty-two) was also clearly one of Addison's disease, and the same treatment was adopted; only 15 c.c. of the fluid had been injected, however, when the treatment had to be abandoned on account of the pain caused by the punctures.

Dr. Rolleston, in the Goulstonian Lectures delivered in March last, alluded to the case of a woman under his treatment since June, 1894, in whom the administration of supra-renal tissue by the mouth was followed by an improvement in strength and an abatement of nausea and vomiting, the pigmentation, however, remaining.† At the meeting of the British Medical Association this year, Dr. George Oliver‡ gave details of a case of Addison's disease which had been under treatment with supra-renal tincture since July, 1894. Forty-five minims of the tincture were given daily, representing 45 grains of the gland. In the following December there was improvement in every respect; the bronzing was less, the appetite good, and nausea occurred but seldom. The improvement was maintained so long as the supra-renal preparation was regularly taken. The same case is referred to in 'Pulse Gauging' (p. 89); and in a letter to the British Medical Journal§ Dr. Oliver has made mention of two further cases under his care who are deriving marked benefit from the supra-renal treatment.

† See the Lancet, 1895, vol. i, p. 800.
A case is recorded by Dr. Lloyd Jones* in which benefit resulted from this mode of treatment. There had been a previous remission of symptoms in the earlier course of the disease, which had lasted two years before the treatment with supra-renal tabloids was commenced. Improvement quickly followed; the pigmentation became less and the vomiting subsided, and the patient in course of time became practically well. The supra-renal was at first given in the form of tabloids; later the extract was substituted (1 in 2), of which an ounce and three quarters was taken daily.

Since the above was written, further cases have been recorded, one by Dr. Sansom, who showed the patient before the Medical Society of London on November 11, 1895. The supra-renal treatment in this case was attended with benefit. Another case was published by Dr. Stockton in the Medical News (Philadelphia) of November 16, and in this also improvement followed administration of supra-renal tissue; there was decided increase of strength, as well as diminution in the pigmentation. Sheep’s supra-renals were given, two daily, uncooked.

The following is an account of a case of Addison’s disease recently under treatment with supra-renal extract in University College Hospital:

A woman, aged 28, and married, had been ailing since the birth of her only child, two years previous to her admission to University College Hospital in July last. Her complaint was that she had been gradually growing weaker, until she had become unable to perform her ordinary duties; any exertion, such as walking, resulted in giddiness and a tendency to fall; and for the week before she came to the hospital she was obliged to remain in bed. The weakness was associated with loss of flesh. A troublesome symptom was vomiting, which had occurred nearly every day, but at no special time and without relation to food. There had been no symptoms beyond a slight winter cough pointing to disease of the lungs. During the last two months she had noticed that the colour of her skin was deepening, particularly on the hands and face. When admitted to the hospital, the first symptom to attract attention was the discoloration of the skin. The face was of an uniformly dark hue, and over the malar prominence on the right side there were four small spots, of a much deeper colour than that of the surrounding skin; these, she said, had been present all

her life. There was a deposit of pigment along the line of junction of the skin with the mucous membrane of the lips; and inside the mouth there extended on each side a band of pigment, opposite the teeth, producing on the right side a mottled appearance of the mucous membrane, while on the left side the pigment was aggregated so as to form well-defined inky patches. The tongue was indented by the teeth, but free from pigment. The backs of the hands were of a dusky colour, more pronounced over the joints than elsewhere; in the course of the skin-creases on the palmar aspect pigment was deposited in lines. The forearms were not so deeply stained as the hands; and except for a well-marked band in the flexures of the elbows the coloration gradually faded on passing upwards, the arms proper being free from excess of pigment. In the axilla, besides a general discoloration which was most marked along the anterior folds, numerous small raised spots were scattered over the surface of a darker colour than the rest. Around each nipple was a well-marked pigmented areola. The abdomen was marked by skin cracks, but these were not pigmented; a faint line of discoloration extended from the umbilicus to the pubes. On the back there were two small patches of pigment. Slight staining was observed over the knee-caps, over the joints of the toes, and in front of the ankle in the course of the tendon of the tibialis anticus muscle. The appetite was bad, and vomiting occurred nearly every day, often more than once a day. There appeared to be some emaciation; the weight was 6 st. 6 lbs. The radial pulse was 92 per minute, regular but small, and arrested by a very slight amount of pressure. The heart-sounds were weak; the first sound at the apex was sharp and short, the second sound at the base was louder to the left than to the right of the sternum; no murmur was heard. The lungs appeared to be healthy; there was no cough nor shortness of breath; the movements of the chest were good and equal on the two sides; the percussion note was resonant and the breath-sounds normal. The urine was light in colour, faintly acid, with a specific gravity of 1018, and contained no albumen; it retained these characters throughout the course of the disease, except that on two occasions there was a trace of albumen detected. It was impossible to obtain accurate measurements of the quantity passed on account of difficulty in its retention.

On July 9, treatment with supra-renal extract was commenced. She was at first ordered three pills daily, each
pill containing the equivalent of 15 grains of supra-renal body.* The dose was gradually increased till on July 24 she was taking the equivalent of a quarter of an ounce of supra-renal tissue each day. Her general condition at first improved. She became brighter and stronger, sat up in bed, and in the course of three weeks found herself able to stand without assistance. The pigmentation also became less marked; the diminution was noticed first on the backs of the hands, but later it became more general, the pigment disappearing to such an extent that on July 28 a note was made to the effect that the aspect would now hardly suggest Addison's disease. Vomiting remained a troublesome symptom in spite of the general improvement; it occurred at least once daily, sometimes two or three times a day, from July 6 to July 20, usually about two hours after breakfast, the vomited matter consisting of partially digested food. Bismuth and hydrocyanic acid were given without success. On July 21 cerium oxalate was ordered, and from this date the vomiting became less frequent, occurring once only during the period of ten days that cerium oxalate was administered. No change was noted in the condition of the circulatory system; the pulse remained soft and compressible; it became, if anything, easier to obliterate; there was certainly no rise of tension.

The diminution of pigmentation and the increase in mental and physical vigour continued until August 6—i.e. for four weeks from the date on which supra-renal extract was first given,—in spite of a steady loss of weight of 13 lbs. A change for the worse was then noticed. The patient became less inclined for exertion; the appetite failed, and very little nourishment was taken. On August 16 the treatment was altered, the supra-renal extract being omitted, and arsenic with strychnine given in its place. The weakness, however, increased, the extremities becoming cold, and the pulse smaller and more compressible. No change was noticed in

* The pills were obtained from Messrs. Willows, Francis, and Butler, who have supplied us with the following details as to their preparation. Fresh and healthy supra-renal glands are taken from the sheep or calf, freed from fat, finely minced, macerated with alcohol, pressed, and strained; sufficient of the menstruum is added to make the finished fluid extract equal in measure to the weight of the fresh bodies; the fluid extract is evaporated (in vacuo) to a soft extract of a proper pililar consistence, of which 1 grain (the weight of each pilule) is equivalent to 15 minims of the fluid extract, and to 15 grains of the fresh gland; the pilules are finally covered with a soluble coating for purposes of preservation. The whole process is carried out as quickly as possible after the removal of the supra-renals.
the degree of pigmentation. On the 18th the temperature rose to 102°; death occurred on the following day. The duration of the disease, from the date when symptoms first attracted attention, was just over two years.

Autopsy.—The supra-renal capsules were very small, about one third of the normal size; each one formed a thin, flattened, plate-like piece of tissue above the kidney. On section no distinction could be seen between medulla and cortex. The kidneys were elongated; the cortex was somewhat diminished, irregularly congested, and firm in consistence. The uterus and Fallopian tubes were normal. The gall-bladder was distended with clear fluid, and also contained many stones, of which one was impacted in the orifice of the cystic duct. The heart was small (weight 4\(\frac{3}{4}\) oz.); the muscle was pale and soft; the valves were healthy. There were old adhesions of the pleura to the upper lobe of the right lung posteriorly; beyond this there was no evidence of tubercular disease of the lungs, either old or recent. The spine was curved in the lumbar region, the convexity of the curve lying to the left, and there was some prominence of the last lumbar and first sacral vertebrae; there was no evidence that the vertebrae were carious. The thymus gland was persistent.

With the microscope the capsule was seen to be much thickened, and there was great increase of connective tissue in the substance of the gland. Here and there the outlines of polyhedral cells with rounded nuclei could be made out, but these for the most part were degenerated. The blood-vessels were distended with red corpuscles, and in the neighbourhood of the vessels there were to be seen numerous small round cells.

In continuation of two papers read before this Society in 1872 and 1878 respectively, and recorded in the sixth and eleventh volumes of its Transactions, recounting cases of cancer of the breast, and contrasting the short course run by certain of the cases with the long course run by the others, I now bring before the Society a case having some remarkable features.

The patient, S. C. (Sarah Cameron), residing at 46, Bayham Place, Camden Town, was admitted out-patient in the Cancer Department of the Middlesex Hospital in June, 1862. She was then thirty-seven years of age, married, and had borne one child.* There was a scirrhous tumour of the right breast and a chain of enlarged glands in the corresponding axilla. When first discovered the tumour was not larger, it was said, than a pea. In September I removed the breast. Four years later she complained of pains in the muscles of the arm and of pains in some of the fingers. These pains subsided.

In October, 1868, that is six years after the removal of the breast, I examined the patient, and found no further enlargement of the glands in the axilla.

Ten years after this, in 1878, I examined her in the presence of the Clinical Class at the hospital, and I found that there was a very limited return of the disease in the shape of one or two small flat tubercles at the upper border of the cicatrix.

I lost sight of the patient until October, 1893, that is over thirty years from the date of the operation, when I found an increase of the cancerous flat vein-marked plaques in the pectoral axillary region,—not, however, to any great extent, but the arm was much swollen. Mr. Andrew Clark now took charge of the case in the Out-patient Cancer Department. The swelling of the arm disappeared, and after a few visits the patient ceased her attendance at the hospital.

In October, this year, 1895, I found that S. C. was still

* She had suffered no miscarriages and has not been again pregnant.
residing in Bayham Place, and on the 14th of the month I examined her condition. The arm was not swollen, and the patient's appearance was bright and cheerful, and she had to complain only of slight occasional pains. The vein-marked flat tubercles or plaques remained much the same. On December 7 I examined the axilla and its borders. The tissues of the axilla were much puckered and shrunken, some of the plaques in front had become paler and scurfy; immediately beyond the posterior fold of the axilla was a ridge of hard, vein-marked deposit. The arm was somewhat red and swollen in front below the elbow. The patient had been daily at work as charwoman; but on the 24th the ridge presented some active ulceration, and S. C. again had recourse to the hospital, as there was considerable pain. The swelling and redness of the front of the arm seemed to have been replaced by a scaly patch about the size of a florin.

In connection with the above case I append the sequel of Case II, described by me in February, 1878, the case of M. A. H., who had at that date been under observation during five years. About twelve months after the date of my paper being read the patient died. The post-mortem examination showed secondary plaques universally scattered under the pulmonary pleura of both sides, and less abundantly under the costal pleura. There were also deposits in the liver. The drawings of the microscopical appearances of sections of the breast and of the secondary deposits were made by the late Dr. Lyell. These I now submit to the Society, and I have no doubt will be recognised as most faithfully representing the characteristics of cancer.

I exhibited at the Pathological Society in March, 1880, sections of a small secondary tumour I removed from the pectoral region of a lady who had, seven years previously, been operated on by the late Mr. Curling for cancer of the breast. The tumour removed by Mr. Curling had been examined and reported on by Dr. Goodhart, who, while deciding that the tumour was cancerous, added that it was not of the ordinary form of scirrhus, but had apparently been in its onset a cystic disease. The late Mr. Marcus Beck and Mr. Rickman Godlee reported on the microscopical sections of the tumour I removed. After detailing certain facts they said, "The structure of the growth thus corresponds clearly with that of the original tumour,—it must be classed among the cancers." The point, however, is, that two years after some glands in the axilla were found to have
enlarged, and the patient having had them removed by Mr. Lawson is, or was until recently, still alive; that is twenty-two years after Mr. Curling's operation.

Such cases as these indicate that prudence is desirable in giving a prognosis.

CASE 1. Rupture of spleen by a blow from a cricket ball; secondary haemorrhage; removal of spleen; spleniculus left; rapid and complete recovery with obvious enlargement of all the external lymphatic glands.—J. T., a schoolboy aged 10 years, was admitted (under the care of B.) to St. Thomas's Hospital on September 11, 1895, at 4.30 p.m. He had been ill with severe pain in the abdomen and other symptoms since the early morning. He was sent to the hospital by Dr. Whitehead, who said he had "internal haemorrhage." Five days before he had been struck by a cricket ball on the left side.

On admission.—The boy was collapsed and evidently suffering from severe shock. He was blanched, lips pale, skin cold and clammy, countenance anxious, and in every respect he looked extremely ill. Pulse small, rapid, and feeble. Respiration rapid, shallow, and diaphragmatic; the alæ nasi were in strong action; temp. 99° F. The abdomen was rigid and motionless. It was acutely tender on pressure, especially on the left side and over the left hypochondriac region. There was no visible bruise. Percussion yielded a slightly hyperresonant note over the epigastric, umbilical, and hypogastric regions, but in both flanks resonance was impaired. The dulness varied with the position assumed, and could be made to disappear entirely from the right but not entirely from the left side; there was, too, slight bulging of the flanks, which was also suggestive of free fluid in the peritoneum.

The boy's condition from time to time underwent considerable variation; at one time the pallor, lividity, collapse, pulselessness, and rapid shallow respiration were extreme, and appeared to indicate a speedy death. At another the lips and cheeks regained their colour, the pulse returned, pain ceased, and the rally seemed so complete and the boy so comfortable that some doubt arose as to the advisability of immediate operative treatment.

Operation (6 p.m.).—A small incision was made in the
middle line between the umbilicus and pubes. The peritoneum on exposure appeared quite dark, and on opening it a considerable quantity of dark purple blood escaped, and carried with the rush of fluid a few small clots escaped. Another incision 4 inches long was immediately made in the left linea semilunaris, starting from the left costal margin. On exposing the muscles in this region some slight discoloration and extravasated blood was found in their substances, suggestive of bruising from the injury received. On opening the peritoneum much dark purple blood welled out. The hand was then inserted under the ribs and withdrew a large quantity of dark clot, but some of the clots were partly decolourised. The quantity of clot and its firmness made it by no means easy to define and seize the spleen; but when this was done, the organ, badly ruptured, was drawn out through the wound. A silk ligature was passed through the bleeding pedicle, which was tied in halves, and then again by encircling the whole with one ligature. The spleen was then cut away. It was noticed that a spleniculus was left. The injuries to the spleen are depicted on the accompanying figures (Plates II and III). The injuries involved the vessels of the hilum. Partly decolourised clots were intimately adherent to the ruptures, and had to be removed so as to define the parts clearly before applying the ligature. The organ had evidently been completely enshrouded in large and adherent clots, for as soon as the spleen was removed, and the pedicle allowed to drop back in the abdomen, quantities of clot were scooped out by the hand, and by the aid of marine sponges from the splenic and left lumbar regions. No irrigation was employed. When the parts were quite cleared of visible blood and clot by the aid of a hand electric light, the edges of the abdominal wound were brought together by strong salmon-gut stitches. Iodoform was dusted over the wound, and the dressing consisted of cyanide gauze and wood-wool tissue.

The small wound in the middle line below the umbilicus was found of great service, for while the clots remained in the splenic region the fluid blood had gravitated into the pelvis, and in order to cleanse completely the pelvis and lower half of the abdomen, much and careful sponging had to be carried out. The median wound was closed and dressed in the same way as the lateral one.

The boy bore the operation remarkably well. The pulse improved when the blood first escaped from the abdomen, and failed only when some strain was put on the splenic
pedicle, but improved again when the stump was let loose in the abdominal cavity.

*Progress after operation.*—Convalescence was uninterrupted. The boy left the hospital on October 4, apparently quite well. During the first twenty-four hours he had to have morphia; afterwards he had no pain, but complained a good deal of thirst. Temperature, pulse, and colour normal. Urine normal. Wounds healed by first intention.

*History of the injury and the illness from the patient three days after the operation.*—The boy is intelligent, and the following account is practically in his own words:—On Friday, September 6, *i.e.* five days previous to admission, and four days previous to the development of serious symptoms, he was playing cricket at 7.30 p.m.; whilst batting, the bowler, a boy of his own age and size, struck him "with a full pitch in the stomach." The ball was the ordinary leather one. It was bowled from the ordinary distance, "twenty-two steps," and did not come "more than usually fast," and "did not hit him very hard." He began to cry, but did not fall or even drop the bat, but walked to a bench about fifteen yards off and lay down for five or six minutes. He had a little pain, but it was no worse than an ordinary stomach-ache, and he only cried because he was rather frightened. After resting a few minutes he walked home, the distance being about fifteen minutes' walk. He had his tea at 8 o'clock, as soon as he reached home, and then at once went to bed. The pain soon ceased, and feeling perfectly well he went to sleep. The next four days were passed as usual, and he felt perfectly well. These days were September 7, 8, 9, and 10, which were spent at school, and he played about as usual.

In the middle of the night (*i.e.* at 4 a.m. on the morning of the 11th, the day of his admission) he woke up screaming with great pain in his left side; the pain was greatly aggravated by breathing, and it stung him dreadfully all over the stomach. As he was rolling about in bed he got too near the edge, and fell out on his right side. The bed is about two feet from the floor, and he fell on his hand first and then on his arm, but "he did not hurt himself at all." He was much alarmed and in great pain, and so managed to crawl downstairs to his mother's room. He lay on a rug for about ten minutes, and then went upstairs again to the "closet, as he had diarrhoea" which had suddenly come on.

On returning to his room he was violently sick. This was the first and only time he vomited during his illness. He
could walk upright, and was not doubled up with pain; he was not giddy or confused, but he had to hold his hand to his left side.

A doctor (Dr. Whitehead) was summoned about 8 a.m. on the morning of the 11th, and advised later in the day his removal to the hospital, as he believed he was suffering from internal hæmorrhage.

The blood during the boy’s convalescence was three times investigated by means of a hæmocytometer at a week’s interval.

September 20.—Red blood-corpuscles, 3,333,333 per c.mm.; white, considerably in excess; no one variety more than another.

September 28.—Red blood-corpuscles, 4,233,333 per c.mm.; white, about normal in number.

October 4.—Specific gravity low = 1044. Red blood-corpuscles, 3,150,000 per c.mm.; white also diminished in number since last note.

The boy was re-admitted on October 12, because the mother said he was occasionally very pale and faint, and tumbled about. Nothing wrong was observed in the hospital, and he was discharged quite well on October 28.

During the second admission of the boy, and when he was apparently quite well, two further estimations of the number of corpuscles were made.

October 21.—Red blood-corpuscles, 4,580,000; white, 9000.

October 26.—Red blood-corpuscles, 4,180,000; white, 7000.

February 14, 1896.—The boy has gained flesh, and is quite strong and well. The number of the red and white cells in the blood seems now (see Mr. Russell’s report) to be in excess of the physiological mean. The cervical, axillary, and inguinal lymphatic glands are all markedly enlarged. It is not possible to say if the mesenteric lymphatic glands are enlarged.

Case 2. Rupture of spleen; patient run over by hansom cab; severe hæmorrhage; removal of spleen; onset of serious symptoms; ultimately complete recovery.—H. M., a female aged 45 years, was admitted to St. Thomas’s Hospital under the care of B. on September 15, 1895, late in the evening, and was said to have been run over by a hansom cab. It could not be definitely ascertained whether the wheel passed
over the abdomen or back, as the accident was so sudden, and no one saw it happen.

The signs on admission were shock, extreme collapse, and intense pain in the left side. The pulse was 88, surface of body cold, face very pale, lips blanched, skin covered with a clammy sweat, and eyes half closed.

A few moments after the accident the patient fainted. She was too bad at first to be carefully examined, but a catheter was passed and a few drops of blood drawn off. The urine had been passed involuntarily. There were slight scratches over the left side near the lower margin of the costal arch, and some bruising over the right innominate bone. There was dulness in the left flank, due, it was thought, probably to bleeding from an injured kidney. The temperature when first taken was 96° F., but gradually rose as the patient slightly rallied under the influence of warmth, rest, and restoratives.

The next morning the patient was still much collapsed; temp. 99° F., pulse 130. Lips pale. Weakness extreme. She is obviously suffering from loss of blood. There was extensive dulness in the left flank, which did not move with position, and there was also considerable dulness of the right flank, which disappeared completely on turning patient on left side. This dulness was observed to increase in area during the day.

A diagnosis of fluid blood in the peritoneum in large quantity was made, but as the urine contained much blood it was thought that possibly there was some urinary extravasation as well. Towards the end of the afternoon patient slightly rallied, so as to make operation a reasonable thing to attempt.

Operation.—The patient was placed under ether and a small incision was made in the middle line between the umbilicus and pubes. The peritoneum looked black, and on incising it a large quantity of dark purple blood and a few small clots were forced out by the intra-abdominal pressure. There was no admixture of urine with the blood. The escape of this blood produced at once an improvement in the pulse. A cyanide gauze pad was placed over the wound, and without any delay an incision about four inches long was made through the upper part of the left linea semilunaris, commencing at the costal margin. On opening the peritoneum some dark blood welled out and exposed a mass of dark clot. The hand being introduced a large quantity of
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TEMPERATURE CHART, CASE 2.

A. On admission. Weight 9 st. 6 lbs.
B. After operation.
C. First dressing.
D. Stitches removed; wounds healed.
E. Slight shivering.
F. Patient extremely ill and feeble.
G. One spleen (toasted) given.
H. Ditto.
I. Marrow fat and anchovy given for first time; also spleen extract.
J. Spleen extract omitted.
K. Ditto.
L. Spleen extract omitted on this and two following days.
M. Spleen extract given again.
N. " omitted for three days.
O. " given again.
P. Weight 7 st. 6 lbs.
Q. Spleen extract and marrow fat discontinued.
R. Convalescent. Weight 8 st.
clot was removed, and then the spleen was sought for. The fingers did not immediately recognise it, surrounded as it was by masses of clot, but very shortly it was drawn out through the wound and found to be severely injured, the deep rupture on the gastric surface extending into the hilum (see Plates IV and V). The splenic omentum was transfixed by a silk ligature. Each half was tied separately, and then the whole pedicle was encircled by another ligature. The ruptured spleen was then removed. Great care was then taken to clean the splenic area and flank from clots, which were very numerous, and were best got rid of by the use of marine sponges. Irrigation was not employed. The peritoneum in front of the left kidney was uninjured. The wound was brought together by means of silkworm-gut stitches. The central abdominal wound was found of essential use in cleansing the lower part of the abdomen and pelvis of blood: in the latter situation much fluid blood had collected. The edges of this wound were brought together also with gut stitches, and the wounds were dressed in the usual way.

Progress.—The patient left the theatre in a precarious and greatly collapsed condition; but she rallied gradually, Liq. Strych. mjñ being injected every four hours for the first twenty-four hours.

For the first week after the operation the patient appeared to be progressing favorably, but then she seemed to go downhill, and by October 4 (eighteenth day) her condition was most critical. Briefly stated, the symptoms were as follows:

She was very thin and extremely weak. Temp. 100° to 101° F. Complexion sallow. Face sunken. Pulse 120 to 140, very small and weak. Occasional severe griping pains in the abdomen, pains in the limbs, and tenderness along the tibiae. Much thirst. Tongue dry; anorexia. Very little urine passed. Sleeps all day. Marked changes in the blood. Feebleness so great that she faints if position in bed is changed. Some oedema of feet.

There was nothing to account for this condition to be found in the abdomen, and in the chest a few friction sounds could be heard at the right base, but these disappeared in a day or two.

In this emergency, and in consequence of the success of the treatment in another case in which these symptoms arose, it was ordered that the patient should have one or two sheep's
Three Cases of Splenectomy for Rupture.

spleens lightly grilled or toasted each day, and some fresh bone marrow mixed with anchovy paste.

The patient was unable to take the sheep spleen after the fourth day, so an extract of sheep spleen (see note at end) was prepared, and was taken readily when mixed with port wine.

The subsequent history of the case was one of slow and very gradual improvement.

The splenic extract and bone marrow were administered regularly till November 30. The pains in the abdomen continued for a long time, and there were pains also in the limbs, especially the right shoulder and arm, around both ankles, and along the shafts of the tibiae. The long bones were tender too, especially the tibiae and humeri. Patient left the hospital on December 10 for a convalescent home.

Patient was seen on February 5, 1896, in good health, and much stouter than when she left the hospital. She had just been weighed, and her weight was 9 st. 2 lbs. When in health, before her accident, she said her weight was 9 st. 6 lbs. On November 18, when she was nearly convalescent from the serious condition into which she fell after the removal of the spleen, her weight was 7 st. 6 lbs.

February 14, 1896.—The lymphatic glands, on the left side of the neck and in the right axilla, are slightly enlarged. That the lymphatic glands are not enlarged as in Cases 1 and 3 may possibly be explained by the fact that pains in the bones were a marked feature of the illness of Case 2, but were not observed in Cases 1 and 3. Compensatory changes may be thought of as occurring in Cases 1 and 3 in the glands chiefly; in Case 2 in the medulla of the long bones.

Note on Splenic Extract and Bone Marrow. (By Mr. White, Pharmaceutist to St. Thomas's Hospital.)

1. Spleen extract.—Fresh spleens were obtained daily. Fat, &c., were cut away, and the spleen finely minced and weighed. To each ounce of spleen was added one fluid ounce of sterile normal saline solution, the whole thoroughly beaten during half an hour, and finally strained through double folds of fine muslin by pressure. The resulting fluid varied in colour from pale red to deep red.

Forty-six spleens were used to make the extracts which this patient took: their average weight was 3½ oz. (the heaviest weighed 5 oz., and the smallest 2 oz.).
The spleens could be kept fresh on ice for two days, but the extract "turned" and became undrinkable in three hours. The extract was quite palatable when mixed with an equal quantity of port wine.

2. Marrow.—The amount of marrow the patient had was over 12 oz. It was not red marrow; it was obtained from ox shin-bones. Every 3 oz. of marrow was beaten into a pulp with 1 oz. of anchovy paste.

Report by Mr. Wallace of microscopical preparations of the blood of Case 2.

Cover-glass preparations were made. They were then fixed by floating them on a mixture of equal parts of absolute alcohol and ether, after which they were stained by haematoxylin, and counter-stained by eosin.

Microscopic power.—Objective = E Leitz, ocular No. 1.

September 21.—White cells averaged 12 in a field. The greater number were slightly larger than a red blood-disc, and contained in some cases a curled strap-shaped nucleus, and in other cases several small distinct media. Included in the average number were a few small mononuclear leucocytes (the average number being two in a field), and occasionally a large uninuclear white cell.

September 24.—Examination gave the same result.

September 26.—Average number of white cells was about 20. The greater number by far of these were ones with strap-shaped curled nuclei, or with several nuclei, the only difference from the specimen obtained on September 21 being that a certain number (3 to 12 in a field) were as large as two red blood-discs. Occasional small and large uninuclear white cells were again observed.

October 1.—White cells average 16 in a field, and are mostly slightly larger than a red blood-disc, while others are the size of two red blood-discs. Both these have strap-shape curled nuclei or several nuclei. Again, only a very few more nuclear small and large white cells were seen. In one field a large white cell was seen with an oval granular nucleus as large as two red blood-discs, while the cell body was clear and about the size of three red blood-discs in its longest axis. A specimen of my own blood under similar conditions as regards interval after food showed no white cells in some fields, while in others only two or three were seen. These were either medium-size cells with strap-
Three Cases of Splenectomy for Rupture.

shaped nuclei, or with several small nuclei. Only in very few fields were mononuclear cells seen, and these were sometimes small and sometimes large.

October 17.—White cells average 6 in a field, and were entirely of the polynuclear or strap-shaped variety, an occasional small uninuclear cell being seen. Specimen of my own blood was the same as on October 1.

On no occasion did I detect any abnormal red cells.

The preparations were made at 11 a.m., that is about 1½ hours after patient's luncheon, consisting of milk.

Report by Mr. Richardson on the urine of Case 2 during the period of severe illness.

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Case 3. Complete rupture of spleen in a man caused by a fall across an iron girder; removal of spleen followed by well-marked signs of anaemia and changes in the blood; gradual but complete recovery, but with enlargement of lymphatic glands.—Thomas N., aet. 36, a labourer, was brought to St. Thomas's Hospital at 7.30 a.m. on the morning of October 12, 1895, and admitted under the care of P. Twenty minutes before admission, whilst wheeling a barrow along a single plank, he had slipped, and fallen with his barrow a distance of about seven feet, striking his left side against an iron girder. He complained of great pain in the precordial region, and said he had hurt his heart. There was no evidence of any fracture of ribs, but pressure with the palm of the hand over the left lower ribs caused diffuse pain, which was aggravated by deep inspiration. He could stand, and walked briskly
across the casualty room without any stoop or inclination to one side more than the other. Nothing abnormal was detected about the abdomen. Face very pale. The patient was a tall, powerful-looking man, had served twelve years in the army, and had always enjoyed good health, except that he had suffered from malarial fever whilst on service in India. Mr. Davis, the house surgeon, thinking that his general condition did not render his immediate admission imperative, kept him for an hour on the couch in the receiving room, but finding that his pallor had not decreased, he was admitted to Clayton Ward. At 8.30 he was given a warm bath and put to bed; temp. 97.6°. At 11 a.m. his condition suddenly altered, he became deadly pale, with anxious expression, and cold extremities. The skin was bathed with sweat, and he looked extremely ill; heart sounds almost inaudible, pulse 160 and very feeble; respiration was accelerated, but not laboured, the alæ nasi not in action. Abdomen moved on respiration, but the movements were impaired. Percussion yielded a dull note in both flanks, the note varying according to the position of the patient. The splenic area of dulness was enormously increased. The dulness was constant, not varying in position. The man complained of great pain in the abdomen, and said he thought he was dying, since he felt so ill. The pain extended from the nipple to the left iliac region in the vertical axis of the trunk, but did not cross the middle line. The urine was drawn off and found free from blood. The patient retched several times, but did not vomit. The diagnosis was made of hæmorrhage from probable rupture of the spleen. Restoratives—including a hypodermic injection of brandy and strychnia—were administered, and by three o'clock he had sufficiently rallied to allow of abdominal section. The limbs were wrapped in wool and bandaged, and he was placed on a hot-water bed. Ether was administered, and an exploratory incision made in the mid-line below the umbilicus. On reaching the peritoneum it was seen to be dark, and on incision a quantity of blood escaped. The opening was at once packed with a sponge, and a second incision 4½ inches long was made in the left semilunar line, commencing at the costal margin. After removal of a large quantity of clot the hand was inserted into the abdomen and the spleen explored, a considerable rupture was recognised, the pedicle grasped by the finger and thumb, and with gentle traction the damaged organ was brought to the surface and examined. It was at once apparent that excision was the only possible treatment,
and a double silk ligature was passed through the pedicle, and its two halves secured. The spleen was then removed, and all traction being thus relieved, a fine silk ligature was tied round the pedicle immediately in front of the previous double ligature. Large quantities of clot were removed by hand, and the abdomen cleared of blood by means of sponges. The right flank and pelvis contained only fluid blood, but a very large quantity, more than two pints, was thus removed. The spleen appeared normal in size, although the patient had had repeated attacks of ague in India. The rupture was extensive, affected the upper part of the phrenic area posteriorly, the gastric and renal areas anteriorly, and involved the hilum (see Plates VI and VII). No irrigation was employed, and the abdominal wounds were closed by salmon-gut sutures. The patient, considering his extreme condition of collapse, bore the operation remarkably well, and saline infusion was not considered necessary. Brandy and beef tea were injected into the rectum, and a hypodermic injection of strychnia given. Progress was satisfactory till October 14, when the abdomen became distended, enemata were without result, and at midnight on the 15th he was sick, and brought up a large quantity of fluid without effort, and with considerable relief to the distension. The liver dulness, which previously was almost obliterated, now reappeared, and the abdomen could be handled without pain. All the signs pointed to a paralysis of bowel, and not to peritonitis. Feeding by the rectum was now commenced, and 5ij of Mag. Sulph. given by mouth, followed by a drachm every two hours.

October 16.—No result either by the Mag. Sulph. or enemata. Patient very restless; abdominal distension again marked; calomel gr. x ordered. In the evening he brought up about two pints of offensive grumous fluid. The vomit gushed out with great force and little effort, and gave considerable relief. Hiccough, which had been constant before the vomiting, ceased. The pulse 96, weak and irregular, thirst excessive, eyes sunken, and features pinched. In the early morning of the 17th a large stool was suddenly passed without any warning or premonitory inclination. During the day the bowels were open three times, and he was again able to take nourishment by mouth. Patient now began rapidly to improve, and by October 21 his colour had returned, and he had lost his sunken appearance. On October 23, on fish diet; general improvement very marked; slight suppuration in the track of the sutures in both
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Messrs. Pitts and Ballance's
TEMPERATURE CHART, CASE 3.

A. Operation.  Weight about 12½ st.
B. Red cells 3,590,000.  White cells 14,000.
C.   2,880,000.    13,000.
D.   3,450,000.    17,000.
E.   3,680,000.    14,000.
F. Weight 9 st. 9 lbs.  Cod-liver oil and bone marrow ordered.
G. Red cells 3,890,000.  White cells 10,000.
H. Weight 9 st. 12½ lbs.
I.   9 st. 12 lbs.  Arsenic ordered four days later.
J.   10 st. 3½ lbs.
K.   10 st. 7½ lbs.
L.   10 st. 12 lbs.
M. Jan. 17, 1896.—Weight 12 st. 6 lbs.
   Feb. 7,   Red cells 5,530,000.
         White cells 9000.
incisions. A fortnight after the operation he looked in perfect health, and presented no signs of his great loss of blood or severe previous condition. Towards the end of October, without any manifest cause, he commenced to lose ground. He became cachectic in appearance, steadily lost flesh; his face became sunken, especially about the orbits; he complained of increasing weakness and great thirst.

During November he steadily lost ground, although taking plenty of nourishing food and bottled stout. From October 19 to November 20 there was a daily rise of temperature varying from 1° to 2½°. He complained of headache, fainting attacks, and occasionally of abdominal pains like colic. For about a week the urine was increased in quantity, viz.:—October 26, 70 ounces; October 27, 87 ounces; October 28, 96 ounces; October 31, 91 ounces; November 1, 102 ounces. During this time, however, the patient, on account of thirst, was probably drinking more than the ordinary quantity of fluid.

The changes in the blood were well marked, and are shown in the report appended by Dr. Russell, the decrease of red cells and increase of the white being constant. The loss of weight during November and the early part of December is also shown on the temperature chart. One month after the accident he had lost three stone. The gradual gain in weight and appearance was coincident with improvement in the relative proportion of red and white cells.

The treatment was at first by giving cod-liver oil and iron, and increasing the quantity of fat in his food by administering bone marrow on toast. On November 29, at the suggestion of Dr. Toller, treatment by arsenic was commenced, and progress towards convalescence seemed to at once become more satisfactory. The daily rise of temperature ceased, and he improved in aspect, strength, and weight.

He left the hospital wearing an abdominal belt on December 18, and reported himself at the hospital on January 17, 1896. He then looked remarkably well; weight 12 st. 6 lbs., which was about the same as before his accident. Since the beginning of January he had been working at his occupation as a scaffolding maker, and expressed himself as able to do the work, but said he occasionally felt dizzy when working at a height. He was strongly warned against such heavy work, but insisted that it was not possible for him to do
light work, since he would not earn enough to support his family.

The patient was examined in February for enlarged glands. The axillary glands were found to be definitely enlarged. The cervical and groin glands were to be distinctly felt. No enlargement of the mesenteric glands could be made out. He was last seen on May 5, and was then in good health, and able to do his work. An examination of the blood was made, and it was found to be normal.

Note.—Our thanks are specially due to Mr. Abbott, the resident assistant surgeon, for his skilful help at the three operations, and to Mr. Davis, the house surgeon, for his attention to the patients and his careful notes.

Report by Mr. A. E. Russell on the blood of all three cases.

Case 1.—The last two blood estimations made in this case on the 21st and 26th of October showed that the blood had practically regained its normal condition. Nothing abnormal was detected in the character of the red and white corpuscles.

Case 2.—The results of ten estimations made from October 19 to December 9, 1894, showed that the blood gradually approximated towards the normal condition, i.e. there was a gradual increase in the number of red corpuscles and a corresponding decrease in the number of leucocytes; though even in the later estimations there was still slight excess in the number of leucocytes as estimated numerically, and this was still more noticeable as regards the number of white cells visible in a field of the microscope as compared with normal blood. Nothing abnormal was noticeable in the appearance of the red corpuscles, their size and shape were normal; no nucleated red cells were detected. Examined fresh the red corpuscles formed good rouleaux. There was nothing indicative of blood disintegration.

As regards the leucocytes, the ordinary types were present and no abnormal forms were detected. Examined quantitatively, the percentage proportions of the various types were found to closely approximate the proportion that obtain in normal blood; thus the multinuclear leucocytes ranged from 65 to 80 per cent., the lymphocytes from 11 to 21 per cent., the large mononuclear and transitional forms from 5 to 12 per cent., and the eosinophilous cells 1 to 2 per cent.

The figures obtained were—
One estimation of the hemoglobin was made on November 6 by Fleischl's hemoglobinometer, and the result obtained was 57 per cent.

Case 3.—In this case the results obtained were very similar to those obtained in Case 1 and Case 2,—that is to say, there was an initial diminution in the number of red corpuscles, and an increase in the number of leucocytes. As convalescence was established, the blood slowly returned to its normal condition.

The specimens obtained resembled those of Case 1 and Case 2, and the same remarks as to the blood-cells apply in this case.

The figures obtained were—

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One estimation of the hemoglobin was made; (about November 12), and the result obtained was 43 per cent.

As regards the method adopted, Gowers' hemocytometer was employed, and to facilitate the counting of the leucocytes they were stained a light blue by adding a small quantity of methylene blue to the diluting solution. The blood was

* Of the white cells there seems to be a slight excess of the polymorphonuclear leucocytes. There is no obvious disproportion of the eosinophile cells or of the lymphocytes.

† Nothing abnormal observed in the stained specimens.
Three Cases of Splenectomy for Rupture.

examined both in the fresh condition and after fixing, either by drying and passing through the Bunsen flame, or by means of a mixture of equal parts of ether and absolute alcohol. The fixed preparations were stained by eosin and haematoxylin, some by methylene blue, and some by a mixture of indulin, aurantin, and eosin.

Additional note by Mr. Russell (February 14, 1896).

This afternoon the following results were obtained:

Case 1.—Hæmoglobin, 75 per cent. (Fleischl's hæmometer). Red corpuscles, 5,040,000; white, 17,000 per c.mm. "The large number of leucocytes would probably be due to his having had his dinner three hours previously. Of the leucocytes the polynuclear forms amounted to 58 per cent. and the lymphocyte large mononuclear and transitional forms bulked together came to 42 per cent., which is higher than normal.

Case 2.—Hæmoglobin, 74 per cent. (Fleischl). Red corpuscles 4,660,000; white, 12,000 per c.mm.

Case 3.—Red cells, 5,530,000; white, 9000 per c.mm. "In this case, as in Case 1, there seems to be an excess in the lymphocytes, mononuclear and transitional forms, as they amount to 45 per cent., and the polynuclear to 53 per cent., whereas ordinarily the polynuclear forms vary from 65 to 80 per cent., and the other three together from 21 to 35 per cent."

REMARKS.

SYLLABUS.

1. Diagnosis of ruptured spleen.
2. The choice of the time for the performance of the operation.
3. The operation.
4. Treatment of the injured organ.
5. Cases previously recorded of splenectomy for injury.
6. The special symptoms following splenectomy in man.
7. The results produced by splenectomy in animals.
8. Physiology of the spleen.
9. Treatment.

1. Diagnosis of ruptured spleen.—The diagnosis in these cases was arrived at from the locality of the injury, from the evidence of internal haemorrhage, from the great increase in the fixed dulness in the splenic region, and from the fact that, though both flanks were dull on percussion, the
right flank alone became entirely resonant on change of position.

The explanation of the fixed dulness in the splenic region was manifest on opening the abdomen. Large quantities of clot occupied this region and extended down into the left loin, whereas the fluid blood travelled into the right loin and pelvis.

_Haemorrhage from a ruptured liver._—It must be very rare for such an injury to simulate a splenic rupture. A liver rupture almost invariably is in the right or mid-abdominal region.

In Cases 1 and 3 there was no reason to suspect a kidney lesion. In Case 2 a little blood was withdrawn by the catheter.

Although a diagnosis of haemorrhage from an abdominal organ can with certainty be made, yet until the abdomen is opened it is not possible to form more than a probable opinion as to the site of the lesion. In illustration an example may be mentioned. A case came under the care of one of us (P.) a few weeks ago. The patient was a man aged fifty, who was brought to the hospital twenty minutes after being struck on the left side by the shaft of a cab. He was collapsed and in profound shock. On examination a large amount of free fluid was ascertained to be present in the abdominal cavity, and the fact that he had fractures of two ribs over the splenic area made it highly probable that the spleen was ruptured. He was too ill to examine for shifting dulness, and died shortly after admission, in spite of saline and brandy infusion. At the autopsy the spleen was found intact, and the lesion consisted of a complete tear of the whole of the mesentery of the small bowel. There was no clot or mass of clot in the splenic region, and therefore, if the patient could have been thoroughly examined, the pathognomonic sign of large fixed splenic dulness would have been found to be absent. The unusually large proportion of colourless corpuscles in the splenic venous blood offers an explanation of the coagulation of the effused blood in ruptures of the spleen.

2. The choice of the time for the performance of the operation.—This is a most difficult question. Case 3 illustrates remarkably the variations in condition which may accompany such a lesion. On admission at 7.30 A.M. the patient was slightly blanched, but otherwise comparatively well. At 11 A.M. he was pulseless and apparently dying,
while at 3 p.m. he had so far rallied as to make operation a reasonable thing to undertake. Shock, due to the blow on the belly, and due also to the sudden escape of fluid into the abdomen, must be considered apart from that depending on great loss of blood. The question of the probability of a rally will tax the judgment of the most experienced. The patient with the ruptured mesentery was seen by us thirty minutes after the accident, and it was hoped that he might improve so far as to allow of an exploration. If, it had been a spleen rupture our experience warrants the belief that the bleeding would have been for, at any rate, a time arrested by the formation of clot around the organ, that the initial shock would have passed off, and that surgical interference could have been attempted.

The question arises, will saline infusion enable us to rally the patient and carry out the operation, however collapsed the patient may be? We fear that when acute bleeding is going on much improvement cannot be expected. The infusion appears to pass out rapidly through the open vessels, and to be of no service to the patient. In a wound of the longitudinal sinus one of us (P.) temporarily arrested the bleeding by sponge pressure. Saline infusion immediately caused an enormous outpouring of thin reddish fluid which did not clot. As soon as the wounded vessels can be efficiently controlled such infusion may be of inestimable service, and enable the rest of the operation to be carried out in full thoroughness.

3. The operation.—The steps in each of our cases were identical. The rule holds good for all doubtful abdominal conditions that a central exploratory incision should be first made. In the case of haemorrhage this will be of essential service; it is indeed indispensable for the clearing of blood from the lower part of the belly and pelvis, and at the moment its service is to clench the diagnosis of blood. The blood escapes at once in a stream through the anterior incision, the intra-abdominal pressure being clearly plus. As the blood escaped it was noted that the pulse improved. The lateral incision is likewise essential, so as to expose directly the suspected site of the lesion. In each of our cases the hand introduced in the proper direction found the spleen, determined the presence of a rupture, and enabled the organ to be drawn to the surface for inspection. During this process the vessels entering the hilum should be controlled; and the main difficulty which will have to be met is in consequence of the
firmness and cohesion of the surrounding clot obscuring the outline of the organ, giving a false impression as to damage, and even as to the site of the spleen.

4. Treatment of the injured organ.—The question arises, must it in all cases be excised? The fact that after splenectomy for rupture serious symptoms are likely to occur, in consequence of the loss of the organ, makes it clear that nothing but urgent necessity justifies its removal. The alternatives to be considered are (a) suture; (b) packing the rent and packing the organ in position with gauze; (c) ligature of the splenic artery. In neither of the cases under our treatment did either of these procedures seem advisable. When the rupture involves the vessels of the hilum, as it did in each of our cases, treatment by any measure less radical than excision would probably be dangerous. Again, the rhythmic contractions and expansions of the spleen clearly add to the difficulties surrounding the arrestment of haemorrhage from it.

(a) Mr. Stabb made an experiment for us. He caused an artificially ruptured spleen to be distended by means of a column of water nine feet in height. One rupture had been previously brought together by deep sutures, while the other was approximated by Lembert sutures. No escape occurred from the site of approximation by deep sutures, but the water flowed between the Lembert stitches slightly on full distension. On cutting the sutures the water poured from the ruptures in a torrent. Having no experience to guide us, we cannot say further than that we might be tempted to employ sutures in a favorable case.

(b) Packing with gauze.—Seeing the great depth of the spleen from the anterior abdominal wall, this plan does not appear very feasible. The spleen, too, could not be kept up well to an anterior abdominal incision without continued traction on the pedicle. It was observed that traction on the pedicle markedly depressed the pulse.

When a spleniculus is present the loss of the spleen is not so likely to be attended with serious symptoms, and excision can therefore be practised with less hesitation. The removal of blood and clot from the abdominal cavity, whatever the quantity may be, is best effected by the employment of warm marine sponges. Irrigation is not necessary, involves time, and adds a possible source of danger from sepsis.

(c) To apply a ligature to the splenic artery for haemorrhage seems open to objections. (1) The number and size of the branches make it more than likely that the surgeon might
mistake a branch for the main vessel. (2) The ligature of the splenic artery in animals causes the same blood-changes as excision of the organ. (3) If it be decided to leave the spleen, local treatment of the rent by suture would be preferable to so doubtful a procedure as ligature of the vessels supplying the organ.

5. Cases previously recorded of splenectomy for injury.—A considerable number of successful splenectomies for injury have been recorded in which there was an open wound and a prolapsed spleen. The results seem to have been more favorable when the spleen has been removed, than when it has been returned after being prolapsed for any length of time. *

In a few cases the spleen has been removed for rupture without external wound. Three fatal cases are at least on record.† The only successful case on record which we have been able to find was under the care of Riegner,‡ of Breslau, He gives a full account, of which the following is an abstract.

“A labouring boy fourteen years old fell from a broken scaffold upon a plank. He was at once taken to the hospital.

‘Condition on admission (May 17, 1892).—The boy is pale; he groans; there is severe abdominal pain, and he vomits brownish material, not blood-stained. Pulse small, weak, 110. Breathing shallow and jerky. Some abrasions of skin of left side of chest. Extravasations of blood under skin over left knee. No other visible injury.

* (a) Gustav Simon (Die Exstirpation der Milz am Menschen, Giessen, 1857) in 1857 published ten collected cases of total removal of the spleen for prolapse through a wound. All the cases were successful, but it was doubtful whether the whole spleen was removed in all cases.

(b) Mollière (Diction. de Sciences médicales, 3, ser. ii, 1883) in 1883 published a table of eleven splenectomies for prolapse through a wound, and all of these recovered.

(c) Gilson (Rev. de Chirurg., Paris, 1885, p. 317) in 1885 collected eighteen successful cases of splenectomy for the same cause.

(d) Riegner (Berlin. klinische Woch., 1893, p. 177) quotes Ledderhose, who in 1890 collected twenty-eight cases of extirpation of the spleen for prolapse through a wound, and in no case did death follow; while of four published cases of reposition of the prolapsed spleen three ended fatally.

The first case quoted by Simon was in 1673. In view of the various possibilities of treatment in cases of ruptured spleen without external wound, it is interesting to note that more than one case (those of Hannæus, 1698, and Julian Schulz, 1855; see Simon's paper) of prolapse of the spleen through a wound has been treated by partial extirpation of the organ.

† Lane (Lancet, 1892). Two cases, both males, aged four and fifteen years; and Trendelenburg, one case, a man aged forty-five (Gottschalk, Dissert., 1893), referred to by Oscar Vulpins of Heidelberg in his classical paper on the surgery and physiology of the spleen in the Beitr. z. klin. Chir., vol. xi, p. 667, 1894.

‡ Loc. cit.
"May 18.—The pallor has increased. The respiration is costal. Temp. 96·8° F. Pulse weaker than yesterday, 120—140. Circumference of abdomen increased. Abdomen very tender to palpation. The liver dulness reaches from the fourth rib to a finger's breadth below the costal margin. The subcostal region is dull on percussion down to three finger's breadths below the navel. The flanks are dull also. Urine was drawn off by a catheter, and is free of blood and albumen.

"It was clear that the boy was suffering from internal hæmorrhage, and the only question appeared to be whether there was a rupture of the liver or spleen. In favour of the spleen being ruptured were the facts that the abrasions were situated over the spleen, and that the dulness reached somewhat higher on the left side than on the right side.

"Operation, May 18 (day after admission).—The abdomen was opened in the middle line. The relations of the parts were obscured by blood. The blood appeared to come from the right hypochondrium, so a second transverse cut was made on the right side below the rib border. Around the liver blood-clot was found, but there was no sign of rupture of the liver. The bowels were now lifted up and packed away with compresses soaked in salt solution to the right, and a side cut was then made to the left. The spleen was found to be torn in two pieces. The lower half lay free in the abdominal cavity. The upper part was still attached; its vessels were ligatured, and it was cut away. The other organs appeared intact, and the peritoneum everywhere was smooth and shining. The wounds were closed by continuous sutures. 300 grammes of 6 per cent. solution of sodium chloride were injected into the subcutaneous tissue of arms and legs. The pulse, which was very poor, improved. The legs were swathed and raised. There was marked restlessness, and the pulse was very frequent. Digitalis was given, and twenty-four hours later the pulse was slower and stronger.

"May 21.—Pain in left foot, which is blue-black and anaesthetic. Next day the temperature was 103·1°. Gradually the whole foot became mummified, and a large moist slough appeared on the back of the left calf. The edges of the abdominal wound sloughed a little.

"June 13.—Left lower limb amputated by Gritti's method. Large glands were found in the popliteal space of the ampu-
tated limb, and there were obvious hypertrophic changes in the bone marrow of the amputated limb.

"June 15.—Inguinal and axillary glands enlarged. During the following weeks the cervical glands became enlarged, and a right supra-trochlear gland reached the size of a hazel-nut. The course of the case was smooth after the amputation.

"February, 1893.—Patient feels quite well. Some hernial bulging of wound. Enlarged mesenteric glands can be felt. All the external lymphatic gland systems are swollen somewhat. Still excessive numbers of leucocytes in the blood; proportion of white cells to red 1 to 180."

Riegner gives some blood examinations which were made in his case:

"Hæmoglobin (1st day after operation) 20 per cent."
"(21st day " ) 40 "
"(7 months " ) 80 "

"First day after operation.—Red blood-corpuscles, 2,500,000; leucocytes, 25,000.

"Seven months after operation.—Red blood-corpuscles, 4,700,000; leucocytes, 25,000."

It is noteworthy that Riegner’s boy patient, like our Case 1, did not suffer from certain special symptoms which we describe as following splenectomy for rupture in adults. The presence of red bone marrow in youth and its absence in age may offer a possible explanation.

6. The special symptoms following splenectomy in Cases 2 and 3.—Splenectomy for hypertrophy, or for any other alteration in the structure of the spleen, does not appear to be followed by serious illness or any special symptoms. In reference to this point, Vulpius’s table (loc. cit., p. 663) shows that operations on cases of wandering spleen have also often been operations on hypertrophied spleens. The absence of symptoms in these cases may be accounted for by the fact that compensation has already occurred.

The removal of the spleen in the adults (Cases 2 and 3) was followed by a very definite group of symptoms which cannot be explained except as a consequence of the loss of the organ. It must be borne in mind that the excision had been preceded by great loss of blood, and this loss may embarrass nature’s attempt at compensation. In Case 1, where a spleniculus was left, no change at first occurred beyond a temporary deviation from the normal numbers of the white and red corpuscles in the blood.

In Cases 2 and 3 the following symptoms were observed
some two weeks after operation, and after apparent convalescence was completely established:

1. Progressive loss of strength and loss of weight.
2. Extreme anaemia; cheeks sunken; aspect withered and sallow.
3. A daily rise of temperature from 1° to 3° F.
4. Increased frequency of the pulse.
5. Fainting attacks with increased pallor of surface.
6. Headache, drowsiness, great thirst.
7. In one case diminished, and in the other increased quantities of urine voided.
8. Severe griping pains in the abdomen and pains in the arms and legs, and in Case 2 teuderness along the tibiae.
9. Enlargement of the external lymphatic gland systems.
10. Blood changes: a diminution in the number of the red blood-discs. An increase in the number of the white blood-corpuscles. About one month after each operation the haemoglobin was found to be about half of normal in each case.

In each case a very slow convalescence took place, but at the present time both patients are in robust health, and have regained their normal weight. The external lymphatic glands have, however, remained enlarged.

7. The results produced by splenectomy in animals.—Most experimenters agree that the following changes occur in dogs, and to a certain extent in rabbits also:

1. A diminution in the number of the red blood-discs.
2. An increase in the number of the white blood-discs.
3. Active proliferative changes in the bone marrow.
4. Enlargement of lymph glands.
5. In dogs (Mosler) loss of weight, rise of temperature, and an illness from which convalescence is slow.

In a note* below we append further details of some of the researches which have been undertaken in this direction.

* (a) The ancients knew that the spleen was not essential to life. Pliny states that animals had survived wounds and destruction of the spleen; and Aristotle did not consider the spleen essential to life. (Quoted from Gilson in Revue de Chirurg., Paris, 1885, p. 317.)
(b) F. Mosler (Die Pathologie und Therapie der Leukämie, Klinischbearbeitet, 1872, Berlin) extirpated the spleen in thirty dogs; twenty-four survived. All the dogs became ill for a longer or shorter time after the operation. The temperature was raised and there was loss of weight (in one dog 5 lbs. in four days). Gradual recovery took place, with enlargement of the lymphatic glands. The red blood-cells were diminished, the white blood-cells immensely increased. In one dog, ten months after the operation, the mesentery was found studded with lymphoid masses the size of a lentil; these nodules, on microscopical examination, somewhat
8. Physiology of the spleen.—The results of the extirpation of the normal spleen in man, and the real functions of the resembled spleen tissue. The retro-peritoneal glands were enlarged, and showed on section numerous white spots resembling Malpighian bodies. In all the dogs the blood was paler than normal for months, and in all bone-marrow changes occurred. The bone marrow became red in colour, there was much diminution of fat; it was abnormally friable and soft, due to active cell proliferation.

(c) Zessa (Langenbeck's Archiv, Band xxviii, p. 157, 1882) removed the spleen in six rabbits. White blood-cells increased in number and size; red blood-corpuscles diminished in number and size, and paler in colour. The changes in the blood reached a maximum ten weeks from date of operation. The mesenteric glands became enlarged in all cases.

(d) Tizzoni (Archives Italiennes de Biologie, 1882, p. 22, et seq.) removed the spleen successfully in dogs of all ages. The disorders following splenectomy in dogs are (1) increased voracity, (2) increase in the amount of urine, (3) blood changes. Shortly after operation there is a temporary increase in haemoglobin (due to chloroform, and also due to the sudden arrest of the haemolytic action of the spleen). After this, in old dogs, the haemoglobin diminishes progressively and to a great degree, until it equals only 31 per cent. of the normal. Later, the percentage of haemoglobin rises slowly and progressively, reaching or surpassing the normal in seven or eight weeks. In young dogs the decrease of haemoglobin is much less marked, and may be attributed to the direct results of the trauma. At most the changes in the haemoglobin were oscillations a little on either side of the physiological mean. These facts show that the activity of some other haematopoetic organ compensates the abolished function of the spleen, while in old animals a certain lapse of time is necessary before compensation takes place, which time is taken up by that organ returning from its state of inertia. In old dogs it would appear that the haemolytic function is at once taken up by some other organs. At the post-mortem examinations three facts were noted:

1. Modification of lymphatic glands.
3. Changes in great omentum and peritoneum.

1. Glands enlarged and red. Dilation of lymph sinuses, and these crowded with cells like spleen pulp. 2. Marrow of bone hyperaemic. Absorption of fat of yellow marrow, and its replacement by red marrow, best marked at the periphery of the medulla and progressing inwards. The newly formed red marrow possesses the histological characters of normal red marrow. The only yellow marrow found unchanged was in the metacarpal and metatarsal diaphyses.

3. In the connective tissue of the mesentery and great omentum numerous small elastic nodules of lymphoid tissue, with bodies resembling Malpighian follicles, some looking like miliary tubercles and resembling under the microscope Malpighian bodies without surrounding lymphoid tissue.

(e) Winogradoff (Wratsch., 1883, Nos. 6 and 7, pp. 88 and 103) removed the spleen in dogs. He found the maximum change in the blood between the 150th and 200th day. The lymph glands were always enlarged, especially in the mesentery and neck. He states normal relation in dogs of weight of glands to body weight = 0.16 per cent., while in spleenless dogs the weight of glands = 0.26 per cent. of body weight.

(f) Konslow (Vratch., 1889, No. 19) removed the spleen in guinea-pigs. He found marked hypertrophy of lymph glands, and lymphocytosis lasting more than one year.

(g) Emelianow (Archives des Sciences biologiques, St. Petersburg, 1893, p. 136) studied the bone-marrow changes after extirpation of the spleen in seventeen dogs. The alterations in bone marrow were demonstrable a few hours after extirpation. The fat was broken up and emulsified; complex changes
viscus, are not well understood. We hope that the records of these three cases may be of value to physiological science, but the proper inferences to be drawn from the facts we leave to others to attempt.

9. Treatment.—The serious symptoms in Case 2 were treated by the administration of extract of sheep spleen and fresh bone marrow. Case 3 occurred at the time when Case 2 was slowly convalescing. It was determined, if serious symptoms arose, to treat them on general principles, so that some estimate of the value of the spleen extract might be arrived at. The improvement which followed the administration of the spleen extract in the one case was equalled by the improvement obtained by the administration of arsenic in the other.

Note.—We wish to acknowledge with thanks the time and care given by the Demonstrators of Physiology, Drs. Russell and Richardson, and the Surgical Registrar, Mr. Wallace, in making the many blood and urine examinations.

We also thank Mr. Collier for time spent for us in looking up certain facts in the literature of the subject.

followed until the marrow came to resemble the looser spleen pulp, and to be rich in nucleated red cells. He suggests that while the lymphatic glands take on the function of the Malpighian corpuscles the bone marrow functions for the remainder of the spleen pulp.

Vulpius (loc. cit., 1894, pp. 682 and 683) gives charts showing the rise and fall in numbers of the white and red blood-cells after splenectomy in the rabbit. The fall in red corpuscles is not so marked as the enormous increase in the white cells, which two weeks after operation may number 25,000 (or more) per c.mm. By about the sixty-fifth day the normal mean in the numbers of the red and white cells of the blood is reached.
PLATES II to VII.

Illustrating Messrs. Pitts' and Ballance's paper on Three Cases of Splenectomy for Rupture.
Case I.—Phrenic Surface.

\( n = \) Notch in anterior border.
\( c = \) Adherent and partly decolourised clot.
\( r = \) Rupture in posterior border, between phrenic and renal surfaces.
\( b = \) Large rupture in phrenic surface, nearly circular in outline, and extending deeply into the substance of the organ.

The injury was caused by a cricket ball.
CASE I.—GASTRIC AND RENAL SURFACES.

\( n \) = Notch in anterior border.

\( v \) = Vessels injured as they enter hilum.

\( k \) = Large area of bruised and ruptured splenic tissue, with adherent and partly decolouri-ed clot; the upper part of the renal surface is the region damaged.
Case II.—Phrenic Surface.

\( n \) = Notch in anterior border.

\( h \) = Haemorrhage underneath capsule of spleen.

The patient was a woman; she had been run over by a cab.
Case II.—Gastric and Renal Surfaces.

$h =$ Haemorrhage underneath splenic capsule.
$k =$ Renal surface.
$n =$ Notch.

Across the gastric surface is seen a transverse rupture, which extends into the hilum; it did not quite reach the notch.
CASE III.—PHRENIC SURFACE.

\begin{itemize}
  \item \textbf{n} = Notch in anterior border.
  \item \textbf{r} = Complete rupture through substance of organ.
  \item \textbf{h} = Separated capsule; hæmorrhage underneath.
\end{itemize}

The patient, a man, fell 7 ft. on to an iron girder.
Case III.—Gastric and Renal Surfaces.

\( n = \) Notch.
\( r = \) Complete rupture.
\( v = \) Ruptured vessels.

The renal surface is greatly damaged.
XVIII.—Two cases of Pyo-pneumothorax in the course of Typhoid Fever, and both due to straining at stool.
By W. Hale White, M.D. Read February 14, 1896.

It has so happened that within four months I have had two cases in which pneumothorax complicated typhoid fever, and it seemed to me that the event was so rare that it might be worth while to bring them before the members of this Society.

Case 1.—Mr. F. G., æt. 19, seen several times in consultation with Dr. De Burgh of Clapham. The patient was a strong, healthy young man, and the history went to show that he contracted typhoid fever in Venice in September, 1894. I first saw him on September 29, and then he had a moderate attack of typhoid fever with all the usual symptoms, including many spots. On the nineteenth day he relapsed, and fresh spots appeared a day or two later, those associated with the primary attack having died away. The relapse was very severe, for from the twenty-second to the thirty-fourth day the patient was continuously in a condition of muttering delirium with a dry brown tongue. During the latter part of the relapse the pulse became so very feeble that musk pills (gr. v) and an occasional strychnine injection were used. The temperature ranged very high, and frequent cold baths were necessary. Constipation was very troublesome, and for this enemata of soap and water were employed as seemed advisable. He did not sleep well with morphia, but he always got a fair night after twenty grains of chloralamide. From the thirty-fourth day his temperature gradually fell, his delirium passed off, and his tongue became moist. From the thirty-eighth to the forty-first day his temperature was usually somewhere about 101°, and he seemed to be doing well in all respects. About the thirty-fourth day we became aware that there was a little fluid at the left base, but the physical signs had never led us to suspect more than a few ounces, and except here the air entered well all over both lungs. For these reasons and because the patient was doing well the chest was never explored.

On the evening of the forty-first day while the bowels
were being opened after an enema, and the patient was strain-
ing a little, he suddenly became collapsed and livid, he broke out into a profuse sweat, and nurse could hardly feel his pulse. He rallied a little, and when I saw him at 10 p.m. he was better. He then obviously had a hydropneumothorax on the left side, the heart was displaced much to the right, and except for dulness due to the heart, and some dulness over the lower three ribs at the back, the whole chest was hyper-
resonant. It was distended, immobile, no air entered it, and a very well-marked bruit d'airain could be elicited. It seemed quite clear that in the act of straining he had ruptured the visceral layer of his pleura, the resistance of it being diminished by the inflammation of it which had existed for some time. In order to give the lung every possible chance of re-expanding we aspirated the fluid from the left base, but we only obtained seven ounces of serum, which, although a little turbid, was certainly not purulent, but it contained many flakes of lymph such as it is common to find on the pleura in a severe pleurisy. This relieved him a little. The next evening Dr. Frederick Taylor saw him with Dr. De Burgh and myself. There was no evidence of any re-accumulation of fluid, but to make sure, and also in the faint hope that the drawing off of some air from the chest might help the lung to re-expand, the pleural cavity was again aspirated, but without any good effect. Probably the air simply rushed down the trachea through the opening into the visceral pleura into the exhausted bottle. The pulse was still very weak and the respiration very laborious. This con-
dition was maintained during the next, the forty-third day, but on the early morning of the forty-fourth day the pulse suddenly failed, and the patient died almost before Dr. De Burgh could arrive.

Case 2.—Thomas R., age 12, was admitted into Guy's Hospital, January 18, 1895, for great weakness, pyrexia, and diarrhoea. His clinical clerk was Mr. Every-Clayton. He had felt unwell, and had had a headache for a fortnight, and for the last ten days had been confined to his bed, suffering from severe diarrhoea with yellow motions, epistaxis, some vomiting, and pains all over him.

On admission.—His temperature was 104·6°, his pulse 130, and his respirations 38. There were some rhonchi in the chest, and some albumen in the urine. No spots were seen, but the boy had the aspect of a patient suffering from
typhoid fever; the spleen was enlarged, and his tongue was typical.

I need not weary the Society with an account of his attack of typhoid fever. Spots were seen two days after admission. The illness was severe, and the temperature necessitated frequent sponging. There was much diarrhoea and delirium, and he always had numerous rhonchi in his chest. The pyrexia began to lessen on January 29; from that date it declined regularly, and the temperature reached the normal point on February 7, the diarrhoea having ceased the day before. On February 4 a pleuritic rub was heard in the left infra-axillary region, but this disappeared on February 7. On February 8 and 9 the temperature slowly mounted again, and reached 102° on February 10, but this was coincident with the formation of a small abscess over the sacrum, and when this was opened and an ounce of thick pus let out on February 10 the temperature at once fell to normal.

On going over his chest on the afternoon of February 11 I noticed that the note was considerably impaired over the right base below the angle of the scapula, and over a spot close to the spine at the level of the ninth rib the entry of air was particularly deficient. As the signus made me strongly suspect fluid in the right pleural cavity, I tried in two places to discover it with an exploring needle, but failed to withdraw any. His temperature this evening ran up to 103°. The next day, February 12, a vivid red hyperaemic patch suggestive of a septicaemic rash appeared on his right elbow. During this day the temperature ranged between 102° and 104·4°; and at about 11.30 in the evening, while I was in the ward, the patient suddenly coughed up some excessively foul pus.

February 13.—When the boy was seen this afternoon his temperature was 103·2°, and he was coughing up very little pus, and therefore it was arranged that Mr. Dunn should come at 4 p.m. on the 14th, and make a dependent opening in the chest, so that empyema might drain better.

February 14.—At 2.10 p.m., when I was in the ward, the boy quite suddenly, while straining at stool, became very livid, covered with sweat, in a state of urgent dyspnœa, almost pulseless, and unconscious with dilated pupils. The upper part of the right chest gave all the signs of pneumothorax; the lower part, especially in the anterior axillary line, was very dull, and it appeared clear that a localised empyema, which already communicated with a bronchial tube, had burst into
the pleural cavity, and that the boy had a pyopneumothorax. Immediately he was seen some strychnine, and shortly after some brandy, were injected subcutaneously, and the oxygen apparatus was fetched. This arrived in about five minutes, and the boy, on breathing the gas, began to improve in colour. I then put an exploring needle in the posterior part of the dull area, and withdrew some brown pus. The clinical assistant then opened the empyema here, and $\frac{5}{4}$ of very foul brownish pus escaped. The boy was so completely unconscious and collapsed that, although no anaesthetic was used, he did not flinch in the slightest. Directly the pus was evacuated his colour and pulse improved, and so the oxygen inhalation was discontinued after it had been employed about three quarters of an hour. The patient was wrapped in a hot blanket, and given some brandy and milk and eggs. At 7 p.m. he had regained consciousness, and was talking. For several days there was a profuse discharge of pus from the chest, but this gradually ceased, and the boy's general health rapidly improved. On February 23 the drainage-tube was left out. On March 15 he got up, and on the 28th he was able to walk, and on April 18 he went to a convalescent home. The air did not enter quite so well at the right base as the left, but otherwise he seemed perfectly well. The wound had completely healed.

Weintraund (Berl. klin. Woch., Jahrg. 30, No. 13, p. 346) records a case of empyema after typhoid fever. Typhoid bacilli were found in the pus.
A YOUNG man, of fair physique but somewhat pale, æt. 24, was sent to me by Dr. Qualtrough, of Holloway, on May 7, 1891.

His father is an asthmatic of some years' duration, but he is in good health. His mother, brothers, and sisters are all in good health. He had a slight attack of pleurisy in January, 1891, but he was laid up only a short time, and he is said to have had no fever with it, but as he was in good circumstances and not strong he went to Bournemouth, and then to Southsea for a few weeks before he went back to business as a clerk. When questioned about himself he said that he had had flying pains about his chest for some time, but except for this, and that, on pressing him, he said that on running upstairs a week before I saw him he had felt puffy in his breathing, there was really no history of the onset of his condition.

He was pallid and short of breath, with well-marked pneumothorax of the right side. The chest was hyper-resonant; there was no proper entry of air; there was pronounced metallic tinkling, and the heart was displaced to the left.

He was kept quiet for a short time, and then sent off to Torquay, and returned in two months' time, having gained sixteen pounds in weight, both sides of his chest being equal in movement, and, indeed, in all respects he was quite well.

On July 5, 1892, he was sent to me again with a pneumothorax on the left side. He had been perfectly well until two or three days before I saw him, when on being called for dinner he jumped up suddenly, and felt himself again puffy. As before, he had had in the preceding two or three months flying pains about his shoulders and chest, and thinking these due to a cold he had once stayed indoors for a few days, but there was no definiteness about them.

He was pale and clammy. His left chest was now decidedly drummy, the apex more so than the base. The heart's impulse was displaced to the epigastrium and to the right
side of the sternum. The impulse is most in the epigastrium, but on auscultation the sounds are much louder to the right than to the left side of the sternum. Air enters badly all over the right side of the chest, and at the apex chiefly, but also round the nipple there was well-marked metallic tinkling, although the bruit d’airain could not be elicited. As on the former occasion, there was no real distress, and he considered himself very well. He was never laid up, but was kept quiet, and he was away all the autumn and winter as a precaution. When I saw him again he was quite well; there was no difference between the two sides of his chest, and he has remained well ever since.

Dr. Qualtrough has kindly reported to me that when he last saw him in 1895 he was quite well.

The interest of the case seems to lie in the pneumothorax occurring first on one side and then on the other, and in neither case with any apparently adequate cause; that the air was rapidly absorbed on each side, and without giving rise to any evidence of pleuritic disturbance.

I should suppose that the rupture of an emphysematous bleb on either side was the most plausible explanation of the occurrence.

CASES of lymph-scrotum and of lymph-varix, in which the distending fluid is chyle, and not simple lymph, are of sufficient rarity in this country as to warrant the recording of every one; and more so if, as happened in one of the two cases I am about to narrate, the patient is English born and has never been out of Britain. Further, a definite line of treatment was successfully carried out in both, and so a special clinical interest is attached to the subject. The first case is one of lymph-scrotum.

Alexander W., æt. 16, was admitted in September, 1895, into Guy’s Hospital under my care, on account of cutaneous swellings on the left side of the scrotum. It was stated that only since he was about seven years of age had these small swellings been known to exist, and the lad’s mother further said that there was nothing wrong with the scrotum at birth, nor for some years after. During the last year the swellings have increased in number, and the lad has been very much annoyed by the fact of their bursting when he takes active exercise, and discharging for many hours a milky fluid in considerable quantity. He says that it is the friction of the clothes that causes this, and not mere strain from exertion. He is a well-built, muscular lad, well nourished, and when flushed he looks in good health, but at other times he has a white and almost chlorotic complexion. He is occupied all day as a typist, and is unusually quick and intelligent for his station in life. He is a great athlete, and it was his inability to continue his sports, on account of the scrotal leakage, that made him apply for relief. He is English born; he has never been out of the British isles; he lives in London, and has never to his knowledge been in Essex. On the left side of the scrotum, and but very slightly on the right, are a number of vesicles or saccules, mostly the size of millet seeds, though some are much larger, arranged in rows, forming moniliform lines, and, on the whole, following the direction of the natural creases of the dartos. The lines converge towards the groin, but are lost before reaching the external
abdominal ring; but underneath the scrotum they can be traced as disseminated vesicles for a short distance along the perinæum. There is no enlargement of the lymphatic glands in the groin or elsewhere, nor is the spleen or any other organ enlarged or abnormal as far as can be discovered.

On pressure the vesicles (which are not on inflamed bases, and appear like passive distensions) are easily emptied, but refill the moment pressure is removed. If pricked they run freely, discharging a yellowish milky liquid, which runs almost continuously at first, and then in drops, finally ceasing on the pressure of pad being applied after some hours. The flow is so free at first that pads are quickly soaked, and have
to be often renewed; but after some time the pressure controls it, and the now shrunken vesicles seem to dry up, and all running stops. The liquid is always milky, though less so sometimes than at others—as, for instance, when fasting; it has microscopically the appearance of chyle, and it clots readily after being collected in a vessel.

The patient's urine was normal, and no history could be obtained of its ever having been milky. The blood, as well as the fluid obtained by puncturing a distended lymph-vessel, was repeatedly examined, both by day and night, both with and without staining reagents, but nothing abnormal was seen: no filariae were ever found.

With this negative evidence as to the origin of the obstruction to the return of chyle through the thoracic duct, no one theory could be adopted as explaining the case. Congenital stenosis of the thoracic duct was negatived by the history, whilst the fact of the lad never having been out of England seemed to exclude the idea of filariae, and the failure to find the parasites under the microscope was what was anticipated. There remained the possibility of some enlarged (?) tuberculous mediastinal glands; and though an examination of the chest gave no evidence of their presence, this view was adopted, as likely to explain the varicosity of the scrotal lymphatics, by my colleague Dr. Perry, at whose out-patients the lad first appeared, and to whom I am indebted for the case. Dr. Perry was anxious that something should be done to stop the chyle leakage, whatever the primary cause might be.

After keeping the lad under close observation for a month, I decided to obliterate the scrotal lymphatics by removal of the right half of the scrotum. This I did on October 18, and succeeded in closing the wound, the surrounding skin being sufficiently elastic for the purpose.

At the operation the bleeding was insignificant, and there was no loss of chyle until the track of the lymphatics towards the perineum was cut across; then from one or two vessels the flow was very free. The fluid was only partly opaque, for the lad, beyond a very slight breakfast seven hours before, had had nothing to eat since the preceding day. Torsion failed to arrest the flow, so the leaking points were ligatured with silk. The flow was like that from a vein, and without any appearance of being forcibly caused. The incision at its upper end was purposely prolonged over the cord, and this was carefully examined, but no enlarged lymphatics could be seen. The testicle was not enlarged, and showed no

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lymphatic dilations on its surface. The tunica albuginea was normal. The scrotal tissue removed was quite normal in consistency, and not indurated, the dilated lymphatics appearing on the surface of the skin for a time as minute points of shrunken epidermis, and soon could be scarcely distinguished.

A microscopical specimen subsequently prepared by Mr. Bellingham Smith, the Surgical Registrar, showed in the dartos numerous dilated lymph spaces lined with endothelium.

The after treatment calls for no remark. Primary union was obtained along nearly the whole wound, and the patient got up for the first time at the end of a fortnight. During healing there was no leakage whatever, and the few vesicles on the right half of the scrotum disappeared.

The lad was discharged cured early in November, and, except that the left testis seemed to have the scrotum fitting tightly over it, nothing abnormal was to be seen. He presented himself for examination only three weeks ago from the present time (February, 1896), and had returned to his work and to his sports: he was perfectly well; there had been no return of the varicose lymphatics, and the urine was normal.

Cases of chylous discharge from the surface of the body are to be found in medical literature, and whilst I suppose most have a filarous origin, this is not always the case.

In vol. xlvi of the Medico-Chirurgical Transactions, p. 57, is a remarkable case much resembling mine in many points, especially in there being nothing in the history suggestive of filaria; nor were the lymph glands anywhere enlarged. The dilated lymphatics were on the thigh, and were first noticed twenty-one years before the patient was seen, coming on shortly after her first confinement. The case was communicated to the Society with a full commentary, and a very good coloured plate by Dr. A. B. Buchanan, of Glasgow.

What determines the particular area that shall become varicose I am unable to discover; but the superficial lymphatics of the urinary tract, and those of the leg and scrotum, seem to be the commonest affected, causing, when varicose, chyluria and external leakage respectively. The clinical interest of these cases, however, is in their treatment. As to the operation that I performed, it was done after I had had the advantage of a consultation with Dr. Manson, who kindly saw the case with me.

Inasmuch as the lymphatics seemed more distended
towards the perineum, and not to reach as far as the groin, I thought that the greater chyle pressure was probably from below through the perineum, and not by way of the groin lymphatics; and I suggested to Dr. Manson the removal of a transverse band of skin and superficial tissue in the perineum, so as to substitute across the path of the lymph vessels a band of cicatricial tissue. This, however, he informed me he had known to have been done, and did not advise it: he considered the free removal of scrotal tissue the better course to adopt; his suggestion I therefore followed.

One objection to operation presented itself: for regarding the distended lymphatics as a safety-valve for an overloaded thoracic duct, it was possible that their removal might cause distension of other superficial lymph vessels, and most likely those of the urinary tract, and cause chylous urine; this, however, has up to the present not occurred.

The influence on the lad’s health, in the long run, of the loss of chyle at repeated intervals was a further factor in deciding to operate. Up to twelve months before admission the narrowing of his thoracic duct cannot have injured him, for he is a particularly well-made, muscular lad; but his present sallow and waxy complexion may be due—and probably is so—to the occasional leakages that within the last year have commenced. In the case of the woman that I have just quoted there was marked cachexia, which was referred to the frequent loss of chyle; but she had stood twenty-one years of leakage without material detriment to her health.

It would add much to the interest of this case could its ætiology be cleared up, but for the present it is not possible to do so; and I can only draw special attention to the clinical aspect of it, the reasons that led me to operate, the mode of operation, and the success that followed the line of treatment adopted. What Dr. Manson wrote to me after seeing the case, and examining both the blood and chyle, will interest the Society. I will read an extract from his letter. “I stained and examined the three slides of scrotal chyle you so kindly sent me. They contain no filæ. This case is probably one of thoracic duct obstruction of non-filarial origin. The absence of filarial embryos from the blood and scrotal chyle does not altogether negative a diagnosis of filarial obstruction, for the worms sometimes die after they have wrought irreparable thoracic duct mischief; I have seen this frequently, . . . but considering the fact that your case
occurred in a boy who had never been out of England, I think the filarial origin a highly improbable one."

**Case of Varix Lymphaticus.—**R. B. M., æt. 47, who had long resided in Ceylon, but of late years in England, consulted me in July, 1890, for an ordinary hydrocele on the left side. At the same time I observed that he had on the right side a characteristic inguinal bubonoccele, and on the left, besides the hydrocele, was apparently also a small inguinal hernia. It was soft and reducible on lying down, and had existed three years, yet I particularly noted that the external ring was a mere slit, and not suggestive of the passage of a hernia. The inguinal glands were not enlarged. A suitable double truss was ordered, and in October I cured the hydrocele by injection. I now observed and noted that the truss on the left side did not act, that the protrusion came down in spite of it. An alteration was made in the truss to meet this. Six months later—April, 1891—the patient again consulted me; the left hernia still came down under the truss, and I noted that it felt more like omentum than bowell, and was not now completely reducible. For this last reason I advised exploratory operation with a view to radical cure. This I did in May, 1891, and my note made at the time is as follows. An oblique incision was made over the neck of the scrotum, and the omentum-like protrusion was exposed. I found it exactly like a varicocele, of thin-walled curling, not moniliform vessels, of all sizes up to that of a 12 catheter. They were of a pure milky white colour, being distended with a milky fluid; they extended down the cord, just as a varicocele, as far as the testes, and upwards through the inguinal canal. Having isolated the vessels, I ligatured them first at the external ring, and the congeries of vessels at once became much more distended. I applied a second ligature where they seemed to touch the testis, and removed the whole mass. On its being cut, milky white opaque fluid poured from it, and continued to drain from it until it lay on the table a collapsed mass of thin-walled vessels. Beside this lymph-varix I could find no other protrusion, but I approximated the pillars of the ring with sutures. Recovery was rapid and uneventful.

On examination after removal the vessels looked like thin-walled, over-distended veins,—that is, there was no sign of constrictions at intervals as seen in lymphatics, but this appearance might have been destroyed by the extreme dis-
tension. The milky fluid gave microscopically the appearance of chyle, and no filariae could be discovered in it. It is much to be regretted that I subsequently failed in obtaining an examination of the patient’s blood at various times, but the distance from town and other circumstances rendered any attempts futile; still the patient’s long residence in Ceylon probably makes the diagnosis of filaria a true one. At the operation nothing was observed abnormal about the testis in size or appearance. I did not observe any dilated lymphatics upon it.

The surgical interest centring round this case is in the diagnosis and treatment.

The patient having a bubonocele on the other side perhaps biassed me in regarding the left swelling as hernial also; its intrinsic character, however, warranted that opinion, though the smallness of the external ring made me feel a little uncertain. In vol. xii of the Revue de Chirurgie is a paper by M. Moty, “Contribution à l’étude de la Filariose,” in which he gives details of six patients who consulted him in 1890–91 for what may be termed the surgical side of filaria. Two came under his care as cases of hernia, two for enlarged testes, two for glandular (lymphatic) enlargement. Of the supposed hernia cases, one (Case 6 in his list) presented a considerable swelling in the scrotum, especially on the left side; it diminished on lying down, increased on exertion, and was only imperfectly reduced by taxis; the testis was double its normal size, and from it a dilated cord passed up the canal. The swelling appeared too soft for omentum, and, as the neighbouring glands were enlarged, the diagnosis of varix lymphaticus, of filarial origin, was given, and confirmed by an examination of the blood. Nothing surgical was attempted.

The other case (Case 1 on his list), a young man æt. 28, on making an exertion one day felt a sudden pain in the right groin, and putting his hand there discovered for the first time a tumour. M. Moty, when he saw him, diagnosed omental hernia, the tumour being soft and partly reducible. The right testis was much enlarged and hard, but this, the patient said, had always been the case. M. Moty, however, adds, “I had at the first felt some doubt as to this really being a hernia, but the patient’s account was so explicit, and the tumour had so manifestly appeared after a day’s hard work and overstrain, that by degrees I forgot my first impression.” He operated, and found the testis thrice its natural size, bossy, with small dilated lymphatics, which extended up the
cord, and presented dilatations which he compares to those on the large intestine. This varix, then, was the hernia! He closed the wound and did nothing more. Apparently no examination by the microscope was made; but he elicited from the patient, who was a negro from Cayenne, that the urine had occasionally been very cloudy.

In my case the testis, as I have said, was normal. I could obtain no history of chyluria. The patient himself was a thoroughly healthy man; and because this swelling increased and gave him pain in hunting he was anxious for its removal. This cure has been perfect, and there has been no return nor any chyluria, at least up to a year ago, when I last saw him. It should be further noticed that though the varix existed at the same time as the hydrocele, for which he first consulted me, yet the fluid in the latter was of the ordinary character. His case differs from M. Moty's in the fact that the distended lymphatics had quite lost their moniliform appearance, and this was not the case in M. Moty's patient, as in the account I have just read the moniliform appearance suggested the comparison to large intestine in miniature.

The removal of the dilated lymphatic area would seem to be the right treatment in these cases, and despite the fear of chyluria supervening, as undoubtedly it has been known to do, it is by no means certain that it need of necessity do so. Of all the cases of varicose veins that are so frequently operated on, some at least must be due to defective blood return high up, and not to local lesions of the valves of the veins; yet, in my experience, all do equally well after operation, and the removal of the venous varix at one part is not followed by the appearance of another elsewhere, nor does the fear of this occurring deter a surgeon from operating. There appears to me, too, to be a greater reason for operating in the case of dilated chylous lymphatics than in venous varices, for in most cases of the latter disease the operation is more one of expediency than of necessity, but where lymph vessels are exuding chyle from time to time, a deterioration of the general health may be looked for sooner or later, unless steps are taken to stop the loss.

With the experience of this case before me, the combination of an irreducible (apparently) omental hernia, enlarged glands in the groin (as in Moty's case, though not in mine), and prolonged tropical residence, will certainly make me cautious in giving the opinion that it must be a case of hernia; and it is quite conceivable that at this moment there are
patients condemned to wear trusses for inguinal protrusions which, after all, have a lymphatic origin.

In neither the scrotal case nor in that of the lymph-varix was there any enlargement of the glands, and in connection with this it should be observed that the greater pressure of lymph (chyle) seemed to come from below up. In the lad’s case no enlargement of the lymphatics could be traced towards the groin, and in the case of varix I have already mentioned that the first ligature was applied just below the external ring, and that at once the mass of dilated vessels swelled up. In this case the dilated lymph vessels were known to extend up the canal out of reach, and whilst suggesting thereby the route by which the greater pressure of chyle came down, the circulation in the opposite direction seems, to say the least of it, to have been very free indeed, or the swelling after ligature above could not have occurred.
XXI.—A case of Neoplasm Cyst in the region of the Angular Gyrus, causing sensory aphasia, alexia, and agraphia, treated by operation. By W. S. Colman, M.D., and Charles A. Ballance, M.S.

Mrs. G., æt. 31, a highly educated woman, until the present illness had had extremely good health. She had had four healthy children and no miscarriages. The first symptom appeared in December, 1894, ten months before death, when she had a fit. She was alone at the time, and thought she did not lose consciousness; but when found by her maid she had foam on her lips, and was unable to speak for an hour or two after the attack. Next day she was well again, and continued in her usual health, busily occupied with matters that involved much mental strain until May, 1895. It was then noticed that she mis-spelled words, and that she was unable to recognise the error when it was pointed out to her. In reading a newspaper she required to read a paragraph three or four times before she could grasp its meaning. These symptoms were entirely at variance with her previous powers.

She began also about this time to complain of pain in the head, accompanied on one or two occasions by vomiting. In June, 1895, she noticed that her right hand was weaker than formerly, and that she occasionally dropped things—as, for example, her comb when dressing her hair.

On July 3 she consulted Dr. Buzzard, who has most kindly placed his notes at our disposal. He found that she had difficulty and hesitation in expressing herself verbally, and that when she attempted to write the disability was very marked. Thus, in attempting to write "I was born in Sydenham in 1863," she slowly traced,

Born 1863. Shedom.

Her speech was hesitating, and she tended to drop out syllables. The right grasp was feeble; there was, at times only, slight facial or lingual paralysis. There was a subjective sensation of numbness and heaviness in the right arm, and the right leg felt "different" from the left, but no anaesthesia could be discovered on testing. The knee-jerks were difficult to elicit, especially on the right side. The optic discs were
standard. Under large doses of iodide of potassium there was temporary improvement for some weeks; but at the end of July the pain became much aggravated in intensity, vomiting was of frequent occurrence, the right hand became weaker, and the speech defect more marked. It was impossible to elicit the right knee-jerk, and Dr. Buzzard found very slight blurring of the optic disc, most evident on the right side. On August 9 (Dr. Buzzard being abroad) the patient was seen by one of us (C.) in consultation with Dr. Mackern of Blackheath. It appeared that for five days she had been in continuous pain with frequent vomiting, the pain being of an agonising character, causing her to scream and preventing sleep. It was frontal in position, radiating back to the occiput. There was no localised tenderness, but she resented pressure on any part of the scalp. The face was expressionless, but quite symmetrical both at rest and when moved voluntarily. The tongue was protruded straight. The ocular movements were normal. There was great weakness of the right upper extremity, affecting movements of the hand more than those at the shoulder. The grasp on this side was extremely feeble; it was doubtful whether there was any loss of power in the right leg.

Sensation.—There was blunting of sensation to touches and pricks over the whole of the right half of the body. This was most marked in the arm, where she was quite unable to distinguish between the point and the head of a pin. (A day or two before she had allowed her right hand to rest without discomfort against a hot water tin, which was so warm that when her left hand accidentally touched it she drew it back with a cry of pain.) Owing to her condition it was impossible to test her powers of localisation. This, however, was done later.

Speech.—She hesitated before speaking, and then jerked the words out sharply with an effort. She frequently had difficulty in recalling an appropriate word, and substituted some quaint or unusual expression, but did not use words which conveyed a wrong meaning. As she was so ill a long investigation could not be made, and her powers of reading and writing were not tested; but her husband said that the difficulty of understanding what she read had much increased of late, and that her letters were full of most absurd mistakes, words being spelled grotesquely or altogether omitted. There was no obvious defect of hearing.

There was now definite although slight swelling of both
optic discs. There were no hæmorrhages. Vision was not impaired, and there was no hemianopia.

The left knee-jerk was very difficult to elicit, and the right could not be obtained at all. There was no trouble in swallowing, and no loss of control over the sphincters.

The pulse was 68 and regular. Her respirations were natural, but she was said to have stopped breathing several times during the night.

It seemed evident that there was a tumour in the left hemisphere, causing paralysis of the right hand, aphasia, and some hemianæsthesia to touch, pain, and heat and cold. The characters of the aphasia, especially in the early stage, were as has been indicated, of a sensory character, connected with the meaning and spelling of words. This appeared to indicate a lesion around the posterior end of the fissure of Sylvius. That the aphasia was due to a lesion in this situation rather than in the frontal lobe was confirmed by the escape of the face and tongue.

The diagnosis was made that there was a tumour lying in the centrum ovale beneath the angular gyrus and superior temporo-sphenoidal convolution, interfering with the fibres passing from those regions to Broca's convolution, and to the region concerned in writing movements, interfering with the fibres passing from the arm centre in the Rolandic region to the internal capsule, and also pressing on the internal capsule itself to produce the partial hemianæsthesia. The absence of hemianopia appeared to indicate that this pressure on the internal capsule was not very great.

From the general condition of the patient it was evident that the intra-cranial pressure was rapidly increasing, and that the patient's life was endangered. Surgical interference was therefore strongly recommended to her friends, with the object of relieving pressure and freeing her from the intense pain.

The next day she was removed to a Surgical Home, where we saw her together. The diagnosis and localisation were confirmed, and, as her stupor was rapidly deepening, it was decided to operate next day.

Next day, August 11, at 9 a.m., she was unable to speak, although she made attempts to do so. The optic neuritis was more distinct. She was more drowsy than on the previous day, and just before the operation at 4 p.m. she passed water unconsciously.

August 11.—First stage of operation: removal of bone.— (It had been previously decided after consultation to remove
that portion of the parietal bone which covered the left inferior parietal lobule, and to do this freely).

The scalp having been prepared in the usual way chloroform was administered, and a large Horsley's \( n \)-shaped flap of scalp and periosteum was thrown down (see Plate VIII). The bones exposed included the lower part of the parietal, the upper part of the squamous, and the posterior one inch of the frontal. Above the parietal bone was cleared to within one inch of the sagittal suture, and in front and below the coronal and squamo-parietal sutures respectively came in part into view. The bleeding from the scalp was then arrested, and the scalp flap wrapped up carefully in moist gauze.

The portion of bone to be taken away was then marked out by means of a large saw. It was in shape a parallelogram whose anterior and posterior borders running parallel with each other were planned also to run parallel with the sulcus of Rolando. The exposure of the coronal and squamo-parietal sutures made it easy to determine with precision the position of the sulcus of Rolando. The anterior incision in the bone was \( 3\frac{1}{2} \) inches long, and was \( \frac{1}{4} \) inch behind the coronal suture below and nearly 1 inch behind it above. The posterior border of the opening was measured at the close of the operation and found to be \( 2\frac{5}{8} \) inches long. The upper boundary was \( 3\frac{1}{4} \) inches long, and in front was \( 1\frac{3}{8} \) inches from the sagittal suture, and behind \( 1\frac{3}{4} \) inches, so that it was not quite parallel with the median line of the head. The lower border was \( 3\frac{3}{8} \) inches in length, and passed along just above the squamo-parietal suture. The portion of skull thus marked out for removal involved only the parietal bone, and when removed would allow of the free exposure of the parietal lobe of the brain below the intra-parietal sulcus as well as the posterior part of the superior temporo-sphenoidal convolution.

The removal of this quadrilateral portion of the parietal bone was then accomplished by the large saw, by means of which it was divided up into small quadrangular pieces by vertical and horizontal cuts. These pieces were then easily raised from the dura by the elevator. As soon as one piece had been removed the use of a strong bone-cutting forceps facilitated the final separation and removal of the pieces into which the bone had been mapped out by the saw. In this way the dura was exposed without injury, and the branches of the middle meningeal artery lay upon it without having been wounded. It should be added that the bone was
extremely hard and thick, there being very little if any cancellous tissue, the bone being nearly solid from outer to inner table. The dura bulged greatly into the opening, and there was obviously much increase of intra-dural pressure. So great was this pressure that two of the meningeal arteries (see Plate VIII) were empty and collapsed. The scalp flap was now replaced in position and sutured with stitches of silkworm gut. The usual dressings were applied.

The improvement next morning was remarkable. She was completely free from pain, and expressed herself with much less difficulty. The face was no longer expressionless, and was quite symmetrical. The hemianesthesia and anaesthesia of the right arm had entirely passed off, and she could discern the slightest touches.

August 18.—Was quite bright and comfortable, and interested in outside matters. The right grasp was now nearly as strong as the left. She walked with rather an unsteady, waddling gait, but without any apparent weakness of the right leg.

Sensation.—Light touches and pricks were perceived everywhere, but not quite so distinctly on the right side as on the left. Sensation to pain was not so acute on the right forearm and hand as elsewhere.

Localisation.—On the face and on the trunk localisation of a touch or prick, the eyes being closed, was accurate and prompt, and on the right leg the inaccuracy was very trifling. From the right shoulder to the fingers, however, the errors of localisation were remarkable. If touched on the fingers she referred the sensation to the head of the index metacarpal bone. If touched on the hand she referred it to the front or back of the wrist. If touched anywhere higher than the wrist, whether on the forearm or over the deltoid, she still referred the touch to the front or back of the wrist, according to whether she was touched on the flexor or extensor surface.

On ophthalmoscopic examination the discs were more swollen than before the operation, the summit being seen with +2·5 D. There were no haemorrhages and there was no exudation. The temperature had been normal since the operation.

August 20.—She had vomited several times during the night, and the pain in the head had returned.

August 21.—Second stage of operation: exposure of brain and drainage of cyst.—The temperature of the room was
raised to nearly 80° F., and the patient was wrapped in flannel and surrounded by hot bottles. One quarter of a grain of morphia was injected subcutaneously ten minutes before chloroform was administered.

The scalp flap was thrown down as soon as the patient was anaesthetised. The dura was found if anything more tense and bulging than at the first operation. A flap of dura was cut corresponding to the size of the opening in the bone and thrown down (see Plate IX). The brain at once rose through the opening, and the cortex below and behind the intraparietal sulcus was seen to be thin and translucent. The summit of the bulge corresponded with the angular gyrus, but the cortex was thinned also over the supra-marginal and superior temporo-sphenoidal convolutions. An incision through the thinned cortex exposed a subcortical cyst, and gave exit to a considerable quantity of clear fluid, brown in colour and thick in consistence, this latter quality being associated, as we subsequently found, with its liability to coagulation. The incision in the cortex was enlarged so as to allow of all the "fluid" in the cavity being removed. As the last of the fluid coagulated, it could not be got rid of except by wiping the sides of the cyst with small cotton wool mops. The cyst was measured; from front to back it was 2½ inches, from above downwards it was 2 inches, and it was about 2 inches deep measured from the surface of the thinned cortex over it.

The inner aspect of the "cyst" was carefully examined for any appearance of tumour, but no sign of new growth was made out,—in fact, the interior of the cyst resembled exactly normal brain substance: it was smooth, but the surface was uneven, furrowed, or undulating.

During the exposure of the brain constant and gentle irrigation with solution of mercuric perchloride (1 in 2000) at 100° F. was kept up. The operation area was thus kept free from blood, and no mopping or touching of the cerebral cortex was permitted. The dura mater flap was sutured in position by many horsehair stitches, while silkworm gut was used for the same purpose in the scalp flap. A hole was made through the scalp and dura flaps, by means of which a drainage-tube was passed into the subcortical cyst, its other end being fixed to the margins of the opening in the scalp. The usual dressings were applied. The patient was not collapsed at all after the operation,—indeed, it could scarcely be said to have affected her at all except in the way of improve-
ment. She vomited frequently after recovering from the anaesthetic. She talked clearly during the afternoon, but in the evening became completely aphasic, and could only say "Yes" and "No." There was more weakness of the right arm.

August 22.—Still aphasic. Cannot understand simple written directions, e.g. "Shut your eyes." After the dressing there were some right-sided twitchings, chiefly in the arm.

A week later the speech rapidly improved. She read books, newspapers, &c., with avidity, and could carry on a conversation, although there was obvious difficulty in expressing herself, and slowness in comprehending what was said to her. The optic neuritis rapidly subsided, and the fundi presented an absolutely healthy appearance.

From the first week in October she gradually deteriorated. The paralysis of the arm became complete, and she ultimately became totally word-blind and word-deaf as well as aphasic, and so cut off from all communication with others. A few days before death the optic neuritis re-appeared. She died from pneumonia on October 20.

Dressings were changed at first daily and afterwards twice a week. On each occasion the tube was removed, in order to evacuate the fluid in the cyst. This fluid coagulated in the tube, and throughout the course of the case drainage was the chief surgical difficulty which was encountered. Various means adopted to empty the cyst, even suction, failed. The cavity was never properly evacuated except by the introduction of forceps and gentle dilatation of the track at each dressing. The materials employed for the tubes for drainage were india rubber, silver, and platinum, but they all equally failed.

At the autopsy the skull-cap was found to be very dense and tough, but was easily detached from the dura mater, which was slightly adherent to the pia arachnoid all over the left hemisphere. The surface of the convolutions was pale and compressed. An infiltrating tumour, containing a large cyst, was found expanding the left supra-marginal and angular gyri, posterior part of the superior temporo-sphenoidal convolution, and extending forward beneath the middle of the ascending parietal convolution on the same side (see Plate X): the ascending frontal and inferior frontal were not involved at all. The brain, especially in the occipital region, was very richly convoluted. About 2 oz. of fluid escaped from the cyst,
Neoplasm Cyst in the Region of the Angular Gyrus. 127

and were caught in a sterilised flask (see Report by Dr. Gregor Brodie appended).

The brain was placed in a mixture of glycerine and spirit, of such strength that the brain was just submerged in it, but the method was not quite successful, owing to the very considerable amount of shrinkage which occurred.

Sections were made (1) horizontally, through the site of drainage of the cyst (Plate XI); (2) half an inch lower, passing through the basal ganglia and internal capsule (Plate XII); (3) in a vertical transverse direction, passing through the drainage track (Plate XIII). Accurate sketches of these, made by Mr. M. H. Lapidge, show the position of the cyst and of the tumour. The latter occupied the centrum ovale, and shaded off insensibly into the surrounding healthy white matter. It involved the convolutions which have been mentioned, infiltrating them without altering their shape. Internally it passed towards the middle line, and at its upper part almost reached up to it. Its lower part reached almost up to the internal capsule, but did not involve it. The upper part of the tumour was converted into a large cyst, which was smaller at the autopsy than it had been at the time of the operation. The cyst was everywhere bounded by tumour. On microscopic examination the tumour proved to be an infiltrating glioma, with rather large branching cells. There could be seen in the cortex, passing between the pyramidal cells, which were for the most part healthy, a few showing vacuolation or pigmentary degeneration. There was no lining membrane of the cyst, the wall of which was formed by tumour cells without any special arrangement.

This gliomatous infiltration was limited to the parts described above. The inferior frontal convolution and the internal capsule were perfectly free from any trace of new growth. There was some general increase of neuroglia cells and dilatation of the vessels over the whole of the left hemisphere, apparently inflammatory in character.

Report of examination of fluid kindly made for us by Dr. Gregor Brodie.—Four samples of fluid collected on September 10 and 19, and October 4, before death, and a fourth collected on October 20, after death.

All had clotted, and produced a coagulum which in all particulars resembled a clot formed from any form of extra-vascular plasma. Microscopic examinations showed the presence of fibrin-like filaments, which stained in a manner similar to
fibrin. It swelled up but did not dissolve in '2 % HCl. After thorough washing it only dissolved imperfectly in strong salt solutions.

The fluid expressed from the clots gave indications of the presence of albumin and globulin.

The fluid collected fourteen days before death hastened the clotting in a test sample of magnesium sulphate plasma, thus indicating the presence of fibrin-ferment.

The two portions of fluid collected fourteen days before death and after death were both deeply coloured a yellowish brown, but gave, on spectroscopic examination, no absorption bands. The other two specimens were yellow in colour.

With the exception of the colour no difference could be detected between these four fluids and clotted specimens of extravascular plasma. The quantities which were available for examination precluded any possibility of quantitative estimations.

Remarks.—With reference to this case we wish to make the following remarks:

1. The occurrence of an isolated fit some time before the development of definite symptoms is far from uncommon in cases of cerebral tumour. Even in cases where a cortical tumour gives rise to repeated one-sided convulsions there is often a history of a group of general convulsions at a very early period in the history.

2. The temporary fallacious improvement of such cases under large doses of iodide of potassium has been pointed out by Victor Horsley and others. We should say that it is the rule for such improvement to take place in cases of cerebral neoplasms. But the improvement is only temporary, and after a longer or shorter interval the symptoms recur, and are no longer influenced by the drug, so that a syphilitic origin cannot be inferred from such improvement.

3. With reference to the diagnosis of the site of the lesion, the symptoms (beyond the general indications of cerebral tumour) were weakness of the right hand and arm, aphasia, difficulty in expressing ideas in writing, and some difficulty in reading (vision being perfectly good). The question to be decided, therefore, was whether the aphasia and the paralysis of the right hand indicated a lesion in the neighbourhood of Broca’s convolution, or whether the lesions were situated posteriorly. The conclusion that the lesion was in the neighbourhood of the angular gyrus was arrived at from the following considerations:
PLATES VIII TO XV.

Illustrating Dr. Colman's and Mr. Ballance's paper on a case of Neoplasm Cyst of the Angular Gyrus.
DESCRIPTION OF PLATE VIII.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

The drawings of Plates VIII and IX were made by the aid of photographs, sketches, and measurements taken during the operations. They compare precisely with the condition of parts found at the autopsy. They illustrate the plan of operation. Each drawing is a view at right angles to the mid point of the opening in the skull.

First Stage of Operation: Removal of Bone.

The scalp flap has been thrown down and wrapped in cyanide gauze. A quadrilateral opening in the skull has been made. The dura mater bulges through the aperture: so great is the intra-cranial pressure that the two posterior meningeal arterial branches are collapsed and empty. Part of the coronal suture is visible in front and part of the squamo-parietal below. The dotted line on the scalp is over the sagittal suture, and indicates the middle line of the head.
DESCRIPTION OF PLATE IX.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

Second Stage of Operation: Exposure of Brain.

The scalp flap has been again reflected. A square flap of dura mater has been cut and turned down. The brain is exposed, and rises through the opening in the dura in consequence of the abnormal intra-cranial pressure. "I" marks the interparietal suleus; "S" the Sylvian fissure. Below and behind the interparietal suleus was the site of greatest bulging, and here also the cortex of the inferior parietal lobule was thinned, it was almost translucent towards the centre, and formed the external boundary of the "cyst."
DESCRIPTION OF PLATE X.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

_Lateral view of Brain after hardening in Glycerine and Alcohol._

The area coloured pink corresponds to the part of the cortex infiltrated by the tumour, namely, the inferior parietal lobe and the posterior part of the superior temporo-sphenoidal convolution. This region was sharply limited in front and above by the interparietal sulcus, and behind and below by the parallel sulcus. The line A, B is the line of section shown in Plate XIII. The line C, D is the line of section shown in Plate XI. The numbers 1 to 12 and the letters a to e mark the position of sulci, which can be recognised in Plates XI and XIII by similar numbers or letters.
DESCRIPTION OF PLATE XI.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

_Horizontal section at C, D in Plate X._

The floor of the cyst and part of the drainage track are exposed. The pink shading and numbers as before.
DESCRIPTION OF PLATE XII.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

*Horizontal section half an inch below the line C, D in Plate X.*

It will be noticed that the section is not quite horizontal. The pink shading shows the extent of tumour infiltration. The internal capsule is *not* invaded. See notes of P.M. report.
DESCRIPTION OF PLATE XIII.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

*Transverse section at A, B in Plate X.*

This section passes through the centre of the "cyst," and shows the path of drainage from the surface of the cortex. The extent of tumour infiltration is indicated by the pink shading.
DESCRIPTION OF PLATE XIV.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.


Fig. 3.—Samuel West, Brit. Med. Journ., 1885, p. 1242. Onset sudden, with incomplete right hemiplegia and inability to speak. Face and tongue unaffected. Conscious, but could not understand what was said to him. Reading powers not tested. Died of uræmia a week later. During last few days could articulate distinctly, but always used wrong words.

Fig. 4.—Sigaud, Progrès Médical, 1887, p. 177. Woman æt. 77. Onset sudden, three years before death. There was aphasia at first, but this passed off almost completely. Able to read. No word-blindness. Unable to write spontaneously or to dictation. Can copy writing with an effort. P.M.—Localised softening in angular gyrus only.

Fig. 5.—Amidou (Case 1), New York Med. Journ., 1885, p. 113. Woman æt. 60. Complete word-deafness. Difficulty in expressing herself. Always employed simple words. Could not write. She had some fits, beginning in right hand. P.M. (fifteen months after attack).—Suffering from thrombosis affecting convolutions shown in diagram.

Figs. 6 and 7.—Laquer, Neurolog. Centralbl., 1888, p. 337.—Softening affecting first temporo-sphenoidal convolution and island of Réil. Unable to read. Unable to recognise familiar objects. Could understand gestures at once. Unable to understand simplest spoken words (only). Constructed sentences correctly, but used wrong words (permanent). Hemiplegia at first, which entirely cleared up. Lived eighteen months.
Fig. 1.
Déjérine, Comptes Rend. de la Soc. de Biol., 1891.

Fig. 2.
Vertical Section of Fig. 1.

Fig. 3.

Fig. 4.
Sigaud, Progrès Médical, 1887, p. 177.

Fig. 5.

Fig. 6.

Fig. 7.
Vertical Section of Fig. 6.
DESCRIPTION OF PLATE XV.

To illustrate Dr. Colman's and Mr. Ballance's case of Neoplasm Cyst of the Brain.

Fig. 8.—D'Heilly and Chautemesse, Progrès Médical, 1883. Sudden onset. Inability to speak (without hemiplegia). Could not understand what was said to him. Could not read. Could not write spontaneously or to dictation, nor copy. P.M. (a month after onset).—Softening, from thrombosis, affecting inferior parietal lobule and part of superior temporo-sphenoidal convolution.

Figs. 9 and 10.—Déjerine, Comptes Rend. de la Soc. de Biol., 1891, p. 197. Man âgé 63. Softening at posterior end of fissure of Sylvius. Sudden onset. Unable to read print or manuscript. Unable to write. There was some aphasia at first, but it cleared up.

Fig. 11.—A. B. Ball, Archives of Medicine, 1881, p. 136. Sudden onset. At first complete aphasia and agraphia. Gradually recovered speech. Inability to write persisted. Word-blindness; complete at first, afterwards could recognise simple or familiar words. P.M. (two years after onset).—Softening of inferior parietal lobule, and slightly of superior temporo-sphenoidal convolution.

Fig. 12.—Amidou, New York Med. Journ. (Case 2), 1885, p. 113. Man âgé 62. Sudden onset. Unable to understand what was said to him. Aphasia. Could not say his name or repeat it when told. Could not write (traced a meaningless scribble). Could not read.

Fig. 13.—Serieux, Comptes Rendus de la Soc. de Biol., 1892, p. 13. Case of word-blindness and some aphasia from softening in the inferior parietal lobule. Intelligence normal. Hearing quite good. Unable to read. Unable to write spontaneously or from dictation. Difficulty in expressing herself. Often uses wrong words.
Fig. 8.

Fig. 9.

Fig. 10.
Vertical Section of Fig. 9.

Fig. 11.

Fig. 12.

Fig. 13.
Neoplasm Cyst in the Region of the Angular Gyrus. 129

(a) There had been practically no affection of the face or tongue, as would almost certainly have been the case had a tumour involved Broca's convolution and the arm centre.

(b) The character of the defect of writing. The weakness of the right hand accounted for the clumsy unformed style, but not for the numerous errors in spelling, or for the omission of entire syllables or words. Further, she was unable to recognise that a word was misspelled when it was pointed out to her. These characters of the agraphia indicated an affection of the centre for the visual memory of words, which abundant pathological evidence has localised in the supra-marginal and angular gyri, and there are many cases on record in which a limited lesion of the angular gyrus produced almost complete agraphia of a similar character. The existence of word-blindness could not be satisfactorily tested for at the time she was first seen by us, but her husband's account of her having to read printed paragraphs several times before understanding them pointed to the existence of this symptom, which would again indicate a lesion in the region of the angular gyrus.

(c) The character of the speech defects. These consisted in omission of syllables, and occasionally whole words, without her appearing to be aware of the mistake, and of difficulty in recalling the right word, with the substitution of some word which expressed her meaning although awkwardly.

Although there is nothing characteristic in this form of aphasia, cases recorded by West,* Amidon,† D'Heilly and Chantemesse,‡ Ball,§ Laquer,|| Kramer,¶ Henschcn,** and others show the possibility of aphasia occurring from a lesion in the posterior part of the first temporo-sphenoidal convolution without any lesion in the inferior frontal. (Diagrams of the lesions in these cases are appended, see Plates XIV and XV.)

(d) Lastly, the localisation of the lesion at the posterior end of the fissure of Sylvius was confirmed by the signs of pressure on the internal capsule.

The absence of hemianopia is fully consistent with other recorded cases of lesions affecting the angular gyrus. The

* British Med. Journal, 1885, i, 1242.
‡ Progrès médical, 1883, p. 22.
§ Archives of Medicine, 1881, p. 136.
|| Neurol. Centralblatt, 1888, p. 337.
** Neurol. Centralblatt, 1886, 424.
condition of the patient precluded accurate observations on the acuteness of vision previous to operation, but afterwards no defect in either eye could be discovered. The case, therefore, gives little assistance in reconciling the conflicting views as to the visual functions of the angular gyrus.

4. The remarkable and sudden improvement following the relief of pressure by the removal of a large area of the cranium even before the dura mater was opened, showed that the symptoms were produced by pressure rather than by actual destruction of brain substance. The case shows, however, that for permanent relief of pressure the dura mater must be opened as well as the bone removed. During the nine days which elapsed in our case before the dura was opened, not only did the pain and vomiting return, but the optic neuritis increased.

5. The late appearance of the optic neuritis in this case, even after greatly increased pressure must have existed for some time, shows that pressure is not the only factor essential for its production. On the other hand, the rapid subsidence after complete relief of pressure shows that it is a most important factor for keeping it up when produced. The return of the optic neuritis before death was partly owing to some increase in pressure; from incomplete drainage of the cyst, but chiefly to the perfect and firm healing of the incision in the dura, as seen at the post-mortem examination.

In a previous case in which neuritis subsided completely after trephining there was a similar return of optic neuritis shortly before death. It may even occur in some cases as a final phenomenon.

6. The extreme hardness and toughness of the bone over the position of a cerebral tumour has been observed in many cases. This change is not limited to this site, but affects the whole calvarium.

7. Viscidity and coagulation of the fluid. The fluid in the cyst, as shown by the report of Dr. Brodie, was simply plasma. It coagulated at once in the tube, hence the difficulty in drainage.

8. The question naturally arises, was the patient benefited by surgical interference; did the operation benefit the patient? It undoubtedly saved her life, and she remained in a condition of comparative comfort for many weeks; although the aphasia was not completely relieved, yet this distressing condition was markedly mitigated, and the
alexia and agraphia disappeared, the patient reading with avidity and interest as in health, and writing letters to her friends. The agonising pain in the head, the vomiting, the optic neuritis, the weakness of the hand, and the hemianæsthesia at once passed off; and for a considerable time, except for the bandage round the head and the hesitation in speaking, there was little to distinguish the patient from a person in perfect health.

The return of symptoms shortly before death was probably associated with the perfect healing of the incision in the dura, which was found to be completely united at the post-mortem examination. This fact suggests that in future complete union of the whole extent of the incision in the dura should not be aimed at, so as to allow at a later stage of the illness the free bulging of brain or tumour through the aperture in the skull.

As shown by microscopic examination, although the angular gyrus was infiltrated, the pyramidal cells were not destroyed, thus explaining a return of function when the intra-cranial pressure was relieved.

The operation was undertaken for the relief of urgent symptoms, and without any intention to attempt the removal of the tumour. If such attempt had been made the distressing disablement of aphasia could only have been aggravated; and we would express the strongest opinion that no operation for the removal of brain tumour is justifiable which might be followed by lasting aphasia.
XXII.—Case of Haemorrhage into the Pons Varolii: venesection: recovery. By F. Lucas Benham, M.D.

Read March 13, 1896.

Mrs. D., æt. 53, widow, is a dressmaker by occupation. She is a stout, dark-haired woman, without any organic disease and generally healthy; she is cheerful in temperament, active in her business, but is not accustomed to take much outdoor exercise. She eats and drinks well, but is habitually constipated. She bears the marks of old scrofulous abscesses in the neck. The only previous illnesses that I am aware of were two rather sharp attacks of influenza—one (the Dengue form) about three years ago, the other, with a good deal of bronchitis, in February, 1895, from which she made a complete recovery. Her mother died of apoplexy at the age of fifty-five.

Present illness.—There were no premonitory symptoms. On April 10, 1895, at 7.45 a.m., she was suddenly struck down, while dressing, by an apoplectic attack, attended by epileptiform convulsions. I was sent for almost directly, and arrived at 8.20 a.m. I found the patient lying on her back on the edge of the bed, partly dressed and comatose. She was quite unconscious and convulsed, the arms and hands twitching strongly—so much so that the left forearm was found afterwards to be extensively bruised by striking against the bedpost. The eyes were shut, the eyeballs drawn to the right; they moved to the middle line and back again, but not at all to the left of the middle line. The pupils were much contracted, the left being smaller than the right. The head was turned to the right in tonic spasm. The mouth also was drawn to the right. The surface of the body was pale, dusky, and covered with cold perspiration. The action of the heart was regular. Respiration very much laboured and embarrassed, with occasional arrest: there was foaming at the mouth, but the tongue was not bitten.

At 8.30 a.m., as I considered the case one of great gravity, and that the deep coma associated with convulsions would be likely to bring about a fatal termination before long, I decided to bleed her. There was so much subcutaneous fat that the veins at the bend of the elbow were invisible except the right median cephalic. The right arm, moreover, was less
convulsed than the left. The skin was divided over the vein for one inch, and the vein was exposed and opened freely. Blood flowed, sometimes in a good stream, sometimes trickling slowly: at first it was dark and thick, afterwards it was redder and more fluid, except that it was darkened after each fresh convulsive spasm; later, the orifice became somewhat plugged by clot. Blood was allowed to flow till a decided impression had been made upon the system, i.e. until the convulsions ceased and the breathing had become easy. About 48 oz. were withdrawn. The blood removed coagulated speedily: the orifice was closed, and the arm was bandaged.

At the end of the process the patient was manifestly improved, being quieter, without convulsions, and breathing tranquilly, though froth still escaped from the lips; the pupils were larger, and the eyes less drawn to the right. The skin was cool, pale, less dusky, with much perspiration. She was still quite unconscious, and was left lying in bed with her head raised, and 5 grs. of calomel were administered. (She had previously had 2 drops of croton oil.)

From this time the progress of the case was one of gradual but steady improvement, and ultimate recovery.

The course of events may be recapitulated and analysed as follows:

The patient remained completely unconscious for more than twenty-four hours, lying quietly, generally on the right side, though somewhat restless at times, and often putting her left hand to her head; she dozed a good deal, but there was no return of convulsions.

On the second day she became somewhat conscious, taking notice, and she spoke a few words; she could hear, and would protrude the tongue when told to do so. Soon afterwards she could recognise and understand, to some extent, and answer a few questions, but had no appreciation of her condition. In three days' time the intellect seemed to be decidedly improved, though there was no memory whatever. Patient stated subsequently that she was really unconscious of all that took place until April 22, i.e. twelve days after the seizure, and that she had no recollection of anything whatever that took place during that time, so that her mind was a complete blank during that interval; and she did not remember the onset of the attack or what she was doing when it came on. The intellect and memory were clear and sound from about the 22nd onwards.
Slight but distinct paralysis remained after the attack. The patient usually lay on her right side, but there was no longer conjugate deviation of the eyes and head. Slight paralysis of the face remained for at least three or four days. The eyes could be opened and the eyeballs moved freely; the pupils remained of medium size, and equal. There was no absolute paralysis of any limb—both legs could be moved up and down within a few hours after the stroke. The right arm and leg were distinctly weaker than the left for a few days, but the arm soon regained its normal strength, and the weakness of the leg was very slight.

There was found to be complete anaesthesia of the right lower extremity up to the calf, partial anaesthesia thence to the knee, normal above; sensation was impaired also over the lower part of the left leg, but was normal over the rest of the body. She spoke of the right leg as "feeling numb and dead."

The patient's chief complaint was of pain in the head (principally on the left side), the lower part of the back, and the legs, especially the right. The headache and pain in the back were severe and lasted for several days, but both gradually disappeared.

For a few days after the patient regained speech there was some degree of aphasia; she gave wrong names to persons and objects, and was unable to express herself properly. There was slight difficulty of deglutition for a few hours, but no disorder of articulation at all.

The temperature was subnormal, 97.6°—98° on the 11th, the day following the attack; next day it rose to 99.6°, and remained about the same for two or three days; after this it was normal.

The pulse was 90, regular, shortly after the venesection; about 96—100 on April 11; 90—96 on the 12th; 88, irregular in force and rhythm, on the 13th; 60—66, regular, on the 14th; 78, rather irregular, on the 15th and 16th, and remained about 78, regular, afterwards.

The patient vomited two or three times on the first day and once the next day. The tongue was moist and furred, and cleaned by degrees in the course of a few days. She was kept on a very scanty diet for some time and she soon had a good appetite.

The bowels were obstinately confined all along, and required the repeated and regular use of purgative medicines, including croton oil, as well as enemata. No urine was passed
naturally for three days. On the second day the bladder was found to be distended, and 40 oz. were drawn off by catheter; the catheter was used again when necessary, but cystitis developed, the urine containing a sediment of pus and mucus for some time. In consequence of this it was not tested for albumen.

On April 23 the patient was allowed to sit up out of bed for a short time; the weakness of the right leg was then apparent; she said "the left side of the head and the right leg feel alike—numb, useless and painful." However, she quickly regained strength, and by May 22 went out for a walk daily. She was then cheerful and very much stronger, and attended to her business, but said that she could not get through half as much work in the day as formerly. The only traces of paralysis are some numbness of the right toes and right middle finger.

Before she had been getting about long she became low-spirited and depressed; this was due, I believe, to keeping to too rigid and restricted a diet and attempting to work too much, and was very easily put to rights. Since then up to the present time (November, 1895) she has continued as well as ever, but is more careful in diet, and takes more exercise.

Remarks.—I considered this case to be of interest on account of its success after the treatment employed.

Though there was, fortunately, no post-mortem examination, I think that there can be no doubt that the seat of the lesion was the pons Varolii, that the cause of the lesion was haemorrhage, and that venesection gave great immediate relief. But for the bleeding I feel very doubtful whether the patient would have survived, but of course it is impossible to be positive on this point. I believe it is not common for cases of haemorrhage into the pons to recover, but I have not been able to find any statistics on this subject.

In former times, of course, venesection was the routine and almost invariable practice in cases of apoplexy, and it was generally admitted that cerebral congestion and apoplexy required greater measure of depletion than any other form of disease.

Marshall Hall, in his table, gives 40 oz. as the amount of blood that would most likely have to be withdrawn; and the operation was repeated if deemed necessary. There was a difference of opinion as to the most advantageous time for
its performance—whether at the very onset or not until symptoms of reaction set in.

When the practice of bleeding was abandoned, it was not always condemned in every case; even Todd recommends it in certain forms of the attack. Trousseau, however, in his lectures condemns it absolutely. I think that nowadays many practitioners would not altogether condemn it in the abstract, but in practice I am sure that it is very rarely carried out.

I think that my case tends to encourage the practice in proper instances. My reasons for employing it in the case just related were the facts that the patient was plethoric, without any organic disease or general arterial degeneration that I was aware of, and that life seemed to be immediately threatened by deep coma accompanied by convulsions; and because I was able to interfere early.

I am not bound to account for the modus operandi of bleeding in such cases; but I should ascribe its benefits to—

(1) Lowering the force of the circulation so as to prevent further haemorrhage within the brain and to promote coagulation at the point of rupture. (2) Its effect in checking the convulsions. I believe that the cause of the epileptiform onset of apoplexy is imperfectly understood. May it not be due, in part at any rate, to the condition of asphyxia from impeded respiration caused by injury to the nervous centres? (3) The diminished quantity of blood in the system, and consequent lessened activity of circulation, respiration and nutrition, tend to give rest to the brain during the time when it is undergoing repairs after the laceration of its substance produced by the haemorrhage.

Postscript.—The urine was examined subsequently, and found to be free from albumen.

The patient, Mrs. C., was brought to me (F. J. Smith) for an opinion on June 17, 1895, by Dr. G. S. Passmore, of Harringay. Briefly her history was as follows:—Twenty-eight years of age; had enjoyed good health till a little over a year ago, from then up to the time I saw her she had complained of a pain in the right side of the abdomen. This pain had commenced as a dull ache which gradually became more severe, it was somewhat relieved by lying down, and at times disappeared quite suddenly. When at its worst it made her feel very sick, though I believe she never actually vomited. Throughout the whole period she was never jaundiced, but the urinary function was much disturbed, as she had to micturate every few minutes during an exacerbation of the pain. This history of course made me suspect that the right kidney was in some way the cause of her pain, and I closely cross-examined her as to any unusual appearance of the urine, but could obtain no guiding points during our first consultation. (She returned a few minutes later to tell me she had suddenly remembered passing blood rather freely a few days previously.) Neither walking nor jolting in a vehicle had caused any alteration in the pain or brought on an acute attack of it. On examination, I found the thoracic organs healthy; palpation of the abdomen revealed pain and tenderness in the right lumbar region, and a very doubtful sense of some tumour. Unaware of the hæmaturia, Dr. Passmore and I discussed the diagnosis. The character of the pain, with its sudden exacerbations and entire cessation without the appearance of any abnormal—to the naked eye—constituents of the urine, had already inclined Dr. Passmore to make a diagnosis of neuralgia of the kidney. The tenderness on pressure, however, seemed to me rather to suggest an organic lesion in the shape of a stone or pyelitis from other cause. I advised the administration of benzoate of ammonium and turpentine. As soon, however, as the patient returned with Dr. Passmore to mention the hæmaturia, we naturally agreed that there was
a definite organic lesion, and I said at once that her urine must be completely and thoroughly examined. This was done by the Clinical Research Association, and their report of the discovery of tubercle bacilli immediately made the diagnosis perfectly certain—tubercular nephritis. I do not propose to discuss the points in the diagnosis, it followed mathematically by induction—renal colic and hæmaturia = some organic lesion, tubercle bacilli = tubercular nephritis. The only question worth discussion is the treatment of tuberculosis of the kidney. It certainly occurs in two forms, distinct from the point of view of treatment: first, as part of a general or acute tuberculosis, when treatment is either not indicated at all or, if so, can only be palliative (benzoate of ammonium is for this purpose the most useful drug in my experience); second—as in the case we are discussing,—as the primary seat of the disease, and here, to my mind, there is only one line of treatment to be pursued, the physician is not justified in retaining the case, he must call in the surgeon to explore the kidneys; the plural noun is used advisedly, for I hold that no surgeon is justified in mutilating, much less therefore excising, one kidney unless he has actually satisfied himself by sight or touch that the other one is functionally capable.

The mental reasoning by which I arrive at the above position is as follows:—I have a patient with a mass of virulent infective material lodged in an organ; unless and until I can remove that mass her life is constantly in danger. I know of no drug capable of neutralising, destroying, or removing that mass; but I do possess the power of removing it in the shape of the assistance of a surgical colleague, and my duty is therefore clear—to avail myself of that assistance. I do not think that this duty is lessened in any degree by the fact that I have once or perhaps twice seen caseo-calcareous masses in a kidney on the post-mortem table, presumably the remains of so-called cured tubercle. Such masses exist in every case of miliary tubercle (to be found by careful even if prolonged search), and they are, justly I believe, looked upon as the actual source of the fatal infection. I am not capable of, nor do I presume to dictate to the surgeon what he should do after exploration—whether scraping, partial or complete nephrectomy is the best means of dealing with the case I must leave in his hands, as I now do for Mr. Bidwell.

Notes by Mr. Bidwell.—On examination, the abdomen was
flaccid, except in the right lumbar region, where there was
grigidity and considerable tenderness. There was well marked
resistance over the right kidney, but the organ could not be
definitely palpated, owing to the tenderness. There was no
resistance over the left kidney, and the organ could be defined,
and did not appear to be enlarged, neither was it tender nor
painful.

The urine was acid, sp. gr. 1015, there was no albumen
nor sugar, but under the microscope a few pus cells could
be seen.

On July 19, 1895, the patient was put under the influence
of ether, and the right kidney was exposed by a lumbar
incision. The kidney was readily found, and brought com-
pletely out of the wound for the purpose of thorough exami-
nation. In doing this the capsule was separated, and several
small patches of tubercle were seen on the surface. In the
lower end of the kidney a hard mass, about the size of a
walnut, was felt, and as this was found, on incision, to be a
tubercular abscess communicating with the pelvis, it was
decided to remove the whole kidney. The renal vessels were
tied separately with silk ligatures, and the end of the ureter
invaginated and tied after its mucous membrane had been
swabbed with a 1 in 10 solution of carbolic acid. The wound
was then sponged out with a 1 in 2000 solution of perchloride of
mercury, and the various muscular planes of the wound
united separately with silk sutures. The skin wound was
then completely closed with silkworm-gut sutures, and no
drainage-tube was inserted.

The patient did not suffer from any shock after the opera-
tion, and she made an uninterrupted recovery. The highest
temperature was 100.6° on the day following the operation;
but on the third day it had fallen to normal, and continued
so until the patient returned to her home. The wound was
dressed on the ninth day, and all the stitches were removed.
It was found to be completely healed, so a gauze and collo-
dion dressing was applied and the bandages were discon-
tinued. The patient was allowed to get up at the end of a
fortnight, and returned home on August 1.

Unfortunately, the urine could not be measured after the
first four days, as the patient's period occurred. The follow-
ing, however, were the measurements for the first four days:
July 14, 28 ounces; July 15, 16 ounces; July 16, 31 ounces;
and on July 17, 34 ounces.

On October 12 I received the following report from her
present doctor, Dr. Wason, of Harringay:—"I saw her yesterday; she has just returned from the sea-side and looks very well; she has no pain except an occasional twinge from the scar. A specimen of the urine was sent to the Clinical Research Association, and they were unable to find any tubercle bacilli in the specimen."

Remarks.—The operative treatment of tuberculosis of the kidney is open to discussion. Although it would have been possible to scrape out the tubercular abscess in this case, it would hardly have been feasible to remove also the points of tubercle in the cortex. The infection, too, of the pelvis of the kidney would have made a recurrence of the disease almost certain; I therefore consider that total excision was the only sound surgical treatment in this case. In my experience the results after scraping tubercular abscess of the kidney are not satisfactory, but I should be very glad to hear the experience of others on this point.

I have now operated on four cases of tubercular disease of the kidney, to which I will briefly refer. The first case was a woman, æt. 35 years, whose kidney I explored and drained. An urinary fistula formed and persisted for six months, when I excised the kidney, finding several other tubercular foci in it. The patient made a perfect recovery.

The second case was a lady, æt. 34 years, whose chief symptom had been increased frequency of micturition. After sounding her for this trouble, the patient had a temperature of 104°, and pus cells were found in the urine. The right kidney was enlarged, and was painful on examination. A diagnosis of renal calculus was made, and the kidney was explored by an incision in the linea semilunaris. The right kidney was found to be enlarged, and on its surface there were two or three small tubercular foci, but there was no definite hardness nor any evidence of stone. The amount of mischief did not appear to be sufficient to justify nephrectomy, so the organ was replaced and the wound was closed. Strange to say, a very marked improvement of the symptoms followed the operation, and the patient enjoyed good health for nearly two years after the operation; but when seen nine months ago she had recurrence of her symptoms, and was failing in health.

The third case was a child, æt. 7 years, who was sent to me on account of frequent attacks of haematuria. There was pain in the right loin and tenderness over the left kidney; there were no signs of tubercular disease in the lungs. The
kidney was explored by the lumbar incision and nothing abnormal was found in the organ; there was neither any hardness in its substance, nor a stone, nor any tubercular foci on its surface. The child took the anaesthetic very badly, so the pelvis of the kidney was not opened up; the organ was therefore replaced and the wound completely closed. The patient developed a cough after the operation, and on the third day the temperature rose to 104°, and the child died on the fourth day. At the post-mortem it was found that not only was the left kidney the seat of scattered tubercles, but the lungs and other viscera were also affected with acute miliary tuberculosis. Of these four cases there can be no doubt that the case which I bring before you to-night is by far the most satisfactory, since the patient was completely cured within a month.

I consider nephrectomy to be a very safe operation, provided that the other kidney can be declared to be sound. In most cases I prefer the transperitoneal incision in order to thoroughly palpate the other kidney; in this case, however, I was able to satisfy myself that the left kidney was not diseased before the operation, so the possibility of having to drain a tubercular pyelitis made me prefer the lumbar incision.

With regard to the operation itself, I would draw attention to the advantages of suturing up the wound completely in layers without any drainage-tube. After a lumbar nephrectomy, a good deal of weakness, or neuralgia in the side, is often complained of; this we do not find when the wound has been sutured in layers.

The case, upon which this paper is based, seems to be one of local tuberculosis of the kidney, and in this organ the disease appears to commence at rather a later date than in other parts; thus this patient was twenty-eight years of age and the other patients were thirty-four and thirty-five years respectively. In the child the kidney trouble was merely a part of a general tuberculosis. The subsequent progress of this case and of Case 1 seems to show a good prospect of complete cure after nephrectomy.
XXIV.—A series of cases of Enterectomy, with remarks on the various methods employed in securing union of the divided edges of the hollow viscera. By Mayo Robson, F.R.C.S. Read March 27, 1896.

The whole of my personal experience of the operation of enterectomy is furnished in the twelve cases referred to or described in this paper, and thanks to the courtesy of my colleagues on the staff of the General Infirmary at Leeds, I am able to add their experience to my own, making the number of cases on which my arguments are based twenty-six. The list of cases, with very brief particulars, is given on the table appended and handed round.

Some of my own cases have been already reported, and these I need only briefly refer to; others have not been described, and these I propose to give in detail, though as briefly as is consistent with lucidity.

At the same time I propose to describe the method of application of the decalcified bone-bobbin, which as a rule I employ.

The two cases recently operated on, and not previously reported, are as follows.

Case 19. Columnar epithelioma of small intestine; enterectomy.—A. B., æt. 49, admitted November 9, 1895. His illness dated from November, 1894, when he first had occasional attacks of pain in the abdomen, the first severe attack being in March, 1895. The pain had always been on the right side of the abdomen, which was swollen. After March the attacks became more frequent and more severe, and he suffered much from constipation, the worst attacks following a hearty meal. For some time before admission he had been confined to bed on account of pain, and he had lost flesh and colour; he had never been jaundiced and had never passed blood by the rectum. He had sometimes vomited during an attack of pain.

On admission he was thin and wasted, and had a sallow dirty yellow complexion. His abdomen was slightly distended. Palpation and percussion revealed no tumour. Urine normal.

November 18.—Marked constipation since admission. Has had several attacks of pain, and during these he is in acute
case of enterectomy. 143

agony, the pain beginning in the epigastric and travelling through the right hypochondriac and iliac to the hypogastric region, where it persists till the attack passes off. Marked visible peristalsis present during an attack, and what are apparently coils of small intestine being distinctly seen. General condition much worse than on admission.

November 20.—Abdomen opened by incision of about three inches in middle line between umbilicus and pubes.

Examination at once revealed an annular growth at the lower part of the jejunum, which was brought out through the wound, a piece of india-rubber tubing being applied around its base to act as a tourniquet. Enterectomy was then performed, a medium-sized bone-bobbin being inserted, and the gut sutured over this by two continuous stitches.

The bowels were moved by enema on the sixth day, and the sutures were removed on the seventh, the wound being found healed. The bone-bobbin was, as usual, never seen; he was up on the twentieth day, and returned home on the twenty-fifth day.

He came up to be seen on January 4, 1896, forty-five days after operation, appearing quite well, and having, since leaving the hospital, gained a stone in weight. He said that the bowels were moved naturally every morning, that there had been no pain in the abdomen, and that he could take ordinary diet without discomfort or trouble of any kind.

For the notes of this case I have to thank my house surgeon, Mr. Trotter.

Case 11. Enterectomy for intestinal obstruction of thirteen days' duration, dependent on cancer of lower end of sigmoid flexure of colon.—On December 6, 1895, I was asked by Dr. Robertson, of Pickering, and Dr. Corry, to see Mrs. C., aged 70, at Rosedale Abbey, and to come prepared for operation.

The patient was much exhausted, as she had been unable to take food for several days on account of vomiting, which had continued more or less for eleven days, no movement of the bowels having occurred for thirteen days. Her pulse was 120, her eyes were sunken, her tongue dry, and her abdomen somewhat tumid. Beyond constipation, which had been overcome by aperients, and occasionally a little pain and rumbling over the sigmoid, there was nothing to indicate the nature of the obstruction; these signs, however, led me to make my incision as for inguinal colotomy, and I at once came on the
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<tbody>
<tr>
<td>1</td>
<td>E.</td>
<td>33 F.</td>
<td>—</td>
<td>1895</td>
<td>'Lancet,' 1895</td>
<td>Mayo Robson</td>
<td>Acute intussusception with gangrene, 7th day</td>
</tr>
<tr>
<td>4</td>
<td>K.</td>
<td>70 F.</td>
<td>—</td>
<td>1895</td>
<td>Not reported</td>
<td>Do.</td>
<td>Sarcoma of ascending colon</td>
</tr>
<tr>
<td>5</td>
<td>G.</td>
<td>40 M.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Mr. Ward</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>B.</td>
<td>55 M.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Mr. W. H. Brown</td>
<td>Cancer of intestines</td>
</tr>
<tr>
<td>7</td>
<td>H. J.</td>
<td>49 M.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Do.</td>
<td>Cancer of caecum</td>
</tr>
<tr>
<td>8</td>
<td>—</td>
<td>49 F.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Do.</td>
<td>Gangrenous hernia</td>
</tr>
<tr>
<td>9</td>
<td>B.</td>
<td>53 F.</td>
<td>—</td>
<td>1893</td>
<td>'British Medical Journal'</td>
<td>Mr. Littlewood</td>
<td>10/9/93, intestinal obstruction, typhlotomy, cancer of ascending colon</td>
</tr>
<tr>
<td>10</td>
<td>J. S. H.</td>
<td>40 M.</td>
<td>—</td>
<td>1895</td>
<td>'British Medical Journal,' 19/10/95</td>
<td>Mayo Robson</td>
<td>Cancer of caecum and ascending colon</td>
</tr>
<tr>
<td>11</td>
<td>C.</td>
<td>70 F.</td>
<td>—</td>
<td>1895</td>
<td>Present paper</td>
<td>Do.</td>
<td>Acute obstruction 13 days, Cancer of sigmoid</td>
</tr>
<tr>
<td>12</td>
<td>A. T.</td>
<td>22 F.</td>
<td>—</td>
<td>1895</td>
<td>Not reported</td>
<td>Mr. Ward</td>
<td>Fistula due to tubercular stricture of ascending colon</td>
</tr>
<tr>
<td>13</td>
<td>W. H.</td>
<td>55 M.</td>
<td>—</td>
<td>1895</td>
<td>—</td>
<td>Mr. Littlewood</td>
<td>Cancer of rectum above reflection of peritoneum</td>
</tr>
<tr>
<td>14</td>
<td>A. W.</td>
<td>43 F.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Mr. Hartley</td>
<td>Fistula following gangrenous inguinal hernia</td>
</tr>
<tr>
<td>15</td>
<td>B.</td>
<td>27 F.</td>
<td>—</td>
<td>3/94</td>
<td>'British Medical Journal,' 19/10/95</td>
<td>Mayo Robson</td>
<td>Chronic intussusception and cancer of descending colon</td>
</tr>
<tr>
<td>17</td>
<td>L. S.</td>
<td>12 M.</td>
<td>—</td>
<td>1895</td>
<td>Do., do.</td>
<td>Do.</td>
<td>Fistula, chronic abscess, and stricuture ascending colon</td>
</tr>
<tr>
<td>18</td>
<td>A.</td>
<td>16 F.</td>
<td>—</td>
<td>1894</td>
<td>Do., do.</td>
<td>Do.</td>
<td>Fistula and stricture of ascending colon</td>
</tr>
<tr>
<td>19</td>
<td>J. R.</td>
<td>49 M.</td>
<td>—</td>
<td>3/95</td>
<td>Present paper</td>
<td>Do.</td>
<td>Cancer of ileum and intestinal obstruction</td>
</tr>
<tr>
<td>21</td>
<td>A. M. C.</td>
<td>31 F.</td>
<td>—</td>
<td>9/92</td>
<td>Not reported</td>
<td>Mr. Jessop</td>
<td>Sarcoma of ascending colon</td>
</tr>
<tr>
<td>22</td>
<td>H. M.</td>
<td>37 F.</td>
<td>—</td>
<td>6/1/96</td>
<td>—</td>
<td>Mr. Littlewood</td>
<td>Cancer of rectum above reflection of peritoneum</td>
</tr>
<tr>
<td>24</td>
<td>M. J.</td>
<td>6 F.</td>
<td>—</td>
<td>6/92</td>
<td>—</td>
<td>Do.</td>
<td>Mesenteric cyst</td>
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<tr>
<td>Enterectomy, 4 ft. small intestine removed</td>
<td>Suture</td>
<td>D</td>
<td>Shock; death in 4 hours.</td>
<td></td>
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<td></td>
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<tr>
<td>Enterectomy and enterorrhaphy</td>
<td>Do.</td>
<td>R</td>
<td>Well 2 years later.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Do.</td>
<td>Do.</td>
<td>R</td>
<td></td>
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<tr>
<td>Do.</td>
<td>Do.</td>
<td>D</td>
<td>Shock; 8 hours.</td>
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<td></td>
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<tr>
<td>Enterectomy</td>
<td>Do.</td>
<td>D</td>
<td>Hernia of small intestines</td>
<td></td>
<td></td>
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<tr>
<td>Do.</td>
<td>Do.</td>
<td>R</td>
<td>through foramen of Winslow.</td>
<td></td>
<td></td>
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<tr>
<td>Do.</td>
<td>Do.</td>
<td>D</td>
<td>Died 4 months later.</td>
<td></td>
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<tr>
<td>4 inches of ascending colon removed, 10/10/33</td>
<td>Murphy's button</td>
<td>R</td>
<td>Peritonitis 7th day.</td>
<td></td>
<td></td>
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<tr>
<td>12 mattress sutures used</td>
<td>Do.</td>
<td>D</td>
<td>Shock.</td>
<td></td>
<td></td>
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<tr>
<td>Excision of cæcum and half ascending colon</td>
<td>Decalcified</td>
<td>R</td>
<td>Death 14/3/93 from cancer</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>bone-bobbin</td>
<td></td>
<td>of liver.</td>
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<tr>
<td>Enterectomy, 2 inches removed</td>
<td>Do.</td>
<td>D</td>
<td>Button passed 44th day.</td>
<td></td>
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<tr>
<td>Excision of cæcum</td>
<td>Do.</td>
<td>R</td>
<td>Fistula closed afterwards.</td>
<td></td>
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<tr>
<td>Proctectomy</td>
<td>Do.</td>
<td>R</td>
<td>Patient now well.</td>
<td></td>
<td></td>
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<tr>
<td>Enterectomy</td>
<td>Do.</td>
<td>R</td>
<td>Exhaustion 3rd day.</td>
<td></td>
<td></td>
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<tr>
<td>Reduction of intussusception and excision of 5</td>
<td>Decalcified</td>
<td>R</td>
<td>Button discharged 34th day,</td>
<td></td>
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<td></td>
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<tr>
<td>in. of colon</td>
<td>bone-bobbin</td>
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<td>after which fistula closed.</td>
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<tr>
<td>Excision of cæcum and ascending colon</td>
<td>Do.</td>
<td>R</td>
<td>Now well.</td>
<td></td>
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<tr>
<td>Excision of cæcum and ascending colon</td>
<td>Do.</td>
<td>D</td>
<td>3rd day.</td>
<td></td>
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<tr>
<td>Partial colectomy and enteroplasty</td>
<td>Do.</td>
<td>R</td>
<td>Now well.</td>
<td></td>
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<tr>
<td>Excision of 3 in. small intestines</td>
<td>Do.</td>
<td>R</td>
<td>Now well.</td>
<td></td>
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<tr>
<td>Excision of cæcum and ascending colon</td>
<td>Do.</td>
<td>R</td>
<td>Now well.</td>
<td></td>
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<tr>
<td>Enterectomy</td>
<td>Do.</td>
<td>R</td>
<td>Alive 2 years ago, not heard</td>
<td></td>
<td></td>
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<tr>
<td>Excision of 2½ in. of gut</td>
<td>Do.</td>
<td>R</td>
<td>of since.</td>
<td></td>
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<tr>
<td></td>
<td>Do.</td>
<td>R</td>
<td>Now well.</td>
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<tr>
<td>Enterectomy</td>
<td>Paul's tube</td>
<td>R</td>
<td>Doing well.</td>
<td></td>
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<tr>
<td>Enterectomy</td>
<td>Senn's plates</td>
<td>R</td>
<td>Still living.</td>
<td></td>
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<tr>
<td>Enterectomy</td>
<td>Bone plates</td>
<td>R</td>
<td>Still living.</td>
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<td></td>
<td></td>
<td></td>
<td>Well 2 years after.</td>
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stricture. The bowel was much distended above and empty below.

Doubtless the safest course would have been to perform a colotomy and subsequently an enterectomy; but seeing that the patient could only be reached by a 120 miles railway journey, and a long moorland drive of twenty-eight miles, it seemed advisable to do a complete operation if possible; and as expeditiously as I could I clamped the gut above and below, excised the disease, and joined up the ends by a Murphy's button. The operation occupied a little over the half-hour, and the patient was put to bed, apparently in as good condition as she left it.

Her bowels were moved very freely within half an hour of operation, and again later in the day. The following day an excellent report was sent me by Dr. Corry. The second day her strength began to fail, and from Dr. Corry's description she sank exhausted on the third day, apparently from a failure to assimilate nourishment, but without signs of peritonitis.

Case 21. Cancer of ascending colon: intestinal obstruction ten days: colectomy, and suture over bobbin: recovery.—On March 13, 1896, I was asked to see, with Dr. Hunt, at Harrogate, a lady, Mrs. M., aged 51, suffering from intestinal obstruction of ten days' duration, no flatus having been passed for three days, and the bowels not having been moved for ten days.

She gave a history of constipation and abdominal pain for four months. The abdomen was distended, and visible peristalsis was present, the caecum standing out prominently during a paroxysm. An incision was made over the caecum, and it and the ileum were found to be very tightly distended, whereas the ascending colon was collapsed, the obstruction being a firm growth encircling the commencement of the ascending colon. The caecum was brought through the wound and its contents evacuated through a small incision; the ileum was then clamped and cut through just above the ileo-caecal valve, after which the ascending colon was cut across below the structure, the intervening caecum and portion of ileum and ascending colon being removed after the mesentery had been ligatured en masse with silk.

The open end of the ileum was then connected to the ascending colon by a continuous serous and mucous suture over a large decalcified bone-bobbin.
As soon as the clamp was removed from the ileum, gas and liquid faeces rushed through the bobbin and filled the colon, the line of union proving quite gas- and water-tight. Flatus passed the same night, and the bowels were moved by enema the third day.

The temperature was normal throughout, and the pulse did not exceed 90 after the first day. The wound healed per primam. The patient is now (March 27, 1896) convalescent, and taking ordinary food.

Remarks on the whole series of cases.—As the twenty-six enterectomies shown in the table were undertaken by three separate methods, some basis is afforded for a comparison of the several procedures, and for a review of the whole subject, the importance of which is considerable, not only on account of the frequent occasions for the exercise of the operation, but also because of the different opinions held on the subject by surgeons generally.

It will be noticed, on reference to the table, that in nine cases the unaided suture was employed, and out of these, five died, yielding a mortality of 55·5 per cent.

In five the Murphy button was used, with one death, giving a mortality of 20 per cent. Two of the cases had a very tardy convalescence, owing to a fistula forming at the site of operation, and owing to the button being retained; and in another case the button had not passed before the patient left the hospital. In twelve cases decalcified bone was used to support the sutures, with one death, giving a rate of 8·3 per cent., and in all these cases recovery was speedy and uninterrupted. Out of the twelve cases the bobbin suggested by myself was employed in nine, Mr. Paul’s tube in one, and Dr. Senn’s plates in two.

It is interesting to note that of these twelve patients eleven were living and well at quite a recent date.

It seemed to me desirable that the cases in the present paper should be limited to those that had come under my own observation or under the care of my colleagues; but I ought to mention that besides the favorable mention by other operators of the method advocated, Mr. Herbert Allingham’s series of cases recently related at the London Medical Society bear out the contentions advanced in this paper.

The number of cases is perhaps too few for the statistical evidence to have any serious weight, especially as all the fatal cases were of so serious a nature as to have in them-
selves the sources of failure, apart from any operation undertaken, and it is likely that this will always be the case, except where operation is undertaken apart from obstruction, and apart from the presence of a suppurating wound or cavity. My remarks and conclusion are therefore based on general observation, on surgical instinct, and on personal experience, rather than on statistical evidence, which, however, it must be granted is of a striking character.

First, with regard to simple suture, and my reasons for preferring some form of mechanical contrivance.

A longer time is of necessity occupied in the performance of enterectomy by simple suture, since a multiplicity of stitches is required, as it is unsafe to employ a continuous suture lest it be drawn too tight and so lead to subsequent, if not to immediate, stenosis. I had a good example of this in a case of pylorectomy which I reported before the Royal Medical and Chirurgical Society, June 14, 1892, in which, after removal of the disease, I united the duodenum to the stomach and employed a continuous suture to the mucous membrane, effecting the operation in a comparatively short time; unfortunately, however, contraction of the new orifice occurred, and two months afterwards I had to perform a second operation for the stricture.

The needle wounds made by simple suture being at once bathed with the intestinal fluids, are liable to be infected and subsequently to lead to ulceration and perforation. Unless the interrupted sutures be numerous and closely applied, extravasation of the intestinal contents is apt to ensue.

The operation by simple suture inserted only through the peritoneal and muscular coats must, however, not be too hastily condemned, and I should not hesitate to employ it if I had not a bobbin at hand. The successful cases in the table, and many cases reported by other operators show that it may be successfully employed.

Maunsell's invagination method is an ingenious modification of the simple suture, and a favourite method with some operators. It is especially applicable in intussusception, for which the author devised it; but I cannot see that it presents any advantage over simple suture in enterectomy for other diseases, either in the time of performance or in safety afterwards.

In a number of cases thus treated, the line of union has yielded and given rise to septic peritonitis; and the manipulation involved in the invagination process of necessity renders
septic contamination of the adjoining parts more likely; so that I think it will probably be found that peritonitis will be more frequent after this method than after other modes of suture.

The method invented by my distinguished friend, Dr. Murphy, of Chicago, has had so much written about it lately, both favorably and adversely, that it will be interesting to know the opinion of those present with regard to its employment.

My own experience of the button is distinctly favorable in cholecystenterostomy, and in short-circuiting operations for intestinal obstruction, where it is thought desirable to do a complete operation speedily, and to avoid the establishment of an intestinal fistula by enterostomy; but my experience of the use of the button in enterectomy, and the disadvantages which have been related of it by other operators, would lead me to prefer the decalcified bone bobbin in such cases.

The metal button can certainly be used very quickly, and therefore where great expedition is absolutely necessary it has advantages. Two continuous sutures are, however, required, as in the use of the bone bobbin, and if the adjustment be found to be faulty when the ends have been pushed home, a very serious error will have occurred which can only be remedied by great expenditure of time.

Where a large button is employed it passes along the intestinal canal with some difficulty, as shown by two of the cases in my table, where the buttons took forty-four and thirty-four days respectively to pass, several times producing partial obstruction before being finally parted with.

This was well exemplified by a specimen shown in the Pathological Museum at the British Medical Association meeting in London in August last, in which the passage of a button had caused a series of ulcerated and gangrenous patches along the whole length of the colon, which ultimately led to death by perforation.

In two of my own cases the button never passed: in one, a cholecystenterostomy, the patient is apparently quite well nine months after, but the button is, so far as I know, in her gall-bladder still, whence it passed in place of entering the intestine.

In the other case, which was published in the Lancet, June 15, 1895, a short-circuiting operation was done for malignant disease, the operation being successful in giving relief for a time. When the patient ultimately succumbed
to his disease the button was found in the loop of short-circuited bowel, where it was effectually imprisoned.

Dr. Morton, October 12, 1895, in the *British Medical Journal*, also relates a case of the kind, and a case in the table furnishes another example.

The bond of union is said to be wanting in firmness, and therefore to be insecure owing to the narrow line of union adjoining the necrosed tissue, and this was distinctly shown in the case I have mentioned; but though easily separated, the bond was watertight and had proved efficient.

Mr. Harrison Cripps, at the meeting of the British Medical Association in August, referred to the want of success from perforation and ulceration which had occurred in the use of the button by the staff of St. Bartholomew’s Hospital.

At a discussion at the Medical Society of London, October 28, 1895, Mr. Bruce Clarke said that in two cases, to his own knowledge, the metal button had produced perforation.

The most serious disadvantage, to my mind, in any operation which is of necessity associated with sloughing of the included margins, is that besides the danger of the sloughing process extending beyond the part included, there must of necessity be a tendency to contraction of the cicatrix which is not protected from irritation by a continuous mucous surface, as in the methods by suture and by the bone bobbin.

That this danger is not imaginary is proved by several observers, who have described the contraction of the fistula as seen post-mortem.

One of the great advantages claimed for the button is that its simplicity enables it to be employed by anyone without previous experience in intestinal work; it seems to me that it is a very questionable procedure that holds forth a lure to tempt the inexperienced to undertake any operation which requires not only considerable surgical skill, but a knowledge of details which is likely to be possessed only by those who have specially studied the subject and who are giving their time and devoting their energies to surgical work.

I have classified the cases operated on by Paul’s tubes and by Senn’s plates under the same heading as the bone bobbin, as although differing in the details of application, they agree in the important principle of affording internal temporary splints as aids to suture.

From what has been said and from the cases I have described, it will be gathered that I prefer to suture the
intestine after enterectomy by a continuous stitch, and to support and protect the line of suture by a light though firm internal splint in the shape of a decalcified bone bobbin.

The employment of the bobbin, which I have recently modified by rounding the ends, and which is made for me in various sizes (Fig. 15) by Messrs. Down Bros., of St. Thomas’s Street, London, presents the following advantages:

(1) By the use of only one continuous suture, or if time can be spared, of two continuous sutures, which, for convenience, we may call marginal or mucous, and external or serous, time and trouble are saved; and as the two needles can be threaded beforehand, a second assistant is quite unnecessary.

(2) By securing a continuity of the mucous membrane through the new channel by means of the marginal continuous suture, which can be drawn tight without fear of too far diminishing the opening, subsequent contraction is prevented, since no granulating wound is left to form fibrous tissue,
the inevitable tendency of which is to contract, and if surrounding a hollow channel to lead to stricture.

(3) When two sutures are employed, the fear of escape of the visceral contents is reduced to a minimum, and secure union is practically guaranteed.

(4) By using decalcified bone, which dissolves in a few days, the presence of a foreign body, which may give subsequent trouble, is avoided.

(5) By having the ends of the tube elevated, the bobbin is prevented from shifting its position until it has served the purpose of protecting the line of suture from faecal or other infection.

(6) By having a wide opening through the bobbin, an immediately patent channel is secured, and the passage of faecal or other matters at once ensues.

(7) Lastly, the bobbin is applicable to any of the operations employed for securing continuity of the divided hollow viscera.

The method of application and the shape and sizes of the modified bobbins which I now employ are shown in the appended figures (Figs. 15, 16, and 17).

Two medium-sized sewing needles, bent into the shape of a third of a circle, are threaded, one with silk and one with catgut, the former for approximating the serous surfaces, the latter the mucous margins. If one suture only be applied, I prefer chromicised catgut.

A needle-holder is neither necessary nor desirable, since its employment means loss of time.
After the bowel to be operated on has been clamped above and below, or if possible isolated by encircling the whole loop with an elastic tourniquet, the affected portion is excised, leaving the two open ends to be dealt with. For convenience it is better to apply the serous suture around the distal half first, and to lay aside the threaded needle until the mucous edges have been approximated and the bone bobbin inserted, when the serous circle can be completed.

The bobbin is not inserted until the marginal suture has been carried around the distal half of the circumference.

After the insertion of the bobbin the marginal stitch is continued around the circle until the loose end of the catgut stitch at the starting-point is reached; the two ends are then drawn on, tied, and cut off short.

The serous suture is now continued around the circle, and

![Fig. 17.](image-url)

Bone bobbin in place and marginal suture (catgut) nearly completed.

when it reaches the starting-point the loose end of the silk stitch is picked up and both are drawn on, tied and cut off. Both stitches are now buried, and a line is only seen where the union has been effected.

If on account of want of time one suture only be employed, the marginal stitch, taking up the serous muscular and submucous coats, and avoiding as far as possible the mucous membrane, should be employed, as shown in the diagram, Fig. 18.

The mucous margins will then be approximated though not perforated, and the buried stitch will run little danger of becoming infected.

This method is very expeditious, is quite simple, and is efficacious, though the double suture affords additional protection and enhanced safety.

Although I have employed my decalcified bone bobbin
with success in many other stomach, gall-bladder, and intestinal operations (for which it is as well adapted as for enterectomy), I have preferred to limit my remarks to the one operation of enterectomy, first because it serves as a better and more uniform test for the various methods of operating; and secondly, because it is easier to institute comparisons in speaking of one than of several operations.

It seems to me that what we particularly want to arrive at is—What is the best method of uniting the divided hollow visera? And it is with the desire of helping to arrive at some more definite conclusion on this point that I have ventured to occupy your time so long.

Although there are many methods of performing enterectomy, I think it will be found that there are practically three principles to consider.

1st. Union by the unaided suture.
2nd. Union by pressure necrosis, producing adhesive inflammation of the contiguous margins of the openings.
3rd. Union by continuous suture, supported by an internal splint, which dissolves as soon as its protective work is accomplished.

According to the statistics I have given, and which I should like to say I believe to include every case operated on in private or in hospital practice, by myself or my colleagues on the staff of the General Infirmary at Leeds, artificial aids in enterectomy afford greater safety than the unaided suture; and of the artificial aids, a decalcified bone support has shown in the hands of four different surgeons the comparatively low mortality of 8·3 per cent.
XXV.—A case of Successful Suture of a Perforated Duodenal Ulcer. By L. A. Dunn, M.S. Read March 27, 1896.

J. N. F., æt. 53, a practical engineer, was admitted into John Ward, Guy’s Hospital, August 2nd, 1895, under the care of Dr. Washbourn.

The patient is a man of spare build, and dark complexion. He seems to have had a chequered existence. He is well-connected, but has fallen in the social scale until he reached the level of the mechanic. He has tried his fortune in many parts of the world, and has been afflicted with various diseases, including ague and syphilis. Some years back he was treated at Guy’s Hospital for an attack of pleurisy, and later on was operated upon at the Miller Hospital for an abscess in the right loin, the scar of which still remains.

On July 31 the patient had been working all the morning in a turning-shed, till just before lunch time, having partaken of no food since early breakfast, when, whilst straining to tighten the nut of a screw, he felt a sudden pain in the epigastric region, which was immediately followed by a sensation of nausea and faintness. He was taken home and vomited. The pain continuing he called in a medical man, who advised him to go to the hospital, which he did on August 2. On admission the abdomen was slightly distended, held firmly rigid, and very tender. His bowels had not acted for two days.

The clinical assistant, who first saw the case, thought it to be one of lead colic, considering the fact that there was a faint blue line above the few teeth which remained, together with the history of abdominal pain and constipation, and did not therefore send for Dr. Washbourn till the next day. Dr. Washbourn recognised the condition to be due to perforation of one of the gas-containing viscera, and asked Mr. Dunn to see the case in consultation with him. The patient was found to be suffering great pain in the abdomen, which was distended and remarkably tympanitic, but not very rigid, the normal liver dulness being absent. He had an anxious expression,
but was not greatly collapsed, so it was decided to explore the abdomen at once.

Having taken all precautions against sepsis and shock, a median incision was made, extending from the ensiform cartilage downwards for a distance of about three inches.

The peritoneum was rapidly reached and divided, when a large quantity of gas escaped. The hand was inserted, and the anterior aspect of the stomach explored on the left side of the wound. It was fairly distended with gas, and a small quantity of thick yellowish fluid escaped. As no perforation could be seen or felt in that direction, the right side was examined. Bubbles of gas and a quantity of the same yellowish fluid now welled up freely from the depths of the wound. This was sponged away. By gently drawing the stomach to the left, and retracting outwards the right side of the wound as far as possible, the first part of the duodenum was brought into view. Some masses of thick yellowish lymph were found upon its anterior surface, and an abundance of gas was heard escaping with a hissing sound.

Upon careful inspection a small aperture was discovered in the midst of the lymph. This was nipped up between the finger and thumb, and when cleared of lymph, was seen to have fairly clean-cut edges, with little or no surrounding induration, and to be of a size such as would admit of the passage of a No. 10 catheter. During the manipulation a few drops of bile and mucus escaped. The aperture was closed by means of fine silk Lembert sutures, two stitches being placed deeply, and a second row of three superficially, these latter catching up a neighbouring portion of the great omentum, which acted as an efficient pad to support the weak spot. The abdominal cavity was then flushed out with boiled water at a temperature of 100° F., and the patient immediately ceased to breathe. The flushing was continued as long as possible considering the condition of the patient, and when it was stopped the breathing recommenced. As the pulse had remained fairly good during the whole operation two other attempts were made, each being followed by a similar result. The pulse now became weaker, hence it was decided to close the wound by deep chromic gut and superficial silkworm gut sutures, but so unsatisfactory had been the cleansing process that it was deemed expedient to place a Keith's tube in the abdominal cavity at the upper angle of the wound. Iodoform and blue gauze dressings were used to cover the wound, and the patient was returned to bed.
During the first week food was administered almost entirely by the rectum, only small quantities of warm water being taken by the mouth. An occasional subcutaneous injection of morphia was given. He complained of pain in the right hypochondriac region, but other than this and a slight thirst he was fairly comfortable. The temperature was always slightly elevated at night, at times reaching to 100° F. The pulse remained at about 90, and the respirations at 20 per minute. The wound was dressed on the eighth day after the operation, and was found to be soundly healed except at the extreme top where the glass tube had been inserted, and now he was allowed an egg beaten up with a little brandy in addition to the milk and weak tea which he had been taking for the last two days.

During the next week his evening temperature regularly reached to 100° F., and on one occasion touched 101° F. He complained loudly of the pain along the right costal margin, which was exaggerated on movement, but had no relation to the time of taking food. He usually required an injection of morphia to ensure sleep at night.

Dr. Newton Pitt, who had now taken on the care of the ward, found that there was some increase in the liver dulness, and detected a doubtful friction sound on deep inspiration at the eighth rib in the axillary line. The brandy was increased to \( \frac{3}{4} \) in the twenty-four hours, and Mist. Hyd. Perchlor. \( \frac{3}{4} \) was ordered three times a day.

During the third week the pain continued, and the temperature rose to 102° F. or 103° F. every evening, reaching the normal line in the morning. He was getting weaker, although he took his food fairly well, and Dr. Pitt, thinking he had local inflammation with possibly some collection of pus, either at the base of the right lung or below the diaphragm, had his chest explored with a hypodermic needle on several occasions without success, so a consultation was held with Mr. Dunn, who decided to explore the abdominal cavity a second time. This was done on August 27.

Having taken all due precautions, an incision three inches long was made just below, and parallel with, the right costal margin. The peritoneum was rapidly reached and opened. The index finger was passed up between the liver and diaphragm, but nothing abnormal could be detected except at the extreme limit upwards, where the liver appeared to be fixed to the diaphragm by some adhesions; a few of those within reach were separated with the finger, but no pus
escaped. The site of the previous operation was next explored from the wound, and found to be quite satisfactory. Before closing the wound, Dr. Pitt suggested that the right side of the chest should be again explored with the hypodermic needle. This was done through the eighth space in the axillary line, and upon exhausting a drop of pus flowed into the barrel of the syringe. The finger was again introduced between the liver and diaphragm, and it was found that the needle had traversed the abdominal cavity, and had perforated the adhesions which were just beyond the reach of the finger. It was then decided to close the abdominal wound, and in a few days, if his present symptoms continued, to open and drain the abscess through the thorax. The wound was closed in the usual way, and the patient put back to bed.

The immediate effect produced by the operation was most satisfactory; the pain ceased, the temperature fell to 99°F., and remained at that, and he seemed altogether improved. On the fourth day after the operation, however, he complained of the old pain in his side, and said he thought that the dressings were irritating the wound, so these were removed, and the wound was found to be perfectly healed. On the sixth day after the operation the temperature arose to 102°F., and the patient complained of great pain in the wound. The dressings were removed the following day, and as the wound looked inflamed two superficial sutures were taken out, which allowed a lot of thick curdy pus to escape. The wound was syringed out, and fomented with hot boric acid lotion. After this, the temperature fell, and remained low, and the wound healed all but one small sinus which led down to a deep stitch. The patient got up on September 14, and went to a convalescent home on September 23. The stitch subsequently came away, the wound healed completely, and the patient went back to his work.

The case has many points of interest, amongst them the cause of the perforation. I think from the appearance of the lymph surrounding the aperture in the duodenum, that there had been an ulceration of that tube which caused it to become glued on to some neighbouring viscus, and that during the effort to tighten the screw, the adhesions gave way, and some extravasation of the contents took place,—not very extensively, however, owing to the comparatively empty condition of the stomach just before lunch.

An interesting legal point was raised as to whether or no the employer was liable.
As regards the operation there was no great difficulty, as the perforation could readily be brought into the incision by a gentle traction on the stomach towards the left. The ulcer was not excised, as it could be well closed by a couple of stitches, which took a very short time.

The method of fixing the omentum over the weak spot seemed to answer well. It was curious that respiration stopped each time an attempt was made to flush out the abdomen, and to this no doubt his subsequent trouble was due, since it was impossible to completely cleanse the peritoneal cavity. It seemed quite clear that some pus had collected somewhere, and that its most probable situation was under the diaphragm, but it was only discovered at the time of the operation by means of the exploring needle, and proved to be out of reach from the abdominal wound.

The relief afforded by the second operation was most marked, and might be explained by supposing that the wall around the collection of pus had been weakened by the separation of some of the adhesions by means of the finger, and by the perforation with the exploring needle; through this the abscess ruptured, tracked down along the course of the finger, and opened at the weakest spot in the abdominal wall, the site of the operation. Against this is the fact that it was evacuated only on the seventh day after the operation, and that a deep stitch was discharged, after which the wound completely healed. I know of only one other case of successful suture of a perforating duodenal ulcer—that by Mr. H. P. Dean—the patient subsequently dying of intestinal strangulation, and so thought it right to bring the present case before the Society.

In conclusion I must thank my medical colleagues for their kindness in allowing me to publish this case; also our house physician, Mr. J. H. Horton, for the skilful manner in which he administered the anaesthetic under very trying circumstances.
XXVI.—Two cases of Acute Abscess of the Liver. By Rickman J. Godlee. Read April 10, 1896.

The two following cases are sufficiently uncommon and raise questions of pathological and surgical interest sufficiently great to justify, it is hoped, their introduction to the attention of the Society.

The first is one of pylephlebitis.

H. S., æt 41, a warehouseman, who had never been out of England, and had enjoyed good health until the onset of the present illness. His average allowance of beer was three pints daily.

In June, 1895, he had an acute illness characterised by violent diarrhœa and vomiting. After this he went to Hastings for a week, and whilst there an abscess formed below the left knee, which healed. After his return to London he felt pain in the region of the liver, and nausea and vomiting, which symptoms gradually grew worse. In the early part of September he was seen by Dr. F. T. Roberts, at which time there was little, if any, enlargement of the liver. He was admitted into Dr. Roberts's ward at University College Hospital on October 12.

He was evidently very ill; pale and slightly jaundiced, but not emaciated; with a rising hectic temperature (on October 17, 99·8° and 103·6°), a pulse of 100 to 120, and respirations about 30 in the minute. The bowels were regularly opened and the motions loose, and his appetite was fair; he had a clean glazed and deeply fissured tongue. On one occasion he had a rigor.

The abdomen was distended, but moved well. There was an obvious visible and palpable rounded swelling, apparently of the liver, the lower margin of which leaving the tip of the eighth left cartilage passed downwards and outwards to the umbilicus and then directly outwards to the loin. It was dull, but not to the edge, which was extremely rounded, and in fact could hardly be called an edge. The upper limit of the liver dulness was scarcely raised. The surface of the swelling was quite smooth, very elastic and somewhat tender. Nothing else was noted in the abdomen, and
there was no displacement or apparent abnormality of the thoracic viscera. The urine contained a trace of bile.

The temperature, the rigor, and the very rapid enlargement of the liver, together with the character of the swelling, seemed to suggest that the diagnosis lay between suppurating hydatid and abscess, and it was judged the safest course to operate without delay.

I opened the abdomen in the middle line above the umbilicus on October 18, and found that the swelling consisted of the right lobe of the liver, so much altered in shape that the edge was quite round, allowing the intestines to insinuate themselves between the anterior surface and the abdominal wall, and thus accounting for the resonance over the lower part of the tumour noted above. There was evident fluctuation, so I decided upon fixing the liver to the abdominal wall before exploring it. In passing one of the stitches (which did not penetrate the liver for more than half an inch) an escape of pus took place. The abscess was then opened, and about four ounces of inodorous yellow pus was evacuated. It was obvious at the time that this amount of pus could hardly account for the swelling, but I was unable with my finger to discover any other branches of the cavity.

Though there appeared for a day or two to be a slight improvement after this operation, it was not maintained; the pulse became very frequent (130—160) and the temperature gradually rose till it reached 105.4° on the fifth day, when he died.

At the post-mortem examination we found a little local peritonitis between the left lobe of the liver and the abdominal wall, but no general peritonitis.

There were tough old adhesions between the transverse and the ascending colon. The vermiform appendix was embedded in dense old adhesions; it was not enlarged, but its lumen was completely blocked about an inch from the cæcum. The tributary of the superior mesenteric vein leading from the cæcum was completely blocked by an old clot, which showed no sign of ever having been septic, and was as quiescent as the parts about the cæcum. This extended up into the main trunk of the portal vein, which was therefore difficult to trace. The left branch of the portal vein was, at all events in its distal parts, patent; the right branch was, however, only traceable as a fibrous cord as far as the transverse fissure of the liver. Here it passed into the commencement of an enormous and complicated abscess, with innumerable branches.
occupying practically the whole of the right and quadrate lobes of the liver, which were enormously swollen. There appeared to be some localised foci of suppuration, but it was difficult to say that they did not communicate by small tracks with some parts of the main abscess. The walls of the abscess were sloughy, the surrounding liver substance was of a yellow colour, and apparently infiltrated with pus. In sections numerous hepatic veins were visible, but no portal canals could be discerned. The left and Spigelian lobes were tough, pale, and flabby, but showed no sign of suppuration. The suppuration in the right lobe had not at all the appearance which is presented in cases of multiple hepatic abscess occurring in the course of embolic pyaemia.

The splenic vein was not thrombosed. The only other point of interest was the presence of extensive purulent meningitis at the base of the brain and a small abscess in the left corpus stratum which had burst into the lateral ventricle.

It seldom happens that this somewhat rare disease affords the opportunity even of such futile treatment as was practised in this case, and it is probably the fact that septic pylephlebitis, like multiple pyaemic suppuration in the liver, is incurable. I will therefore dwell no more on the treatment beyond emphasising the fact which I pointed out some years ago, that if no adhesions exist it is a safe proceeding to stitch the liver to the abdominal wall, and at once to open the abscess. With reasonable care in the stitching no general peritonitis is likely to result.

The pathology of the case is interesting. 1st. It is remarkable that all signs of acute inflammation in the appendix had disappeared. This, as well as the thrombosed vein leading from it to the superior mesenteric and portal veins, was perfectly quiescent, and it was not indeed until the portal fissure was reached that signs of acute inflammation were met with. I have described a similar condition in some lectures on abscess of the liver published some years ago, and possibly it is not exceptional.

2nd. The fact of the left branch of the portal vein remaining patent and the left lobe of the liver unaffected must, I think, be explained by the presence of some vein, such as the gastric, opening into the left portal. I am sorry that the parts were not more carefully dissected. This arrangement, a by no means uncommon one, would allow of the circulation through the left lobe of the liver of the blood coming from the inferior mesenteric and splenic, as well as the gastric veins.
3rd. It is (to me) remarkable that we observed no symptoms leading us to suspect the presence of an abscess in the corpus striatum and extensive basic meningitis.

I should like to take this opportunity of placing on record, with the utmost brevity, another remarkable case of acute suppuration of the liver which I saw in December, 1893, with Dr. Watt Black and Dr. J. Mitchell Bruce. The patient was a healthy Scotch manufacturer, fifty-eight years of age, of temperate habits, who had never been in the tropics, and had not suffered from dysentery. He talked about threatened jaundice in June, 1893, relieved by massage, and a subsequent indefinite feeling of illness, but the fatal attack began suddenly with a rigor as he was coming out of church, thirty-one days before I saw him. Five days after the rigor Dr. Black saw him, and at that time there was no obvious enlargement of the liver; but in the course of a little more than three weeks, it rapidly increased in size until the dulness extended from the upper border of the fourth rib in the nipple line to below the umbilicus. The liver was scarcely painful or tender, and was quite smooth. Some friction was heard over it. He had had two severe rigors after the first, in the second of which he nearly died. The pulse was very weak, and there was a trace of albumen in the urine.

I treated this case like the last, and found a large abscess, easily feelable with the finger, on the lower surface of the liver. There was no difficulty in stitching the liver to the abdominal wall, and opening it from the front. About a pint and a half of stinking pus escaped. There was not much shock at the time, but in his very feeble condition the effect of the operation was too much for his strength, and he died the same afternoon.

We did not obtain a post-mortem examination, but I have thought the case worth recording, because an apparently single acute abscess of the liver occurring in this country is, I should think, extremely rare, and a stinking abscess of the liver is certainly most uncommon.

In conclusion, I should like again to draw attention to the fact that when an acute enlargement of the liver is caused by the development of abscess in the interior, the edge may become so much rounded that room is left for the encroachment of the intestines upon the anterior surface. Under these circumstances, the extent of dulness of course by no means corresponds to the size of the tumour, the shape of which may, moreover, be so unlike that of the liver as to lead to considerable confusion in diagnosis.

M. J., æt. 38 years, a packing-case maker, came under our observation on November 11, 1892, presenting a fluctuating swelling of the scalp about 2½ by 2 inches or more in diameter, and extending considerably to the right of the middle line. Towards the front there was a scar indicating the position of an opening through which serous fluid had discharged on four separate occasions, the swelling subsiding for a time after each escape of fluid. The skin was much thinned at another point in the posterior portion of the fluctuating area. On placing the hand on the swelling, pulsation was felt distinctly, and on usually firm pressure an aperture in the bone, presenting a very irregular, and in parts a yielding margin, could be felt. This aperture was nearly as extensive as the fluctuating area. A few days later the cicatrix yielded, and an abundant discharge of serous fluid occurred as on previous occasions. About an ounce was collected, and on examination resembled serum in appearance and in consistence. After the withdrawal of this fluid there remained a depression which was three quarters of an inch in depth in its centre, and whose edge corresponded to the bony margin already described. On passing a probe through the aperture in the scalp the cavity beneath it was found to extend some little way beneath the overhanging bone.

In December, 1892, the cavity was laid freely open by the division of that portion of the scalp that formed its outer wall. The bone where it was undermined was cut away in parts. Covering the floor of the space, and being especially abundant about its limits, was a firm friable material that bled readily when it was scraped. It also invaded and destroyed the vault of the skull where it came into immediate relation with it. A quantity of this material, which appeared to be sarcomatous in structure, was removed with the sharp spoon, when it was seen to be growing from the outer surface of the
Dura mater. Since it was felt that owing to its extent it would be very dangerous to remove the dura mater and bone within the extensive limits of the growth, after the bulk of the latter had been removed the edges of the incision were brought together. For some time a slight leakage continued at a point where immediate union did not take place, and a month or two later he had an attack of erysipelas, from which he soon recovered. Except for these troubles he has been perfectly well since the operation, having been free from the headache and giddiness from which he suffered previously. The opening made in the vault has contracted somewhat.

The history of the case previous to the operation is as follows:—He was struck on the top of his head by a heavy stick when fourteen years of age, and was rendered temporarily unconscious. As far as he can remember he suffered no subsequent inconvenience. There was also a mention of a recent blow on the top of the head of no great force by a packing-case on stooping.

A year before he came under our observation he complained of neuralgic pains over the right eye and on top of the head, and a little later he found a soft area in the seat of pain. It did not alter till September, 1892, when it became convex and as large as a small egg. The swelling slowly subsided.

About October he consulted Dr. Green, of South Norwood, under whose care he remained, and to whom we are indebted for many points in the history. On October 29, when combing his hair, the swelling broke, and serous fluid which came away was collected, and on three occasions since then fluid came away on pressing the swelling. He was seen by several surgeons, who made various diagnoses, but we are unaware of the exact views held by these gentlemen as to the nature of the condition.

Two views suggested themselves to us, one that the growth was sarcomatous, and probably determined by a recent injury such as he described. This would appear to be borne out by the conditions found at the time of the operation, and by the microscopical examination of the growth, which is apparently distinctly sarcomatous. The other that a large extra-dural haemorrhage followed the blow sustained when a boy, and that a cyst developed which subsequently led to the absorption of the bone over it.

On March 22, 1895, I showed at a meeting of the Society a patient who, in the previous July, had been submitted to operation for the relief of cerebral compression by superficial syphilitic gumma, which had given rise to frequently repeated fits, followed by hemiplegia and coma. A large opening had been made over the right Rolandic area, and a quantity of broken-down gummatous material had been removed from between the dura mater and the bone. The fits ceased almost directly afterwards, the man regained consciousness and the use of his limbs, and when he left the hospital at the end of August he very soon resumed his work. I saw him afterwards at occasional intervals, and his health remained good. He was free from pain, and had no suspicion even of convulsion or paralysis. And so he continued until the morning of November 4, 1895, when, without warning, he was seized with a fit and brought at once to St. Mary’s. After admission the fits recurred every hour, and showed a tendency to become more frequent and severe. From the notes taken by my house surgeon, Mr. Wright, it is learned as follows:—“He is usually lying on his back or slightly on his left side. Quite suddenly his expression becomes strange, his face fixed, his head and eyes are turned towards the left, and there they remain. Then twitchings occur of the left side of the mouth, soon followed by twitchings of the left orbicularis palpebrarum. Before these are over there occur tonic contractions of the left arm (flexion), then of the left leg, and lastly of the right arm and leg. The contractions of the right arm and leg are not so marked as those of the left. This is partly due to the fact that by the time the tonic spasms have reached the right side clonic movements have begun on the left side, first in the arm and thence spreading to both sides, and so violent are they that the bed is shaken. At first his face is cyanosed, but this gradually passes off. He says he is quite conscious during
the fit. Sometimes he passes water during a fit. The tongue is not bitten. For a few minutes after the attack he lies exhausted, with hurried and difficult breathing."

The fits increased in frequency during the next two days, and on the 7th I determined to open the head again. There was nothing in his symptoms to say that the opening ought to be made at one place more than another, and I proceeded, therefore, to expose the site of the former operation. Having turned back a flap of scalp, which was with some difficulty separated from the leathery, firm cicatricial tissue which filled up the former opening, there was nothing at this depth to indicate any fresh mischief. The cicatricial tissue referred to was therefore dissected up from the dura, but here also there was nothing abnormal to be seen. The dura was opened, and the parts beneath seemed free from disease. Before bringing the parts together the orifice in the skull was somewhat enlarged in every direction, but no evidence of disease was forthcoming; and I was forced to the conclusion that no good was likely to follow trephining over the left Rolandic area, and feared that somewhere or other there was in all probability a gummatous mass in the brain substance out of surgical reach. The wound was accordingly closed in the usual way. The fits continued to increase in frequency on the 8th and 9th, and on the 10th recurred every five minutes. There was now left hemiplegia. His temperature too had risen to 101° F. At midday the fits suddenly ceased, and for one hour he lay conscious, but supremely exhausted, before death closed the scene.

The necropsy was made by Mr. Clarke, whose report is in these words:—"The wounds in both scalp and dura mater showed signs of perfect aseptic healing. The flap of dura mater formed the greater part of a disc the size of a halfpenny, and on raising it the pia mater corresponding to the middle of the ascending frontal and parietal convolutions was exposed. This part of the pia was slightly hyperemic, but otherwise shining and normal. The underlying convolutions were themselves free from disease. A soft depressed area containing broken-down fibrous tissue was seen to occupy the right frontal lobe, extending backwards and of about the size of a walnut. Superficially it reached very nearly as far as the lowermost part of the motor area. Under the microscope the loose fibrous tissue of the lesion was found to be such as develops from granulation tissue. At the margin it contained much infiltration of leucocytes and remains of some nerve-
fibres. It was also found that the small-cell infiltration extended for one third of an inch beyond the naked-eye limits of the lesion. The appearance of the skull-cap with its smooth but uneven surface, the alternation of patches of atrophic with areas of sclerosed bone, and the loosening of the attachment of the pericranium, were characteristic of diffuse syphilitic inflammatory change." And there can be no question that the lesion in the frontal lobe was likewise a gumma due to syphilis.

Gummatous tumour of the frontal lobe is sufficiently rare of itself to make the further history of this case worthy of record, but the clinical history also is replete with interest. There can be no doubt that the first operation had effectually removed all surface disease, for not only had all the symptoms of cerebral compression and irritation, the fits, the paralysis, and the coma come to an end, but post mortem also there was no sign of disease in the Rolandic region. The totally different lesion in the brain substance was in all probability of later formation, and it is remarkable that it should have given rise, indirectly no doubt, to precisely the same symptoms as characterised the first onset of intra-cranial mischief, symptoms which correctly led to exploration over the Rolandic area.

Disease in the frontal lobe was of course not suspected, and it could only have been found by exploratory trephining of unwarrantable extent. It is, moreover, questionable whether it could have been dealt with successfully had it been discovered.
XXIX.—*Albuminous or Serous Expectoration.* By

SAMUEL WEST, M.D. Read April 10, 1896.

It sometimes happens that during or soon after the paracentesis the patient begins to cough and to complain of some shortness of breath, and soon after to expectorate a quantity of clear frothy fluid. The cough is almost constant, though not very violent or paroxysmal, and with it there is some shortness of breath and occasionally even considerable dyspnœa. Wheezing and crepitation are heard over the lung, usually over the affected side only, but occasionally on both. After the symptoms have lasted for an hour or two, or perhaps a little longer, they subside, and the case runs its ordinary course, but every now and then the symptoms are extremely severe and the patient quickly dies of suffocation.

Albuminous expectoration is really very rare. Terillon* collected twenty-one cases, chiefly of French origin. Since that time isolated cases have been recorded, but the total number is still quite small, probably under fifty. The figures often quoted give a quite erroneous idea of the real frequency of the affection. Thus Ewald† states the disease to have occurred in his practice in one out of twenty-six; Martineau in one out of fifty; but its frequency is really very much less than this. I have seen but one instance of it out of a very much larger number of cases, and I believe it to be quite one of the rarest events in pleuritic effusion.

My own case occurred in a man of about forty years of age who had a right-sided effusion for about three or four weeks. I performed paracentesis myself, using the siphon and not the aspirator. The fluid flowed readily, and after about forty ounces had been withdrawn the patient began to cough. The cough increased in frequency and caused him much distress. This was soon followed by a little dyspnœa. Expectoration commenced in about ten minutes, and in an hour the patient brought up eight ounces. The attack lasted for three hours, during which time a pint of frothy fluid in all was coughed up.

Over the right side, that is, the side of effusion, there was a good deal of wheezing and crepitation, and a little also on

* Thèse de Paris, 1893.
† Cf. ref. in Wilson Fox, p. 1070, Diseases of Lungs and Pleura.
the left. The patient's condition was in no wise such as to cause alarm, the symptoms rapidly subsided, and the patient made a good recovery.

The cases differ a good deal inter se.

Access.—The attacks rarely come on during the paracentesis, but subsequent to it and after an interval, which may be a few minutes only, and is rarely more than an hour, though in a few instances it has been as much as two hours.

The duration of the attack is usually short, not more than an hour or two, but occasionally longer. In the longest recorded case the attack continued for two days and two nights (48 hours).

The quantity of fluid varies usually with the duration, from a few ounces only to even more than three pints. The actual amount often appears much greater than it is, owing to the number of air-bubbles with which it is mixed.

In character the fluid is frothy, in appearance like that of acute bronchitis. On standing it divides into three layers, the upper whitish and very frothy, the middle opalescent, the lower denser and more viscid. Analysis shows that it is rich in mucin and poor in albumen, the opposite being the case with the fluid of the effusion.

**Analysis of Fluid.**

<table>
<thead>
<tr>
<th>In pleural effusion</th>
<th>Albuminous expectoration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mucus . slight ppte. with acetic acid.</td>
<td>Copious precipitate with acetic acid.</td>
</tr>
<tr>
<td>Albumen (Terillon) . . . 1.6%</td>
<td>1.4%</td>
</tr>
<tr>
<td>&quot; (Dujardin Beanmetz) 6 to 8%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

The physical signs indicating congestion of the lungs, viz. wheezing and crepitation, are present usually on the affected side only, but occasionally on both sides, while in some of the fatal cases, though aggravated by the paracentesis, they were present before the operation was commenced.

There appears to be no necessary relation between the duration of the pleurisy prior to paracentesis and the liability to serous expectoration, but as a rule the cases have been of at least some weeks' standing.

Where paracentesis has been repeated the serous expectoration has sometimes followed each operation, and Behier records a case in which this happened four times.*

It is not to be connected simply with the use of the aspirator or the employment of too much suction in drawing the fluid off, for in sixteen non-fatal cases recorded by Dieulafoy, the aspirator was used only in four, the fluid in the

* L'Union Médicale, 1893.
other twelve being removed by siphonage, while in six fatal cases the aspirator was used only in three. Dieulafoy, however, thinks that the risk is increased if the fluid be drawn off in too large quantities and with too great rapidity.*

The result is rarely fatal, though the symptoms may be very alarming for a time.

Complications and post-mortem appearances.—Among the fatal cases, some other complication beside the effusion is generally found, e.g. morbus cordis, pleural adhesions over the opposite lung, a clot in the pulmonary vessels, or, as in Scriba's† case, a fibrinous plug in the bronchus of the affected side. The general post-mortem appearances of the lungs are those of extreme oedema.

Serous expectoration is stated, moreover, not to be peculiar to paracentesis. Thus, cases are described in the course of emphysema of thoracic aneurysm, and in some cases of pleural effusion before paracentesis. I have seen similar expectoration when the trachea has been pressed upon, and was on the point of being perforated by an aneurysm or by new growth, but as the fluid is then saliva-like and not mixed with air and frothy, I am not sure that these cases of tracheal pressure can be fairly compared with the conditions we are now discussing.

Serous expectoration certainly seems to be less frequent of recent years than it was twenty or thirty years ago, and I think this must be connected with the earlier performance of paracentesis.

Theories.—There are three explanations of the phenomenon which have been suggested.

1. Perforation of the lung, and the discharge of the fluid from the pleural cavity through the lung, the perforation being due either to laceration by the needle or to rupture by the aspiration.

To this theory there are several insuperable objections:

(a) That if the result of perforation, the discharge of the fluid ought to commence at once, and not after an interval, sometimes a long interval, as is occasionally the case.

(b) That air should escape with the fluid during the operation, and the physical signs of pneumothorax develop, but this does not occur.

(c) That spontaneous perforation of the lung, common as it is in empyema, is practically unknown with serous effusion.

* Bull. de l'Acad. de Méd., 1882, xxvii, 488.
† D. Arch. f. kl. Med., 1889, xxxvi, 328, and for other references.
(d) That a puncture made by the needle would be too fine for the fluid to escape by it. Puncture of the lung is certainly not a rare accident in paracentesis, and produces no result of consequence. The argument that punctures are not found post mortem in the fatal cases is not worth much, because the much larger aperture is not always to be found in pneumothorax.

(e) That when the effusion is large, as it is usually in the cases where albuminous expectoration occurs, the lung is so far away from the seat of puncture that it could hardly be reached by the needle.

(f) and lastly.) There is the difference in the chemical constitution of the two fluids, viz. that in the pleura and that discharged by expectoration; the former containing much albumen, the latter much less albumen and a great deal of mucus.

2. Absorption of the effusion by the lung.

The difference in chemical constitution of the two fluids is conclusive also against this theory, to which may be added the further objection that the passage of the fluid into the lymphatics of the lung through the stomata is the natural process by which fluid is removed from the pleura, and that, however rapid this may be, it is not accompanied with the exudation of fluid from the bronchial tubes.

3. There remains the third and only satisfactory theory, viz. that the condition is the result of oedema of the lung, and this seems to conform best to the facts, for

(a) The condition takes some little time, it may be an hour or so, to develop.

(b) In the fatal cases oedema of the lung is the pathological condition found on post mortem examination, and with this the physical signs observed during life agree.

(c) In some cases* oedema of the lung has been diagnosed during life and found post mortem, although there had been no albuminous expectoration. In these cases the explanation is that the cases were rapidly fatal, and time sufficient had not elapsed for expectoration to occur.

(d) Theoretical considerations support this view, for when a lung which has been for some time collapsed and is rapidly distended, the result must be that not only will air pass into the air vesicles, but blood into the blood-vessels, as well as lymph into the lymphatics, just as happens in the subcutaneous tissue after the application of dry cups to the skin.

* Wortlez, L'Union Médicale, 1873, No. 77; Herard, ibid., No. 86.
Dr. West's Case of Albuminous or Serous Expectoration. 173

Cohnheim showed that the permeability of the vessels in a lung which had been some time collapsed was far greater than that of a healthy lung, so that the fluid would pass more readily from the blood-vessels into the lymphatics, and probably also, we may add, from the lymphatics into the air vesicles or bronchi.

But though these general conditions, favourable to the production of oedema of the lung, exist in every case which is tapped, yet serous expectoration is a very rare event, and an explanation must be found for the fact that it does not occur under ordinary circumstances.

Some nervous influence, leading to paralysis of the vasomotor nerves, has been suggested as an explanation. Obscurum per obscurius is the best criticism with which to meet such a theory as this, for it rests on mere speculation and is unsupported by facts.

There is more ground for the belief that the explanation is to be sought in abnormal pathological conditions. In the non-fatal cases the serous expectoration must depend upon some transient condition which soon rights itself. It seems most natural to connect this with the sudden disturbance of the circulation which the withdrawal of fluid must lead to—a view which is supported by Cohnheim's observation just referred to. This would be most marked, and most likely therefore to produce symptoms, when a large amount of fluid had been withdrawn rapidly, and it may be due to the improved methods of paracentesis that the condition is less frequent now than it used to be formerly.

In the fatal cases the phenomenon, though excited by the withdrawal of fluid, must depend upon some abnormal condition which is persistent. Thus, if the blood gains access to the lung freely through the arteries, and yet cannot circulate owing to some obstruction either on the side of the veins or lymphatics, oedema of the lung would necessarily occur, and conceivably also a discharge of fluid, just as in the same way swelling of the leg occurs when the lymphatics or main veins of the limb are obstructed.

The morbid changes found post mortem support this view. Thus, in some instances morbus cordis has been found; in others a clot in the pulmonary vessels. Lastly, there is the remarkable case recorded by Scriba, in which the main bronchus was found plugged by a fibrinous coagulum. The condition of the lymphatics I do not think has ever been carefully investigated in these cases.
XXX.—*A case of Malingering in a boy aged 11.* By Leopold Hudson. *Read May 8, 1896.*

To the few cases of juvenile malingering which have been recorded, I desire to add an experience that recently came under my notice at the Hospital for Sick Children, Great Ormond Street.

A boy named Henry H., aged 11 years, was brought by his aunt to the hospital on February 17, 1896, and she gave the following history: The boy had, till recently, been a boarder at the St. Vincent's Catholic schools in Harrow Road, and two months ago she fetched him home because of a report that the boy complained of pain when passing water and that he had passed blood in his urine.

When he came home he complained of pain on micturition, which was said to come on mostly at the end of the act. It commenced in the left iliac region and passed round to the left back; it also shot downwards into the left testicle and was felt at the end of the penis. There was said to have been a daily passage of blood-stained urine while at school, but the urine remained clear on his return home until February 11. On that date, and three times daily since, the boy stated that he had passed urine mixed with blood. The patient brought a specimen of his urine in a medicine bottle with him. It was tested by my clinical assistant Dr. G. H. A. C. Berkeley, who found that it was distinctly acid, of sp. gr. 1017, and that with the guaiacum and ozonic ether test no reaction for blood could be obtained. It was next tested for albumen, with a negative result. The red colour of the fluid presenting an appearance more suggestive of red ink than blood, I asked my colleague, Dr. Archibald Garrod, to examine a sample. With the spectroscope, Dr. Garrod found absence of the haemoglobin band.

The boy was next asked to pass water, but said he could not do so. A catheter was passed, and a quantity of perfectly clear normal urine was drawn off. After cross-examination he eventually confessed to adding some red sweets to his urine (jargonelle pear-drops). He said he had bought the sweets at school. This statement was afterwards found to
be false, and the coloration had been produced by steeping in the urine a piece of rag stained with Turkey red dye. The reason for the attempt at deception seems to be that he wished to get away from the school. His aunt said that he had always been a naughty boy, and as his mother was dead he was sent to boarding-school.

The history of symptoms which the boy gave was evidently a false one, but I could not discover from whom he learnt the details.

I wrote to the medical officer of the school about the case, and he replied as follows:—"About six weeks or two months ago I was told that the boy was passing blood in the urine, so I requested that a specimen of his water should be sent me for examination. This was not done, and I heard no more of the boy until the receipt of your letter." [The specimen of coloured urine was shown, together with the piece of rag which had been used as a source of the dye.]

The attitude of many surgeons and laryngologists towards the operation of complete extirpation of the larynx is distinctly antagonistic; their objections to it being mainly these:

1. The mortality arising immediately out of the operation is so terribly high that the results hitherto obtained entirely fail to justify it.

2. In cases so advanced that partial operations are not practicable, recurrence of the disease is so early and so frequent that a palliative tracheotomy is preferable.

3. The life of the few patients who do finally recover is one of extreme misery.

I claim for the operation which I shall describe that—

1. It will reduce the mortality of the operation itself.

2. It will considerably shorten the period of healing and convalescence.

3. It will add immeasurably to the comfort of patients both during convalescence and after recovery.

4. It will consequently justify attempts at radical treatment in some cases which are at present regarded as inadmissible.

I shall confine myself exclusively to the surgical question of complete laryngectomy, not digressing to any questions of diagnosis or of the suitability of cases, nor to any other measure of treatment whatever.

Case 1.—James G., aet. 64, a photographer, was first admitted into the infirmary under the care of Dr. Jacob on May 26, 1892, with a history of eight months' hoarseness and sore throat, there being loss of voice and dyspnœa during the latter five months, and for the last month dysphagia also.

He had lost flesh and strength rapidly, and had been unable to work for seven weeks.

Abstract from report on admission.—The larynx is extensively infiltrated, red, and inflamed. The right ventricular band projects, and the glottic opening is hardly visible. There
is considerable swelling and obscuration of the outline of the larynx externally. It is enlarged, and projects considerably, especially on right side.

There is marked laryngeal stridor with considerable depression of the intercostal spaces during inspiration. The voice is very husky.

There were two serious attacks of dyspnoea during the night after admission. The patient was placed under treatment by the vapour of benzoin, with the administration of 10 gr. of iodide of potassium in decoction of cinchona.

On July 4 there supervened an acute painful enlargement of a few lymphatic glands on the right side of the neck. The pain and tenderness subsided in about three weeks, but the glands remained obviously enlarged. Otherwise there was improvement in all directions,—the dyspnoea, dysphagia, and hoarseness almost disappearing, and he gained steadily in strength and weight.

July 13.—The external swelling has considerably decreased, although there is still much infiltration on the right side.

July 27.—The left cord is visible, except just at the anterior part. The left ventricular band and cord are markedly concave, and their posterior extremities are displaced to the right of the middle line. The right cord is hidden by the ventricular band, which bulges towards the middle line. At its anterior end a whitish body is seen projecting beneath it.

August 4.—The whitish oval projection beneath the right ventricular band is somewhat larger, and is more easily seen, on account of the subsidence of the general swelling.

The patient improved so much under treatment that he declined any local interference, and left the hospital on August 27.

Readmitted June 14, 1893. June 15.—He says that he has been fairly comfortable up to six weeks ago, when something suddenly the difficulty in breathing and swallowing became much worse, and since then he has lost 10 lbs. in weight. He looks very ill, being livid, with staring eyes and anxious expression. He shifts uneasily in bed, and requires to be propped up. There is severe dyspnoea, with loud inspiratory and expiratory stridor. He speaks in a hoarse whisper, and the attempt to phonate brings on a distressing suffocative cough. There is great difficulty in getting rid of the frothy mucus which collects in considerable quantity in the fauces, and there is marked depression of the intercostal spaces during inspiration.
A large tumour occupies the region of the larynx, the outline of which is quite obscured. The tumour extends in all directions, but most towards the right side. It is hard, not well defined, and obviously infiltrating, but moves freely upward during deglutition. It extends from about the second ring of the trachea quite up to the level of the hyoid bone, which is very indistinctly felt. The whole tumour is excessively tender to the touch. There are several nodules on each side, apparently enlarged lymphatic glands. They are close to the main tumour and move with it.

The glottic opening cannot be seen, owing to the projection of a rounded whitish mass from the right side beneath the ventricular band. No ulceration to be seen anywhere. Examination difficult owing to the patient's intolerance.

The dyspnoea and general distress were so urgent, that although there was some slight improvement during the first few days the patient was anxious for something to be done. It was explained quite frankly that the case was not a favorable one in which to attempt to extirpate the disease, but he elected to submit himself to the major operation, and was transferred to me on June 26 for that purpose.

Operation (June 26, 1893).—Under chloroform a high tracheotomy was performed and a large tube inserted. The incision was then prolonged upward to the hyoid bone, and the usual transverse incisions carried outwards to the edge of the sterno-mastoid. In freeing the sides of the larynx the dissection was carried wide into the healthy tissues, owing to the extensive infiltration of the soft parts outside the cartilages.

The thyro-hyoid membrane was next incised from side to side, and the larynx pulled forcibly forward. The mucous membrane of the pharynx was divided just below the upper border of the cricoid cartilage, and the larynx and upper end of the trachea dissected from the pharynx and oesophagus down to the lower border of the second tracheal ring, at which level the trachea was divided and the entire larynx removed.

The upper end of the trachea was then pulled forward with forceps, the tracheotomy tube removed, and the chloroform administered direct, any possible haemorrhage being thus under immediate observation and control.

The epiglottis was dissected out, a small quantity of pus exuding from the tissues at its base.

The mucous membrane of the pharynx was then seen as a broad flat surface occupying the posterior part of the wound. There was no troublesome bleeding at any stage, a very few
catgut ligatures being used. Up to this point the operation had been conducted on ordinary lines.

An oesophageal tube was passed from the mouth into the stomach, and the lateral cut edges of the pharynx were brought forward over it, and sutured in the middle line from below upward with catgut, some little difficulty being experienced in making a good fit at the upper angle, where the line of suture was necessarily T-shaped below the hyoid bone. The tube was withdrawn, passed again, and found to pass quite readily without drag anywhere, and was finally removed.

Another ring of the trachea, which seemed infiltrated anteriorly, was removed by a sloping cut from above downwards and forwards. A disc of skin was then cut out from the lower end of the superficial incision and the skin was closely stitched round the upper end of the trachea, which was thus held open without the aid of a tube. Both the mucous passages were thus shut off from any contact or continuity with the wound surface, which was carefully washed and rubbed with iodoform, and the skin wound closed with silk-worm-gut sutures, drainage-tubes being placed downwards into the deeper recesses of the wound from each end of the transverse incision. An antiseptic dressing was applied, and a piece of moist flannel laid over the upper end of the trachea.

The course of the case after operation may be briefly summarised.

The temperature rose to 101.4° on the first evening, fell at 2 A.M. to 99°; and remained afterwards normal. He tried to swallow on the first day, but found it too painful. Nutrient enemata were administered. On the second day the oesophageal tube was passed quite easily, and he was fed three times. The nutrient enemata were discontinued. On the third day he could swallow without the slightest sign of leakage anywhere. On the ninth day he was up, and was photographed.

The wound practically healed by first intention, although there was a slight serous oozing from the drainage-tube tracks for a few days. They were left in longer than was perhaps necessary, as a mere precaution.

July 13.—He complains of a tender spot between the origins of the right sterno-mastoid. On examination there is a distinct fulness of the parts, and a small hard lump can be made out. There is no rise of temperature.

Fomentations were applied, and the swelling steadily subsided and disappeared before he left the hospital.

Note on August 23.—Patient going home to-day. Since
July 13 he has made an uninterrupted recovery. The fulness and tenderness under the right sterno-mastoid have entirely subsided. The tracheal opening is quite patent, and shows no tendency to contract; while the secretion of mucus, which was abundant and a little troublesome at first, is growing less and less. He has no difficulty in swallowing, and is gaining weight rapidly. There is no sign of recurrence.

Pathologist's report, by Dr. Trevelyan.—There is much swelling and infiltration over the right half of the larynx.

On looking at the larynx from above, the cut end of the epiglottis is seen much displaced to the right. There is a considerable degree of laryngeal stenosis. The swelling seen on the external surface is inflammatory in origin, and many points of pus are seen when the tissues are lifted up from the cartilage. The growth is seen to spring from the sacculus laryngis, the ventricular band and the true cord being displaced upwards and downwards respectively. The growth has extended a little to the left side in front. The tumour itself is whitish in colour, irregular on its surface, and has the appearance of epithelioma. The epiglottis and a ring of the trachea have been separated from the remainder of the specimen. A section through the growth shows the ordinary structure of epithelioma with numerous cell nests.

At the end of nearly three years this patient is still comfortable and well content, though of course his voice is reduced to a husky imperfect whisper. He has never worn a tube.

Case 2.—Agnes W., æt. 2, admitted under the care of Dr. Barrs on June 27, 1894, suffering from urgent dyspnoea from obvious laryngeal obstruction. She had been losing her voice for a year, and had been under the care of a medical man for four months with whooping-cough.

Tracheotomy had to be performed during the night after her admission.

The tracheotomy tube was removed on the sixth day, but had to be replaced on the thirteenth day on account of a steady, continuous recurrence of the dyspnoea.

Nothing could be seen beyond the faucial region.

The tube was left out for short periods, but always had to be replaced on account of recurrence of the dyspnoea, the replacement on one occasion being effected with much difficulty and great danger.
Mr. Ward's *Cases of Complete Laryngectomy.*

October 4.—Thyrotomy was performed, the two upper tracheal rings being divided as well as the thyroid and cricoid cartilages. The whole larynx was found to be stuffed with a soft papillomatous growth, all the anatomical features of the interior of the larynx being quite destroyed.

The growth was thoroughly curetted and dissected away. The child was very ill and in great danger after the operation. Food escaped through the tracheotomy opening. The wound gaped, and had to be strapped. After a time she began to improve, and the friends took her home on November 10, the tube being still absolutely necessary.

January 9, 1895.—Readmitted extremely ill, with the growth fungating so luxuriantly that it sprouted through the tracheotomy opening, and was blocking the tube.

With great attention to the tube there was slight improvement up to January 25, when, with the concurrence of my colleagues, laryngectomy was performed for the following reasons:

1. The entire failure of a very thorough removal after thyrotomy.
2. Rapid luxuriant recurrence.
3. Extreme danger of the former operation.
4. She was already, in our opinion, permanently voiceless, and condemned to the use of a tracheotomy tube.

At the operation, owing to the smallness of the parts and their recession under the chin, there was some difficulty in suturing close up the hyoid bone.

After the operation the child was quite intractable. She would not attempt to take food, fell into an ecstasy of terror when the tube was passed, and invariably vomited what was given to her, and rejected rectal alimentation. She maintained her ground for about thirty-six hours, and then suddenly fell into a condition of collapse, and died about sixty hours after the operation. The excised larynx was found crammed with growth.

*Post-mortem.*—No part of the wound had given way.

Case 3.—William H., æt. 42, bricklayer, admitted August 8, 1895, under the care of Dr. Barrs.

Illness commenced eight months ago with what he called a bad cold, accompanied by hoarseness. In three weeks loss of voice became marked, and a week afterwards he gave up work on account of weakness and loss of appetite. He was in bed a fortnight, and used steam inhalations. Hoarseness
improved somewhat, and he resumed work until three weeks before admission, when he again took to bed on account of weakness arising out of inability to swallow. Five months ago swallowing became painful and difficult, and for four months he has taken only liquids. He has lost strength rapidly, and his weight has fallen from an average of 10 st. 8 lbs. to 8 st. He denies ever having had syphilis, but there are scars on the glans penis and in the groin. Gonorrhoea twenty-four years ago.

Thin and wasted; lies propped up in bed. There is audible and obvious difficulty in breathing, with stridor. Lips a little blue, but no marked cyanosis. Much sucking in of intercostal spaces and lower part of chest. Occasional short cough with expectoration of large quantity of greyish frothy mucus. Voice very hoarse and indistinct. Nothing made out by laryngoscope at this time owing to absolute intolerance of examination. Not much change for nine days, when the sputum became blood-stained and the breathing more difficult, especially at night.

August 21.—A fortnight after admission dyspnoea suddenly became so much worse that tracheotomy was performed by the resident surgical officer with entire relief, but he continued to be troubled with a large quantity of mucus, that from the tube being blood-stained.

August 31.—Rubber tube substituted for metal.

September 1.—He found that when the tube was out he was entirely unable to breathe through his mouth if the tracheotomy opening was plugged.

September 6.—Dr. Barrs examined with laryngoscope and found the cords hidden by swelling of the ventricular bands, which looked puffy and red, and there was a general tumefaction of the whole of the parts, including the epiglottis. Nothing that looked like growth or ulceration to be seen. The whole larynx felt bulky and not well defined, but moved freely on swallowing.

Operation (September 12).—A vertical incision was made from the hyoid bone down to the tracheal opening, and thyrotomy was performed for the purpose of confirming the diagnosis. The operation was then completed as in the first case, with the following modifications of detail.

The larynx was first separated below between the cricoid cartilage and the trachea, and dissected out from below upwards. The upper end of the trachea was pulled forward out of the way of any hæmorrhage, the tracheotomy tube
removed, and the anaesthetic given directly over the tracheal opening. It was found that the whole of the pharyngeal mucous membrane, corresponding with the posterior surface of the cricoid cartilage, was undermined and thinned by growth, which had become extrinsic on all sides. The larynx was freed by cutting through into the pharynx at the upper border of the cricoid cartilage, through the thyrohyoid membrane, and laterally above the arytaenoepiglottic folds, part of the right one being, however, left behind in the first instance, and subsequently removed with scissors, as it was found to be involved in disease. The whole of the remaining part of the anterior wall of pharynx had now to be freely cut away, owing to extensive infiltration with growth, and the enlarged glands were dissected out from the left side of the neck. The operation was concluded as before, there being greater difficulty in stitching the pharynx round the tube in consequence of its more extensive removal.

Nine hours after the operation he was fed through the tube, and subsequently at short intervals. Twenty-three hours after the operation a tracheotomy tube was inserted, as the wound seemed inclined to narrow a little, but it was removed again two days later. On the fifth day it became evident that some of the deeper parts of the wound at the lower part of the sutured cesophagus had given way, as milk escaped above the tracheotomy wound when he was fed, apparently regurgitating up from the stomach along the outside of the tube. This caused considerable trouble and distress for three days, when it finally ceased, and the temperature fell from its previous three days' average of 99.5° to normal, and did not rise again. Probably the interval which elapsed between the operation and the leakage of food allowed the greater part of the wound to heal, and the remainder to develop a protective resistent surface.

The partial closure of the wound by healing prevented the passage of milk in any considerable quantity; and therefore, although the method of operation did not achieve its entire object, it tided the patient through the period of greatest vulnerability to infection through the wound, and to septic lung complication.

This patient can now speak in a low guttural voice, audible across a room, and everything he says can be clearly and easily made out. The trachea is, of course, entirely shut off from the mouth, and it seems as if he has cultivated a faculty of accumulating a small reservoir of air in the pharynx.
In my opinion the cardinal defect of all former operations is the fact that they make a huge gaping raw chasm in the neck, opening up a large number of its loose cellular planes, and that they leave this chasm widely open to the mouth, the oesophagus, and the air-passages, with the exception of the inadequate provision in some of them for swabbing the surfaces with antiseptics or coagulating agents or caustics, and in others for stuffing as tight as possible with some so-called aseptic fabric, such as muslin gauze.

Now, what might be the reasonable *a priori* expectation from such a condition of things? On the one hand, that the unavoidable contact of mucus and food would straightway foul the wound and produce all the conditions favorable to general septic infection. And, on the other, the passage of food and septic wound secretions into the air-passages would be likely to set up those very fatal septic changes in the lung which we call generally septic pneumonia. And these are precisely the conditions which kill most of those who succumb to the operation, having survived its immediate risks—such as shock, hæmorrhage, &c.

It was stated years ago by an eminent authority that the condition of those who survive total laryngectomy is most miserable. This statement still remains unchallenged, presumably because the condition of the majority is miserable.

How could it be otherwise after any operation which leaves a large pharyngeal fistula in the middle line above the tracheal opening?

I have not read an account of any operation in which complete closure of the wound is advocated or has been practised. Both in Germany and in America partial closure has been carried out with much-improved results, but the principle which I desire to emphasise is the entire exclusion of the wound from both the adjacent mucous canals.
XXXII.—A case illustrating a condition of Congenital Partial Displacement of both Hip-joints upwards and forwards. By W. Arbuthnot Lane, M.S. Read May 8, 1896.

The deformity to which I propose to call your attention is one with which I am familiar in a slighter degree as a unilateral and sometimes as a bilateral condition. Since it is more typically illustrated by the case which forms the subject of this short communication than in any that I have yet observed, I will be contented to describe the displacement by giving in detail the appearances presented by this patient.

The child, a boy, J. P., æt. three years, was admitted under my care into Guy's Hospital on November 10, 1895. The heads of the femora did not occupy their usual relationship to the innominate bone, but were placed in a position slightly above and in front of the normal. I do not mean to assume that in these cases there is any complete displacement of the head of the femur from the acetabular cavity, such as we are familiar with in the varieties of congenital dislocation, but rather that the position of the articular surface on the innominate bone had been altered and modified in form, probably by pressure exerted at a mechanical advantage on the femur during foetal life. I did not arrive at this conclusion from an examination of this case alone, but because I had seen less marked cases in which the deviation in the position of the head of the femur was so slight as to render absurd any suspicion of its complete displacement from the acetabular cavity. As the child occupied the supine position the thighs were rotated outwards, so that the outer margins of the feet rested on the bed. On attempting to rotate the thighs inwards it was possible to do so only to the extent of approaching the vertical with the inner margin of the foot. The thigh could be rotated outwards enough to allow of the inner margin of the foot being directed backwards in a direction corresponding to the vertical, so that the limits of passive rotation included an angle of 180°.

On placing the child on its feet it stood in the position indicated in Fig. 19, and was so insecure that he had to be
supported as shown in the photograph. It readily assumed voluntarily the posture shown in Fig. 20. It was impossible to get him to assume voluntarily the position shown in Fig. 21, but on the feet being forced into that posture which represented the limit of internal rotation of which the thighs were capable, the child was able to stand, but very insecurely.

On making the child walk it did so in a manner which was most awkward and ungainly, movement taking place around an axis corresponding to the length of the neck of the femur. The knees moved, therefore, around an axis which was much more antero-posterior in direction than transverse, the feet being thrown outwards and but slightly forwards. On account of this peculiarity progress was very slow, and the pelvis rotated around an antero-posterior axis with each step so considerably as to produce a wobble of the whole trunk, the muscular control over each joint when used separately being very insecure.

Two modes of treatment suggested themselves to my mind. In order to avoid subsequently the rotation of the whole of the femur around the oblique axis corresponding to the direction of its neck I thought of cutting through the neck of the bone, and, after shaving off its base, wiring it at a more useful angle to the shaft. The objections to this operation were the fact that the child was very ill-nourished, restless, fretful, and dirty in its habits. Therefore I decided to cut transversely through each femur below its centre, to rotate the lower fragment inwards through an angle of about 90°, and to fix the sawn surfaces securely together in that position with wire. That was easily done by means of transverse incisions, the extensor muscles being divided and their ends subsequently laced together with continuous sutures.

The amount of internal rotation of the limb below the seat of operation is now normal. That the limb cannot be rendered functionally perfect is due to the persistent displacement of the head of the femur from its normal relationship to the pelvis, with the associated outward rotation of the upper fragment of the bone. Still the improvement effected by the operation is, as you see, very great indeed. The child walks naturally, and unless stripped and examined carefully nothing abnormal is observed.
Richard P., a strong, healthy-looking lad, æt. 17, was skating on the evening of December 28, 1892. He caught the toe of his left skate in a hole in the ice and fell, "wrenching his leg" in the fall. He was carried home and put to bed. Dr. H. F. Bernau, of East Finchley, saw him fourteen hours after the accident, and found him complaining of great pain in the upper part of the left thigh, chiefly on its inner aspect. There was neither swelling nor bruising, and the limb could be moved slightly, but with pain. No crepitus could be felt, and there was no eversion. The limb was the eighth of an inch shorter than its fellow. It is important to mention that the boy’s mother had noticed that he limped slightly for several weeks before the accident, and also that his younger sister had been under my care at the Great Northern Hospital for early hip disease, and was at the time wearing a double Thomas's splint.

Dr. Bernau was of opinion that no fracture had occurred, but entertained the possibility of previous mischief in the hip-joint. The limb was fixed with a long splint, and evaporating lotions were applied to the hip. During three days there was much pain; the temperature was normal throughout. At the end of a fortnight the splint was removed for purposes of examination. Movement of the hip was less painful, but "distinct coarse grating" could be felt. The splint was reapplied for ten days, when the boy was allowed to leave his bed. The pain and stiffness in the hip gradually diminished, and the patient was able to get about a little with the aid of a stick.

He first came under my care at the Great Northern Central Hospital on February 14, 1893, nearly seven weeks after the accident. On examination of the left hip there was found to be a complete absence of pain and swelling about the joint. The limb was shorter than its fellow to the extent of an inch, and the top of the great trochanter was raised to a corresponding distance above Nelaton's line. When the limb was
rotated coarse grating was felt with a hand placed over the trochanter, and the latter rolled round its own vertical axis as though it were not attached to the head of the bone.

The shortening of the limb could almost completely be reduced by steady traction. Everything, therefore, pointed to separation of the head of the femur, and the age of the patient suggested the possibility that the separation had occurred at the epiphysial line. It was further considered possible that the bone in this position had already been weakened by quiet tuberculous disease, for, as above mentioned, the boy had been noticed to limp for some weeks before the accident, and his sister was the subject of hip disease.

Looking, however, to the uncertainty of this diagnosis, and in the hope that union might still occur, a Liston's long splint was applied with plaster of Paris, and a weight extension of 6 lbs. was attached to the leg. At the end of eight weeks no change had occurred, and on removing the splint and weight extension the limb again became one inch shorter than its fellow. Four months had now elapsed, and it was not considered probable that further treatment with splints would result in repair of the fracture. Accordingly, after consultation, it was decided to investigate the seat of injury through an incision. I intended, if circumstances permitted, to wire or peg the fracture, but was prepared to find it advisable to excise the head of the bone. On April 20, 1893, a straight incision four inches in length was made over the posterior border of the trochanter. After separating the muscles attached to it with scalpel and periosteal elevator, the trochanter was turned outwards by strongly adducting the limb, and the hip-joint was opened through its upper and posterior part. A fracture was found through the middle of the neck of the femur. The condition of the bone, as described below, rendered repair so improbable that it was decided to remove the loose head. This was done with some difficulty by means of a strong curved periosteal elevator. A sharp spur of bone projecting from the upper surface of the neck was removed with bone forceps, and the remains of the neck could now be made to lie in the acetabulum by steady traction on the limb in the abducted position. All bleeding having been arrested, the wound was sponged with 1 in 500 sublimate solution and closed with silk sutures, a small drainage-tube being inserted at the lower angle. A dressing of sal-alembroth gauze and wool was applied. No
splint was used, but the limb was placed in an abducted position with a light weight extension applied, whilst rotation of the leg was prevented by sand-bags applied along each side of it. The wound healed by first intention, except in the position of the drainage-tube, which was removed on the sixth day. All the stitches were taken out on the tenth day.

**Fig. 22.**

To illustrate Mr. Raymond Johnson's case of fracture of the neck of the femur. The figure, which was drawn from the parts removed by operation, shows the extent to which the neck of the femur was destroyed by superficial caries.

The patient left the hospital on May 15, twenty-six days after the operation. He was allowed to get about with crutches, the foot of the affected limb being raised from the ground by the use of a patten on the opposite side. At the
end of twelve months the patten and crutches were dispensed with. Two and a half years after the operation the measurement from the anterior superior iliac spine to the internal malleolus showed the existence of 2½ inches of shortening both in the standing and recumbent positions. The movements of the hip were good, and the gait fairly satisfactory. There was a complete absence of any signs of disease in the part, and the patient’s health was excellent.

The part removed is represented in the accompanying drawing, kindly made for me by Mr. T. W. P. Lawrence. It consists of the head of the femur, separated through about the middle of the neck. The cartilaginous surface is eroded around the whole length of its margin, and at some parts slightly undermined. The surface of the cartilage is covered in many parts with a thin adherent membranous layer. The depression for the attachment of the round ligament is increased in area by erosion of the surrounding cartilage, and in depth by superficial caries of the bone. The neck is eroded into pits of varying depth, some of which contain a little soft granulation tissue; the periostenum has almost entirely disappeared. The place through which the separation has occurred is almost transverse to the line of the neck, and appears as a quadrilateral concavo-convex surface, measuring 21 millimetres across. The surface is quite smooth and sclerosed. On section, the part of the neck represented in the specimen is uniformly sclerosed, and to a less extent the head itself shows a similar change, except beneath the pit for the round ligament, where it is rarefied. Very indistinct remains of the epiphysial cartilage are recognisable for an extent of 10 millimetres.

On histological examination of the pitted surface of the remains of the neck it is found that the bone is much rarefied, and that the slender trabeculae are embedded in delicate cellular tissue, containing abundant thin-walled capillary blood-vessels. Absorption of bone by osteoclasts and deposit by osteoblasts are going on side by side in different parts of the section. No tuberculous tissue is recognisable in any of the parts examined.

In spite of this I am inclined to regard the case as one of tuberculous disease progressing insidiously, but weakening the neck of the femur to such an extent as to be the predisposing cause of the fracture. That a destructive process had been taking place in the bone is obvious. Did this precede or follow the fracture? It is well known that some degree
of absorption may occur in the fragments of a fractured bone, but my reasons for thinking that in this case the changes were antecedent and inflammatory are (a) that the destruction is limited to the surface of the bone, and takes the forms of irregular pitting; (b) that these pits are filled with delicate vascular tissue; (c) that the bone is in a similar condition at the attachment of the round ligament; and (d) that the fractured surface itself, which may be supposed to have been healthy, has become markedly sclerosed. The history of slight lameness before the accident also points strongly in the same direction. The view that the caries was tuberculous is founded merely on probabilities, an important point in this connection being that the patient's sister was the subject of unmistakable hip disease. The failure to detect tuberculous tissue in the bone does not, I think, form a strong objection to this view. In dry tuberculous caries the amount of tuberculous tissue is small, and the sections may have passed only through the adjacent bone, which is in a condition of simple rarefying osteitis.

I venture, therefore, to bring the case forward as one of fracture of the neck of the femur in a young subject resulting from weakening of the bone by dry caries. The insidious course of the disease is best evidenced by the fact that the lad was able to skate without discomfort. Separation of the head of the femur at the epiphysial line and fracture of the neck in young subjects are both rare. In advanced life the frequency of the latter injury is sufficiently explained by senile changes in the bone, and the case under consideration emphasises the fact that if in a young subject the symptoms suggest intra-capsular fracture, the possibility of pre-existing pathological changes in the bone must be carefully borne in mind, even though the symptoms of such may be very insignificant.

The uncertainty of the exact nature of the case, and the absence of any evidence of repair after prolonged fixation, appeared to me to justify operative interference. By this means it was hoped that it might be possible to peg the fracture if it proved to be uncomplicated. Finding, however, that the bone was diseased, the removal of the head seemed advisable apart from a consideration of the subsequent utility of the limb.
XXXIV.—Secondary Epithelioma of Neck: removal together with three inches of internal jugular vein: division of the left vagus: primary suture of nerve.
By G. H. Makins. Read May 8, 1896.

E. P. M., æt. 57. The patient had always been healthy until the early part of 1894, when he began to suffer with his tongue. There was no history of syphilis, and he had not been an excessive smoker.

In June, 1894, the anterior half of the tongue was in a state of chronic superficial inflammation, with patches of leukoplakia, and at the left margin was a definite epitheliomatous patch of ulceration with surrounding induration. The anterior two thirds of the left half of the tongue were then removed.

At Christmas, 1894, he returned with a definite nodule of growth in the right half of the tongue, which otherwise had much improved in appearance. A similar proportion of the right half of the tongue was then removed.

In May, 1895, however, he again returned with a small ulcer on the cicatrix, and on this occasion the remainder of the tongue was taken away. On neither of the three occasions were any enlarged glands to be noted.

In August, 1895, he returned with a hard swelling beneath the lower third of the left sterno-mastoid. His attention had been drawn to this by pain and stiffness in the movements of his neck. The tumour was hard, and not very moveable, but it could be shifted from side to side, and he was recommended to have it excised.

On August 28 this was done. The sterno-mastoid was divided in its lower third, and a considerable portion of the muscle removed, as it was infiltrated with growth. The tumour proved to be much more considerable in extent than had been previously supposed; about two inches of the internal jugular vein were implicated in the growth, the vein being in consequence separated at least one inch from the common carotid artery. An intricate dissection was necessary. The common carotid was exposed for nearly its whole length in the neck; the thoracic duct had to be separated...
from the tumour, and the subclavian vein was exposed. The internal jugular vein was doubly ligatured above the middle of the neck, and the tumour separated with it, and drawn down until a second ligature could be applied to the vein close to its termination. While separating the tumour it was seen that the left vagus was still adherent to its posterior surface, and hence had unfortunately been included in the ligature passed round the vein above and divided with it. The nerve was therefore dissected off the tumour, a fresh ligature applied to the vein above, the upper end of the vagus set free, and the two ends were connected, a single silk suture passed through the trunk sufficing to maintain good apposition. No symptoms, either respiratory or circulatory, were meanwhile noted, although the patient was carefully observed by myself and Mr. E. F. White, the anaesthetist.

The wound was closed accurately and dressed with bicy-anide gauze.

The patient was removed to bed, and a tent erected in view of any pulmonary complication. When he recovered from the ether his voice was very weak, but audible. During the night he vomited once. During the next day the voice improved somewhat but remained very hoarse, and he had a slight cough. Respiration was regular, about 16 to the minute, and the pulse was full, regular, beating 70 to the minute.

The further progress of the case was quite uneventful, an expectorant mixture was given, and the tent continued, but no pulmonary trouble developed, and nothing abnormal was noted either in the pulse, the respiration, or the digestion.

On the sixth day the wound was dressed and found entirely healed, and the stitches were removed. From this time he was allowed to sit up in bed, being cautioned not to move the neck freely. A week later he got up, and on the twentieth day he left the hospital.

At this time the voice was so far improved in strength, that the patient noticed little difference in it, except at times, and a laryngoscopic examination showed the right vocal cord to move freely, and to well approximate itself to the left.

On November 12, 1896, I had the advantage of submitting the patient to my colleague Dr. Semon, for examination, and he reported upon it as follows:

"The left vocal cord now stands quite fixed near the middle line, the right joins it in phonation, and the voice is almost normal, occasionally slightly hoarse and a little high
pitched. What has taken place in this case is evidently the
following: after suture of the nerve the adductor fibres have
partially recovered, but not the abductor fibres (this is quite
in accordance with the law which goes by my name); after
the partial recovery the conducting adductor fibres have on
phonation moved the vocal cord into the phonatory position,
and in this position gradually a paralytic contracture of the
adductor has taken place, with the result of fixing the cord
where it is now seen."

That accidental injuries to the vagus are not so very un-
common is evident from the fact that Roswell Park, in a
recent contribution to the Annals of Surgery (part 32, August,
1895, p. 145), has collated no less than fifteen instances in
which the nerve was accidentally involved in malignant
disease or in wounds, and fifty cases in which the nerve was
either resected or divided during surgical operations on the
neck.

These cases have been tabulated and analysed by Roswell
Park, and he has drawn from them the following conclusion.

"Of fifty instances of injury to the pneumogastric during
operations upon the neck we are left in doubt as to the result
in two cases. Of the remaining forty-eight, twenty-one died
and twenty-seven recovered. All of which constitutes a
favorable showing, which to the writer seems a sufficient
contradiction for statements found in the older works. In
the fatal cases it is impossible to say that in any instance
death was due to injury to the nerve, and there have been
included under the deaths several cases where the fatal issue
was so long postponed as to constitute a source of valid doubt.
The preponderance of testimony is in favour of the com-
parative safety of attacking this nerve when involved in disease,
and when too much other operating is not necessitated by the
condition which has caused the operative attack."

Examination of the cases recorded by Roswell Park cer-
tainly seems to warrant the conclusion that dangerous sym-
ptoms, either cardiac, pulmonary, or digestive, are by no
means a necessary sequel to division of one pneumogastric
nerve.

In relation to this point, it may be of interest to briefly
enumerate the branches cut off from their central connections
in the case under consideration. Section of the trunk was
made below the origin of the superior laryngeal, upper car-
diac, and probably the depressor fibres.

The superficial cardiac plexus was thus deprived of the
lower cervical vagal cardiac filament, and the deep cardiac plexus of the branches given off by the inferior laryngeal within the thorax. Although little can be said as to the special function of these various filaments, yet the numerical loss of fibres is comparatively slight. As to the pulmonary plexuses the numerical loss is more important, but on the other hand by the free intercommunication of these, each lung receives a supply from both vagi, and there is no reason to suggest that the supply given by the two nerves is different in nature. The same remarks apply to the plexus gulae.

Beyond this the supply from the left vagus to the posterior aspect of the stomach, and the contribution to the solar, splenic, and left renal plexuses were, at any rate for the time being, completely cut off.

The laryngeal paralysis, and its subsequent condition, have been already dealt with, and some reason has been given for assuming at any rate partial recovery of function in the branches of the recurrent laryngeal nerve; if this be true, a similar degree of recovery may possibly have occurred in the case of the other branches.

Two other points seem of some interest with regard to the case under consideration, first, the left vagus was the nerve divided, and it has been thought, though apparently on not very definite grounds, that injury to this nerve is a less serious accident than to the right; secondly, the nerve in this case, although not infiltrated by the growth, had nevertheless been possibly subjected to a gradually increasing amount of pressure which might to a certain extent have lowered its normal functional activity.

The tumour removed offers one inherent character of interest. The growth, as is readily seen, has not only involved the walls of the vein, but it projects as a considerable mass into the lumen of the vessel. The surface of the mass still retains an intact endothelial covering, but at several points are small areas evidently about to break down, when their contents would be discharged into the blood stream. A striking example is thus afforded of the method by which squamous epitheliomata may sometimes be generally disseminated, and such specimens are by no means common.

July, 1896.—The patient is still living, but has now a recurrent growth in the neck of large dimensions.
XXXV.—Case of Typhoid Fever with Hyperpyrexia and Acute Cardiac Dilatation: venesection and recovery. By A. H. Weiss Clemow, M.D. Read May 22, 1896.

It has appeared to me that the following case would be of interest as illustrating the inestimable value of blood-letting when done under appropriate circumstances, even although the patient may be at the time to all appearances in extremis.

Mr. A. H. A., æt. 25, first complained of headache and feelings of malaise on Wednesday, November 13, and was seen by me on Monday, the 18th. His temperature was then 104° (although he had already been taking antipyretics for two days at least), and some fine crepitations were audible at the base of the right lung. On the 19th epistaxis occurred, and as there had been no action of the bowels for two or three days, I prescribed Hydrarg. Subchlor. gr. iij at bedtime. On the 20th the temperature was still 104°; the bowels acted several times during the day, and at my last visit at night I inspected the last passed motion, which was of a suspiciously typhoid character. The next morning my suspicions were fully confirmed, and I placed the patient upon a diet of two and a half pints of milk with a pint and a half of beef-tea in the twenty-four hours, with half an ounce of brandy every two hours, and prescribed cold or tepid sponging at frequent intervals as the temperature might indicate. On the 21st he was very weak and prostrate, the temperature continuing much the same. He was ordered guaiacol carbonate gr. x every four hours. Between this date and the 26th the temperature frequently touched 104°, but by the aid of constant sponging it generally averaged between 102° and 103°. During the night of the 25th there was retention of urine, which I relieved at 9 A.M. on the 26th with a gum-elastic catheter. No water was passed during that day, so at 6 p.m. I again drew it off. His condition at the time was otherwise satisfactory; pulse 90, tongue moist and not excessively furred. At 10 p.m. there was slight epistaxis, which re-
curred at 11.45. Temperature at midnight 103.4°. At 2 a.m. on the 27th there was a severe rigor, which lasted twenty minutes. I was sent for, and on my arrival found him wildly delirious, with an axillary temperature of 106.7°. Vigorous iced sponging reduced this to 103°, and when I left him in rather more than an hour’s time he was quite quiet, though absolutely unconscious. At 4.15 a.m., Quin. Sulph. gr. v was administered, and at 7 a.m. the temperature was 98.4°. At 7.30 there was another severe rigor with delirium, the axillary temperature now touching 107°. Iced sponging again lowered the temperature and quieted the delirium. As the case had now assumed a very serious aspect I advised a consultation, and Sir William Broadbent kindly saw the patient with me at 9.45. His temperature was then 102.7°, and he was quiet though quite unconscious. Sir William regarded the case as one of the utmost gravity, and advised the subcutaneous injection of 1/2 grain morphia. This was at once administered, and I left him shortly afterwards, his condition being unchanged. Between 11 and 11.30 a.m. he became very rapidly worse, and the nurse sent down a note to my house asking me to come at once as Mr. A. was “sinking rapidly.” Having left home before this could reach me I did not receive it, but on my arrival at 12.20 I was greatly astonished to find the patient to all appearances in articulo mortis. He was deeply cyanosed, his jaw had dropped, and it could scarcely be said that he was breathing, his efforts at respiration consisting of nothing but almost futile spasmodic jerks. His eyelids were half open, and the conjunctival reflex was quite absent. I placed my hand upon his wrist, and was at once struck by the character of the pulse, which although very rapid (about 150) was not of that running description which one usually associates with such an extreme condition. The beats were sharper and more distinct. A rapid examination of the heart showed that the right side was very greatly over-distended. I at once administered 1/30 gr. strychnia and 1/100 gr. digitalin and a syringeful of brandy subcutaneously. I then went to his mother, who, in an adjoining room, was at the time bemoaning her son as dead, and having explained what I proposed to do, and obtained her immediate consent, I opened the median basilic vein in the left arm, and took away about eight ounces of blood.

The first noticeable effect was a diminution of the cyanosis, a pinker tinge appearing in the face, and more especially in the ears. The pulse for a moment or so became very feeble
and irregular, but shortly showed an improvement, being softer and less rapid. It was a little time before any appreciable alteration in the respiration occurred, but it soon became evident that the respiratory movements were deeper and fuller, and that air was entering the chest more readily. Half an hour after the bleeding I repeated the injection of strychnia and digitalin, and the temperature being then 104°, he was sponged with tepid water, and an enema of peptonised milk with half an ounce of brandy was administered. At 3.20 the subcutaneous and rectal injections were repeated, but although his general condition had improved, he was still quite unconscious.Shortly after five o’clock, however, he aurred, recognised his mother and the nurses who were standing at his bedside, and as soon as he could speak, asked whether he was “Bertie or the dead one?” I remained with him all that evening and night. He was able to take an ample amount of nourishment, milk, beef tea, Valentine’s meat juice, champagne and brandy by the mouth, supplemented by rectal injections, and I repeated the hypodermic injections of strychnia and digitalin every three hours. Though he slept but very little, he passed a fairly good night. He once showed signs of a commencing rigor, but this soon passed off, the temperature not rising above 102°. The bowels acted twice, and there were slight indications of blood in each stool. The next day, November 28, he was stronger, and continued to take nourishment well. In the evening a mixture containing tincture of digitalis, Liq. Strychninae, and sulphate of quinine (gr. iij) was substituted at four-hourly intervals for the subcutaneous injection. As the sacrum at this time showed signs of a commencing bedsore, he was very carefully moved during the afternoon on to a water-bed. At night, as he was very sleepless and restless, I gave him 15 minims of tincture of opium, after which he slept fairly well for four or five hours. The following day, November 29, he also passed through satisfactorily, but towards the afternoon a troublesome cough, with considerable expectoration, manifested itself, and there were evidences of much hypostatic congestion over both lungs behind. I had him propped up in bed with plenty of pillows, and, by the aid of the usual remedies, at the end of thirty-six hours this had almost passed away. The remainder of the history of the case would be, comparatively speaking, of little interest to you. Suffice it to say that during the next fortnight threatenings of rigors occurred on two or three occasions, the temperature going up to 103°
or 104°, but there were no serious relapses, and he ultimately made a complete and perfect recovery, and returned to his home in Liverpool.

The points of interest in the foregoing case to which I would particularly wish to draw attention are:

Firstly, the high temperature at the onset (104°) in association with indications of pneumonia at the base of the right lung.

Secondly, the implication of the nervous system about the thirteenth day, as evidenced by the retention of urine.

Thirdly, the delirium and hyperpyrexia which rapidly ensued upon this last.

Fourthly, the acute and formidable result of the overdistension of the right heart; and lastly, the gratifying results which followed its relief by venesection.
XXXVI.—A Case of Chronic Dilatation of the Colon.
By H. D. Rolleston, M.D., and Warrington Haward. Read May 22, 1896.

R., a boy æt. 12 years, was admitted into St. George’s Hospital on October 4, 1895. He came from near Inverness, and his history told that he had been quite well up to two months of age, that about that time the abdomen began to swell a little, and since the first few months of life he had been subject to gradually increasing constipation. The constipation, though frequently lasting many days, had not usually caused him much discomfort; but from time to time he had attacks of complete inactivity of the bowels of several weeks’ duration, having once gone for nine weeks without an evacuation. On those occasions he became very ill, taking very little food, and becoming much distended, but up to ten years of age he seldom vomited. The constipation gradually increased, neither medicine nor injections producing any benefit, and during the last two years of his life he had attacks of vomiting, which increased in frequency and severity, and gave rise to much distress and exhaustion. It was this which led to his being sent to the Hospital.

He was suckled by his mother up to the end of his first year. After that oatmeal had formed a considerable element in his diet, as is usual with Scotch boys; but he had had fresh meat and fish and milk, and there was nothing exceptional about his food. The parents and other members of the family were healthy.

On admission he was seen to be much emaciated, the eyes were sunken, and the complexion of a bistre tint. He was rather small for his age, of fair intelligence, and when not suffering pain, bright and happy. The abdomen was enormously distended, and through the stretched abdominal wall peristaltic contractions of the intestine could be easily seen. The distension was to a great extent due to gas, so that the front and upper parts of the abdomen were resonant; no faecal masses could be felt through the abdominal wall. Palpation of the abdomen usually gave him no pain, but sometimes on deep pressure he complained of tenderness, the
situation of which varied. On examining the rectum, the finger passed through the sphincter without any difficulty, and the bowel, as far as the finger could reach, felt perfectly natural, and not of unusual size. At the first examination it contained a moderate amount of hard faeces. The girth of the abdomen at the umbilical level was 31 inches, his weight was 61 lbs. The urine was acid, and contained abundant lithates; sp. gr. 1030. Tongue slightly coated.

During the three months that he was under observation his condition varied, often very suddenly. He would improve for a time and gain weight; the bowels acting daily, and the abdomen becoming soft and relaxed. Then suddenly constipation and vomiting would come on without any manifest cause; when this happened his aspect at once altered, he looked distressed and ill, and the bistre tint of his complexion became accentuated, so that his abdominal condition could be predicted by the appearance of his face. These attacks usually subsided after a day or two; but in the course of one of them he was seized with pain in the back and abdomen, a few hours after which he died. There never was any obstruction; the bowels acted nearly every day, and sometimes several times a day; calomel, which acted far better than any other aperient, always brought away soft faeces. Neither did he exhibit any particular drowsiness, a symptom which has been observed in some cases of constipation.

The treatment was varied, but with the exception of calomel nothing seemed to do any material good; its aim was to improve the muscular power of the intestine, to empty it with the least irritating aperient which was sufficient for the purpose, to give a diet which left as little as possible of insoluble residue, and to support the stretched and weakened abdominal parietes. Thus, the abdomen was bandaged, and just before he died a carefully fitted belt had been arranged; massage and galvanism were employed; and he took nux vomica almost continuously. Enemata were employed only of small bulk, and for dislodging hard masses from the rectum. Glycerine injections had no effect.

Post-mortem examination by Dr. Rolleston.—The body was very emaciated; the skin of the abdomen showed linear albicantes, and the muscles of the abdominal parietes were thin. On opening the abdomen and reflecting back the skin flaps to the ordinary extent, the only viscera visible were the cæcum with the vermiform appendix, the splenic flexure in contact with the cæcum, and the descending colon greatly distended
Case of Dilatation of the Colon.

and occupying the position of the ascending and transverse colon and the sigmoid flexure (*vide* Fig. 23).

**Fig. 23.**

The small intestines were completely hidden from view, and were not dilated. The cæcum was distended, but the vermiform appendix was of normal size. The ascending and transverse colon, only moderately distended, were packed away out of sight in the right lumbar region, the ascending colon passing up to the hepatic flexure, from which point the transverse colon descended in close contact with the ascending colon to the neighbourhood of the cæcum, where the splenic flexure became superficial; the descending colon, greatly distended, occupied the greater part of the right half
and upper portion of the abdomen; it passed out of sight for a short space in the left lumbar region, and then joined the dilated sigmoid flexure. The first part of the rectum showed to a less extent the dilatation of the sigmoid flexure, but the remainder of the rectum was of normal calibre. No stricture or cause for obstruction could be found anywhere.

The largest part of the colon, the descending colon, had some recent lymph on its external surface, but there was no sign of perforation having taken place. On manipulation the colon in this situation ruptured, and the mucosa was found to show numerous ulcers, due presumably to distension. The muscular coat was hypertrophied, the circular especially, but the longitudinal bands were prominent and considerably broadened out.

The liver was adherent to the diaphragm by recent lymph; and, together with the stomach, was completely hidden from view by the dilated colon. The costal arch was broadened out, and the under surface of the liver, with the gall-bladder, &c., was found to look forwards and upwards instead of downwards and backwards.

Remarks.—Cases of dilatation of the colon not secondary to any organic change may be divided into two classes:

(i) Acquired, which develop some time after birth or in adult life. They are generally directly referable to constipation, and the dilatation is more or less local as a rule, the distension being most marked in the sigmoid flexure and gradually diminishing towards the cæcum. They are much the same as fecal impaction. Such a case, in which death was due to rupture of the sigmoid flexure in a man aged 73, is recorded in vol. xlv of the Pathological Society's Transactions by Mr. Berry. The sigmoid flexure alone was affected; its wall was much thickened, evidently by hypertrophy, and ulcerated internally. Dr. Harrington has treated this subject in a paper in the St. Bartholomew's Hospital Reports (vol. xxxi, p. 57, 1895), and we are indebted to him for some references to the literature.

General dilatation of the colon without any obstruction may be acquired. Dr. Angel Money and Mr. S. Paget recorded the case of a drunkard, æt. 55, whose sigmoid flexure was enormously dilated, the colon being affected but not so markedly. Dr. Money discusses the mechanism of the dilatation, and suggests spasmodic stricture of the rectum as a cause (Clinical Society's Transactions, vol. xxi, p. 105).

Another example of this acquired condition may be men-
tioned. In vol. v of the *Pathological Society's Transactions*, p. 174, the late Mr. Gay described the case of a boy, æt. 7, who after typhoid fever became constipated, probably from atony of the intestine. The abdominal girth was at one time 49 inches, and it is remarkable that even when the bowels were confined for the space of three months, his bodily health and appetite were by no means impaired.

An example of acquired constipation in a girl, æt. 17, is recorded by Dr. Goodhart (*Clinical Society's Transactions*, vol. xiv, p. 84), in which the cause seemed doubtful.

(ii) Congenital.—Cases where the distension comes on soon after birth, and where the bowels have never acted naturally.

The distension and dilatation of the colon are more general, and probably from their longer duration, more marked. Constipation seems to be the result of inactivity or atony, and not to be the primary cause of distension. But it must be admitted that a hard-and-fast line cannot be drawn between congenital cases where the constipation is secondary, and the commoner cases of acquired dilatation of the colon directly due to constipation. Bristowe (*British Medical Journal*, 1885, i, p. 1085), indeed, regarded examples of both groups as due to constipation, while Gee (*St. Bartholomew's Hospital Reports*, 1884, vol. xx, p. 20) says, "at present for want of a better explanation, I think that mere constipation and retention of wind are the cause of the dilatation." Clinically, however, it seems justifiable, and is certainly convenient, to distinguish these two groups.

The congenital cases are much rarer; Osler (*Archives of Pediatrics*, vol. x, p. 113, 1893) has called special attention to them. The cases given below, p. 206, appear to be examples of congenital idiopathic dilatation of the colon.

The noticeable points are the great predominance of the male sex, the early age of fatal issue, and the association of hypertrophy and ulceration of the colon.

The existence of cases of congenital idiopathic dilatation raises points of interest in connection with the etiology and pathology of the process.

In those cases where constipation existed from birth without any manifest cause for obstruction, it might be suggested that some temporary kink had started dilatation which so weakened the tone of the muscular walls, not only of the colon, but also of the abdominal parietes, that recovery never took place.
Dr. Rolleston's and Mr. Warrington Haward's

**Cases of Congenital Idiopathic Dilatation of the Colon.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Age</th>
<th>Authority</th>
<th>Where published</th>
<th>Hypertrophy of colon</th>
<th>Ulceration</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.</td>
<td>10</td>
<td>Osler</td>
<td></td>
<td>Yes</td>
<td>Artificial anus in sigmoid flexure, mucoza seemed healthy</td>
<td>Recovery.</td>
</tr>
<tr>
<td>M.</td>
<td>34</td>
<td>Little and Galloway</td>
<td><em>Path. Trans.</em>, vol. iii, p. 106</td>
<td>Yes</td>
<td>Mucoza thickened</td>
<td>Death.</td>
</tr>
</tbody>
</table>

Dr. Jacobi (*Archives of Pediatrics*, 1893, vol. x, p. 440) describes the sigmoid flexure as being relatively longer in the fetus, and says that flexures may be produced in it, and so give rise to congenital constipation. No such cause is uniformly forthcoming, and any adhesions or twists are more credibly explained as the result rather than the cause of the dilatation. J. Griffith suggests that colitis is the first step, and that dilatation is a result of the softening and weakening of the inflamed muscular wall. Inflammation and ulceration from various causes are common in the colon, while dilatation is rare, at least to this degree. Ulceration is known to follow distension, as witnessed in the distension ulcers of obstruction. It is, therefore, more probable that the ulceration and colitis are the result and not the cause of the dilatation. The ulcers in the present case resembled exactly distension ulcers. Local spasm of the circular coat might, again, be suggested as a possible cause of dilatation. Dr. Gee (*St. Bartholomew's Hospital Reports*, xx, p. 21) mentions this view, but of this again there is no proof, and it might be naturally expected that the internal sphincter would, if the rest of the circular muscular coat were affected, be the more probable situation for a spasmatic stricture. In most of the cases, however, the rectum is not dilated, the distension ending gradually at the end of the sigmoid flexure.
Case of Dilatation of the Colon.

There being no definite cause for failure of evacuation on the part of the colon, it is well to consider whether there is any possibility of the \textit{fons et origo mali} being a disorder of the peristalsis of the bowel.

Clinically this seems not improbable from the observation that when treated the cases improve for a time, but show a marked tendency to relapse.

Dr. Angel Money remarks: "It is possible that the nervous apparatus of the bowel may have been deranged, and this nervous derangement may in part have given rise to disease of the colon" (\textit{Clin. Soc. Trans.}, vol. xxi, p. 106). This opens up speculation. The emptying of the colon depends on the combined peristaltic action of the circular and longitudinal coats. The longitudinal muscular fibres of the rectum are supplied by medullated fibres from the nervi erigentes from the sacral nerves, while the circular coat is governed by non-medullated fibres in the hypogastric plexus which are derived from the lower dorsal and upper lumbar nerve roots; a similar double nerve supply probably governs the longitudinal and circular muscular coats of the remainder of the alimentary canal.* Von Basch has put forward the view that when an organ has a longitudinal and circular muscular coat and a double nerve supply that the nerve producing contraction of one muscular layer at the same time inhibits the other. Langley and Anderson (\textit{Journal of Physiology}, vol. xviii, p. 104), without denying the possibility of this theory being exemplified, have shown that it is certainly not of universal application. Paralysis of either or of both muscular coats would account for disordered peristaltic action of the colon and constipation. If both coats were paralysed the colon would be lengthened, be round in outline (paralysis of the longitudinal coat), and its circumference increased (paralysis of circular fibres).

In all the cases the diameter of the colon was greatly increased, the length also appears to be increased, but measurements are not given. In this case the length of the colon (\textit{i.e.} of a boy \textit{aet.} 12) was 5 feet 3 inches, \textit{i.e.} that of an adult's colon. In addition the muscular walls should be greatly thinned. This, however, is not the case. In nearly all instances the wall is described as being hypertrophied, and clinically the peristaltic contractions visible through the abdominal wall make it plain that paralysis of the bowel, if any there be, is certainly not complete and permanent. Is

there any reason to suppose that the atony of the muscular tissue is limited to one of the two coats, the external longitudinal say, while the other, the circular muscular coat, is able to contract but is not alone able to empty the bowel. Such a hypothesis seems highly improbable, for in this and in some other cases (Money, Walker and Griffiths) it is expressly stated that both the muscular coats were hypertrophied. This shows that the dilatation is not due to a permanent paralysis of either one or both of the muscular coats of the colon. It is, of course, possible that primary dilatation may have been due to a temporary paralysis, and that subsequently an attempt at compensatory hypertrophy had been made with only partial success, but there is no satisfactory proof that this is so. Perhaps all the cases are not due to the same cause. The etiology is manifestly obscure, but mechanical causes such as kinks and adhesions, and inflammatory factors such as colitis or ulceration, are not borne out by facts. The theory of paresis of the muscle wall of the gut with imperfect compensation is vaguer, and can therefore less easily be disproved.

Attention has often been drawn to the analogy between dilatation of the colon and that of other hollow muscles, such as the stomach, bladder, and heart. Compensatory hypertrophy is effected with increasing difficulty the thinner the muscular walls of the organ. Thus the organs might be arranged in the following order: the heart, bladder, stomach, colon. An additional reason why compensation so often fails in the case of the colon may be found in the comparatively resistant nature of its contents, faces as against blood or urine.

The present case in its long duration and general features resembles those which start from birth and have been spoken of as congenital idiopathic dilatation of the colon. The history says the constipation began at about six months of age, and thus allows an interval in which mere constipation and retention of wind could have set up very considerable dilatation, from which the intestines never completely recovered. The case must therefore stand between the two groups. Since it cannot be shown that it was not due to constipation, we must exclude it from the congenital cases, which it otherwise resembles.

The treatment of this condition has been extremely unsuccessful, and we would point out the danger of using massage. It was employed in this case without any apparent
bad result, but the bowel was so weakened by distension ulcers that it gave way very readily during the post-mortem examination, and it is quite conceivable that a similar accident might occur during life.

Enemata are likely to increase the distension, and Dr. Hughes (quoted by Osler, Archives of Pediatrics, vol. x, 1893, p. 113) has recorded a case in which they seemed to have this effect. It is probably only desirable to use them of small bulk, and for dislodging hard masses from the rectum. In this case a great variety of aperients were tried, but nothing answered nearly as well as calomel. Nux vomica was given for a long time in considerable doses without appreciable benefit. It does not appear that digitalis or ergot have been given; but on the analogy of their action on other hollow muscles they are perhaps worth a trial. Dr. Osler records a case in which an artificial anus was made in the sigmoid flexure (loc. cit., p. 117). This, it is admitted, is a serious measure, but the condition is so frequently fatal that the successful result in Dr. Osler's case would seem to justify its consideration.

Whatever the origin of the condition, the great dilatation of the colon is likely after a time to lead to abnormal mobility, and probably to various changes in the position of the bowel; and we doubt if it would be wise to perform any operation which does not include as its first step the ascertaining of the anatomical relations of the parts involved. It does not appear probable that in this case a colotomy would have been of any service, for the dilated bowel might still have been unable to empty itself; but it seems worth consideration whether opening the lower end of the small intestine would have been useful; and whether, having regard to the high mortality of these cases, an abdominal section and such treatment of the bowel as seems thereupon desirable would not be a proper course.

A man of 35 was admitted into St. George’s Hospital on September 3, 1895. Fourteen years previously he had fallen and injured the right thigh. For this he was treated at another hospital. Since the accident his right knee had remained swollen and stiff. During a long period (he was unable to state definitely how long) there had been a very rapid increase in size of the lower end of the injured thigh with occasional severe pain, throbbing in character. He stated that latterly he had lost in weight.

He was a man of fairly healthy aspect, with no perceptible marks of wasting. The lower end of his right femur was enormously enlarged, being nearly twice the size of its fellow. The superjacent skin was stretched, and permeated by distended veins. No pulsation was felt over the growth save on its popliteal aspect. The most prominent portion of the swelling was situated on the inner side of the thigh. Behind, the tumour projected into the popliteal space, pushing the vessels backwards and giving rise to the pulsation referred to. In consistence the growth was hard and bony, excepting over its most prominent inner aspect, where it felt pulpy and elastic. Close to this spot, where the bony envelope was clearly absent, egg-shell crackling could be felt, but in no other spot was it present. The case was clearly one of central sarcoma, and it was believed to be of the myeloid-celled variety.

On September 7 Mr. Allingham amputated the thigh through its middle third. After removal the tumour proved to be a very vascular central sarcoma, with a thick bony covering, complete except on the inner side, where it had burst from the bone, but remained distinct from the surrounding tissues. A microscopic examination of the growth showed that it was mixed-celled in character without any giant cells.

On October 2 the amputation wound was soundly healed
and the patient sent to the convalescent home, from which he was discharged one week later.

On November 8 the same man was readmitted under Mr. Pick, suffering from paraplegia. He stated that at about the period of his discharge from the convalescent home he had first felt shooting pains in his right arm, and that since then that arm had gradually become stiff and weak. One week before admission he woke one morning to find the left lower limb and stump paralysed, with loss of sensation over the lower part of his trunk. Since then his urine had dribbled away constantly, and he had suffered from incontinence of faeces. His left arm had become dead and weak. At first he had suffered considerably from pain in the spine and paralysed limbs; this was less severe now.

Examination showed complete loss of sensation in the lower limb, stump, and trunk as high as the level of the second rib. Both arms were devoid of sensation from the hands to the insertion of the deltoid, over which sensation was normal. The muscles of the left lower limb and stump, and also the abdominal and lower intercostal muscles, were paralysed, respiration being chiefly diaphragmatic. Superficial and deep reflexes were absent. The urine dribbled away, giving him an urinous smell. There was incontinence of faeces. The right arm was powerless, and the hand muscles much wasted. The left arm was weakened, and the hand muscles wasting. He died two days after admission. Previous to death the temperature rose steadily from 99° on admission to 103°. He had a slight convulsion just before death, and died comatose.

The post-mortem examination showed no local recurrence of the growth. The body of the seventh cervical vertebra was completely and its laminae and spinous process were partially replaced by haemorrhagic new growth, which had extended in front of the lower cervical and upper dorsal vertebrae, the cervical nerves being embedded in its substance. Opposite that portion between the second and third dorsal vertebrae and pleura the two layers of the membrane were united by strong adhesions. The cord was softened at the lower end of the cervical enlargement, but the growth had nowhere perforated the theca. Hinge-like movement was possible at the spot where the seventh cervical vertebra had been. There was no angular curvature, but some displacement of the upper portion of the spinal column.

Scattered secondary growths were present in both lungs.
and in the upper portion of the right kidney. By special request the brain was not examined. Microscopically the new growth was a mixed-celled sarcoma.

In connection with this case I should like to mention a second in which a central sarcoma of the femur became disseminated. This occurred in a woman admitted into St. George's Hospital in June, 1891, under the care of the late Mr. Rouse, with a swelling in the left thigh close to the knee. The disease was at first believed to be tubercular arthritis, but soon proved its malignant nature by great rapidity of growth. The thigh was amputated. Unfortunately no microscopic examination was made, or if made the account of it was lost. In June, 1892, she was readmitted with local recurrence, and a swelling in the left parietal region, evidently a secondary growth. The patient died soon after admission, having previously suffered severe abdominal pain with persistent vomiting. The friends refused post-mortem examination.

Remarks.—Butlin has clearly shown in his work on sarcoma and carcinoma, and again in a paper written in conjunction with Colby in the St. Bartholomew's Hospital Reports for 1895, that central sarcoma other than the myeloid-celled variety will readily become disseminated. Nevertheless I think there are three points which I may allege as my excuse for bringing these cases before your notice.

Firstly, in one of them we have a complete history, including the clinical notes before removal, examination naked eye and microscopic after removal, clinical notes of the disseminated secondary growths, and post-mortem examination naked eye and microscopic. The history of the case appears to show two things, the impossibility of distinguishing between myeloid and other forms of central sarcoma by their clinical features alone, and the great value of the microscope in diagnosis and more especially in prognosis. In every respect this might have been a myeloid sarcoma; the growth was not exceptionally rapid, it was truly central, it was accompanied by egg-shell crackling, and caused no general symptoms: yet after microscopic examination it was fair to think the tumour would probably recur. Had the growth been myeloid, recurrence would have been improbable. The second case I have mentioned is entered in the notes as one of myeloid sarcoma, but I think we are justified in the absence of any microscopic information in considering it rather a case of central sarcoma, not truly myeloid-celled.

Secondly, in the one case we see dissemination with-
out recurrence, in the other recurrence and dissemination. From this it appears certain that in the first the cells of the growth had already become diffused before amputation, but no means existed of ascertaining this fact, for, as I have already said, the man complained of no symptoms apart from those local ones the result of the growth. His lungs were not examined, but even if they had been I doubt whether tumours so small as the secondary growths must have been would have given any indication of their presence. Perhaps, however, it would be advisable to examine the lungs in all such cases. In the second case there was local recurrence in addition to dissemination, and the latter event may have occurred either before or after removal. Judging by the long period between operation and dissemination, it most probably occurred after removal.

Thirdly, the presence of the chief secondary growth in the vertebral column is rare. No doubt the paraplegia was the result of pressure on the cord, as no growths were present within it. Death was in all probability due in the end to destruction of the phrenic nerves. Had the second case been examined after death, multiple secondary growths would probably have been found, as it appears the rule that when one is found many others are present.
CLINICAL CASES
EXHIBITED.

* * Published in accordance with the Regulation relating to the exhibition of patients at the meetings of the Society, viz. that each case shall be accompanied by a brief written description of the points it illustrates, such description to be retained by the Secretary for publication or not in the Transactions at the discretion of the Council.

I.—A case of Premature Puberty. By Harry Campbell, M.D. Exhibited November 22, 1895.

Boy, æt. 14. Height 4 feet 2 inches. When the boy was fifteen months old the mother noticed that hair was beginning to grow upon the pubes, and that the penis appeared unduly large. The external genitalia continued to grow at a great rate, and at the age of two years had reached their present dimensions. Even before this he manifested considerable sexual excitement, and this continued till the age of seven, since which time it has ceased to trouble. I first saw him when he was barely five, when he presented much the same appearance as at the present time. His voice was gruff. Though now more muscular, he has not increased in height. The boy is microcephalic, the cranial circumference being 20½ inches; and his mind is imperfectly developed: he can barely count. The legs are bowed, suggesting old rickets, but this may have been owing to the rapid increase in the weight of the trunk. The appearance of the boy is well seen in the accompanying figure (see Plate XVI).
To illustrate Dr. Harry Campbell’s Case of Premature Puberty. From photographs taken when the patient was six years old.
II.—A doubtful case of Meningocele. By R. Hingston Fox, M.D. Exhibited November 22, 1895.

LILLIE D—, æt. 12 months, is the youngest of six children, of whom one died of bronchitis; the others are healthy; parents healthy.

She was first seen at the age of three months, and had then a small round tumour in the centre of the anterior fontanelle, five eighths of an inch in diameter. The margin of the fontanelle was distinct, distant at least a quarter of an inch from the tumour at the nearest part. The cranium was well formed; sutures normal for her age; forehead narrow; maximum circumference 15½ inches.

The mother had observed the tumour since the child was six or seven weeks old; there was no history of injury.

She is now aged 12 months. The tumour has much increased in size, and forms a rounded body, tense and elastic, 1½ inches in diameter at the base, 1¾ inches high, covered freely with hair like the rest of the scalp. There is no pulsation, nor are the contents perceptibly reducible, nor does the size vary in respiration or when the child cries. It is quite translucent. The bony margin of the fontanelle cannot now be felt. The tumour is not tender; the mother states that the child likes to have it handled, and often goes to sleep when it is stroked. The cranium is now 17½ inches in circumference. Optic discs apparently normal. The child seems to suffer nothing from the presence of the tumour; she is rather passionate, but as intelligent as the others; she walks a little but does not talk yet; has four teeth.

In the absence of pulsation and reducibility, the nature of the tumour seems to be doubtful. It is possible that there may have been at first a pedicle communicating with the cavity of the arachnoid, but which has now become closed. It is proposed to puncture the tumour and perhaps excise it.

Note.—The cyst was punctured by Mr. J. H. Morgan on January 25, 1896, and yielded a clear fluid. No symptoms followed, nor did the cyst refill. If any communication ever existed with the arachnoid space, it had evidently become occluded. It is intended to remove the cyst, as its thick walls, even in the collapsed condition, form an inconvenient tumour.

There is on each side a large and well-formed mass of scrotal tissue, containing a well-formed testis with spermatic cord and vas deferens. These are separated from one another at their upper extremities by two well-formed penes. These are about 3/4 inch long, the left rather longer than the right, and of normal circumference. The glans of each is exposed, there being very little prepuce developed. In each the frenum is absent, and the corona slightly marked. The glans of both has a depression for the meatus, but in neither is there a urethral channel. Each is apparently attached to the ramus of either side, the pubic rami and symphysis being apparently normally developed.

Below the root of these two organs is another prominent mass of tissue, about 3/4 inch in length, consisting of a pouch of skin and subcutaneous tissue, in the centre of which is a firm and more fibrous body, which is attached immediately below the two penes, and lies midway between the two scrotal prominences, there being a deep sulcus on each side between it and these. Posteriorly to this finger-like process is an irregular-looking mass of skin and subcutaneous tissue. This is covered by epithelium resembling that of skin, except upon its posterior surface, where it is more like mucous membrane. It projects forward about 1/2 inch, and appears like a small mamma on which is a very prominent bluish nipple. The left part of it is a small pedunculated body which sticks out like a small pea, and is attached to the finger-like body.

Below this and lying in the middle of the perinaem and in front of the anus, is a prominent mass of mucous membrane, measuring about 1 1/2 inches from before backwards, and 3/4 inch from side to side. This is very red and vascular, and is protruded when the child cries. Along its right attachment is a slit about 1/4 inch long, which admits a probe into a long narrow cavity, passing vertically upwards for about 2 inches, in which the probe cannot be moved laterally.

This is evidently the mucous membrane of the bladder, as the urine drains from this surface when the child is at rest,
and is driven in jets, when the child cries, from the orifices of the ureters, which are then to be seen. Behind this pro-

At the upper part the two penes are seen lying side by side; below them and diverging from them are the right and left lobes of scrotum; between these and below the penes is the prominent mass of tissue $\frac{3}{4}$ inch long; immediately below this is the projection consisting of mucous membrane of the bladder.

truded mucous membrane lies the anus, which easily admits the little finger, and in the rectum no abnormality can be detected.

No other abnormalities are to be seen in the child, which is in all respects well formed and healthy, except that at the upper part of the lobule of each ear is a small fibrous prominence. Nothing abnormal can be detected on auscultation of the heart, but the limbs of the patient become much cyanosed when it cries.

H. W. Patient has a deformed left ear. The lobule is present, and lies upon the external surface of the angle of the jaw, its ordinary posterior margin being in front. The helix, antihelix, and antitragus are all fairly well formed. The whole concha is pulled downwards and reflected upon itself, so that the internal surface looks outwards and backwards. The entire ear is displaced downwards, so as to lie opposite to the lower two-thirds of the ramus of the jaw, and is twisted upon itself like a scroll, the convexity of which is the upper part of the ear.

In front of the ear, lying on the cheek 1½ inches above and in front of the angle of the jaw, is a supernumerary auricle the size of a currant, covered with soft skin like that of the lobule, and the constricted attachment of which springs from the surface of the cheek a little above the tragus.

The orifice leading into the external auditory meatus is on a level with the angle of the jaw, and the latter runs upwards, backwards, and inwards in its ordinary situation. At its orifice it is enlarged and widely open. Behind this ear there appears to be some deficiency in the temporal bone.

Hearing.—The child is completely deaf on this side. The lower jaw is normally developed, but the whole of the left side of the face is distorted and smaller than the right. The hair grows much lower down on the left frontal eminence than on the right. The left eye is less prominent than the right, and on a rather lower level. There is a certain amount of epicanthus of the left eye. A marked condition of harelip exists with a deep cleft running up to the left nostril, and continuous with a fissure between the left maxilla and the intermaxillary bone, which is prominent and turned outwards and has attached to it the right upper lip and columella.

The separation between these two bones is continuous again with a complete cleft of the hard and soft palate. The palate is high, and the maximum separation is about ⅓ inch at the junction of the hard and soft palate. The soft palate is smaller and not so well developed as on the opposite side, and an ill-formed vomer and nasal septum are seen through
the cleft attached to the palatal process of the right superior maxilla.

**Spine.**—There is a very considerable deviation of the spine in the cervical region, forming a convex curve to the right, and a compensatory curve to the left is seen in the dorsal region.

The skin from the left acromion to the mastoid process is tightly stretched over the trapezius muscle, which is not definitely to be distinguished.

In the right posterior triangle of the neck a large bossy prominence of bone is felt. This is formed by the rotated bodies of the cervical vertebrae, and a small artery can be felt pulsating at this spot. The right trapezius is prominent and hypertrophied. The patient is healthy and intelligent.
V.—A case of Charcot's Joint Disease in the Right Foot and Left Knee. By Thomas Buzzard, M.D. Exhibited November 22, 1895.

The patient, E. W., a married woman, was admitted under my care into the National Hospital, Queen Square, on October 3, 1895. She presented on the right side an example of "tabid foot," as first described by Charcot and Feré. The condition remains unaltered. The foot has a thickened, humpy appearance, so that it looks more shortened than it really is. The tarsus and tarso-metatarsal joints are affected. The mobility of the joints is lessened, and they appear to contain fluid. There is no pain in the foot, and no crepitation is felt when it is handled.

On the left side the whole of the lower extremity was very much swollen as far up as the groin. The left knee-joint was greatly swollen, the natural depressions and prominences around it having disappeared. There was no riding of the patella. There was hyper-extension of this joint to the extent of about 5°, and also lateral movements to the same extent. The surfaces of the lower end of the femur and upper end of the tibia could be knocked together. Below the knee on this side the anterior tibial muscles reacted much less briskly to faradic currents than did those of the right side, a difference due, it is probable, to the existence ofœdema (subcutaneous).

On the other hand, the response to faradic currents was slightly increased in the front of the left thigh, from which it is inferred that the effusion of fluid is there beneath the muscles.

It was about twenty months ago that her right foot one day became suddenly swollen, without any pain; it was œdematous, and pitted on pressure. She was treated for gout and rheumatism by several medical men. The foot has always been swollen since, and it is worse after walking. Six months ago, after hard exercise, she noticed that her left knee was much swollen. Very soon after that the left leg became swollen both above and below the knee, the foot also being involved. Since her admission to the hospital the swelling in this extremity has very much subsided, and the foot appears to be in a natural condition. The knee-joint remains greatly enlarged. On October 14 the right calf measured 34 cm., the left 42 cm. The right knee measured 41 cm., the left 51 cm.

The symptoms of tabes presented by the patient are—
absence of knee-jerk; lightning pains; ataxic gait; incoordination of the lower extremities; anaesthesia over soles of feet and in parts of the legs; occasional incontinence of urine; Argyll-Robertson pupils. The discs are pale. There is a history of syphilis.


A. T., æt. 5 years, female, was seen first on July 21, 1895, and complained of lumps in back and stiff neck.

History of present condition.—Three weeks before, the mother, whilst washing her, noticed some lumps on her back; these gradually increased in size for two weeks, and more rapidly the last week. The stiffness in the neck began about the same time.

Family history.—Father and mother quite healthy, also three brothers and one sister. Mother has never had any miscarriage. Father's mother has rheumatic gout. No like history on mother's side.

Previous history.—Quite healthy at birth, except for deformity of great toe. When about two years old is said to have suffered from rickets very badly, and was taken to a hospital for what was probably an acute attack of myositis, as a year afterwards her arms became fixed. No children's disease except pertussis.

Present condition.—Expression vacant owing to tenseness of sterno-mastoids. Intelligence at school normal. Teeth good. No scars around anus. Pigeon-breasted. The lesions from which this patient suffered were found to be divisible into four classes: Those connected with 1. Bony structures; 2. Muscles; 3. Ligamentous structures; 4. Lymphatic system.

1. Lesions connected with the bony structures.—These consisted of—(a) Two growths, smooth, oval, of firm consistence and nearly equal size (roughly speaking 4 inches by 2 inches), symmetrically placed on each side of the vertebral column; attached to the ribs and occupying a position just below the inferior angles of the scapula.
(b) A similar growth about the size of a large walnut was found attached to the inferior angle of each scapula.

(c) An ossified node on the external lip of the right bicipital groove.

(d) An ossified node on the forehead, due in part to the inability on the part of the child to prevent itself falling. The skin over all these growths, except in the case of the forehead, appeared natural, and was not adherent.

(e) Among the bony lesions must be noticed the bilateral absence of the first phalanx of the great toe; the ungual phalanx articulating directly upon the metatarsus.

2. Lesions connected with the muscles.—(a) The head was fixed by the two sterno-mastoids, which appeared enlarged and indurated, and were on palpation found to be nodular, and of stony hardness. The outline of the muscles could not be defined. The head was capable of still further flexion, but not of extension.

(b) The arms were held closely to the sides, and could not be moved, even with force, in any direction through a greater angle than 30°.

On digital examination the right pectoral was found to be of bony consistence along the whole of its lower edge and through its entire breadth for two inches from its point of insertion. The left pectoral and left latissimus dorsi gave the impression of being ossified in these same two areas; in fact, the lower edge of the latissimus dorsi formed a bony buttress between the chest wall and the humerus. The deltoids and biceps on each side were apparently normal.

3. Lesions connected with ligamentous structures.—No actual lesions were noticed in the spinal ligaments, but the back was held very stiffly. On deep palpation the ligaments of the shoulder-joints seemed to be thickened and fixed; all the other joints appeared normal except for an occasional crepitation on movement.

4. Lesions connected with glandular structures.—A hard cord, an apparently ossified lymphatic duct, was noticed in the left axilla on the chest wall; it did not extend for more than 2 to 3 inches, and was vertical in direction. In the left axilla were two slightly enlarged lymphatic glands.

Progress of case.—November 22, 1895. The large fibrous nodes had almost disappeared, though ossified traces could be felt. The sterno-mastoids were less indurated, and the movements of the head freer. Ossification seemed to have advanced in the left latissimus dorsi.

The first two were shown as living specimens to the Society on November 22, 1895.

Case 1.—This boy, aet. 14 (Plate XVII), who earns his livelihood as an organ-grinder, has the characteristic deformity in the right leg produced by partial or complete absence of the tibia. The fibula articulates with the outer side of the femur, and is habitually held at right angles or less with the thigh. The condyles are more fully developed than is usual in these cases. The patella is also similarly of almost the normal size, which leads one to suspect that a small portion of the upper end of the tibia may be present. The foot is small, and articulates at right angles with the lower end of the fibula. There are only three toes, which are probably the representatives of the third, fourth, and fifth digits. There is a corresponding deficiency in the tarsus and metatarsus on the inner side, but what the exact limits of this deficiency are it is impossible to state without dissection.

The hands of this same patient exhibit a symmetrical deficiency of the two central fingers (Plate XVIII, figs. 1 and 2). The two remaining fingers on each hand appear each to have two metacarpal bones more or less fused into one another. The cleft in each hand between these two fingers extends to the carpus and allows of a wide separation between the fingers.

There is no history of any similar deformity amongst this patient’s relations or ancestors, but he belongs to a class who can give very little information about themselves or their relations.

The boy absolutely declined amputation of the leg, although he was earning a very miserable and precarious livelihood.

Case 2 (Plates XIX and XX, figs. 1 and 2).—Girl, aet. 8, has both legs deformed in a similar manner. In neither is there a tibia. Each foot articulates with the side of the corresponding fibula, which projects against the skin in a pointed extremity. The right foot has only four toes, and some deficiency of the tarsal and metatarsal bones on the inner side. The left foot has five toes, but the first is very small and is associated with a deficiency of the tarsus and
metatarsus similar to that seen in the right foot. The condyles of both femora are undeveloped, the shafts of these bones terminating in rounded extremities. The patellæ cannot be felt distinctly, but most of those who examined the case think that there is a very small patella on each knee. The upper end of the fibula in each limb articulates with the rounded extremity of the femoral shaft, but towards the outer side. A limited amount of extension at the knees can be obtained in both limbs so as to allow the legs to be placed at right angles to the thighs (Plate XIX). Full flexion can be accomplished so that when the child kneels and sits upon her heels the legs and thighs are in contact (see Plate XX, fig. 1).

The most interesting feature in this case is the method of standing and walking which this child adopts. It is evident from the thickened skin over the front of the knee that she habitually crawls about on her knees. If she is asked to walk she jumps up on to her knees and balances herself behind by her feet, which project backwards at right angles to the fibulae (Plate XX, fig. 2). She can in this position jump forwards or walk in a more or less sedate and quiet manner, but with a waddling gait. In getting out of bed she will lean forwards and put her hands upon the ground, and then jump on to her knees. She is very active, well developed, and cheerful. She has no other deformity of any kind, and there is no history of any deformity in her immediate relations or their ancestors so far as they know.

This case was subsequently submitted to amputation, both limbs being removed at the knee-joint on November 27, 1895. There was no patella in either limb, nor was there a definite ligamentum patellæ, but a very strong fibrous band in front like a capsular ligament. There was no joint cavity like that of the ordinary knee, but a small cartilaginous surface at the back and to the outer side of the rounded extremity of the femur, and a similar surface on the summit of the head of the fibula. The rest of the exposed part in each knee was covered with adherent fibrous tissue which connected the bones together. Some very strong fibrous bands were divided in separating the fibula from the femur. Some portion of this tissue probably represented the tendon of the biceps and the external lateral ligament. The muscles divided were not easy to define in the necessarily short examination permissible for a double amputation, but the gastrocnemius appeared to be well developed, especially on the
PLATES XVII to XXII.

Illustrating Mr. Clutton's Three Cases of Absent Tibiae.
outer side. The condition of the parts exposed was exactly the same in both limbs.

Both specimens were sent to the College of Surgeons Museum.

Mr. Targett, the Curator of the Pathological Museum, has kindly supplied the following report.

Left leg and foot macerated.—Plate XXI, fig. 1.—There is but one bone in the leg, which has the characters of a fibula. It measures 7½ inches in length; the upper end is cartilaginous but without the normal facet, and it appears to have been connected with the femur at the knee-joint by fibrous adhesions. The shaft of the bone is somewhat curved, convexity outwards, but is not specially deformed though hypertrophied. The lower end of the diaphysis, together with the epiphysis (ext. malleolus) are united with a compound astragalocalcaneum to form the ankle-joint in such a manner that the sole of the foot looks directly inwards, and the articular surfaces of this modified ankle-joint are in a vertical plane instead of being horizontal.

The foot, as a whole, is in a position of marked varus, the dorsal surfaces of the fourth and fifth metatarsals being directed towards the ground. The fore-part of the foot is also much adducted, so that its inner border is rendered very concave, with the concavity looking upwards. The chief bone in the tarsus is very irregular, and probably represents a fused astragalus, calcaneum, and perhaps a navicular. The line of fusion between the astragalus and calcaneum is quite distinct on the inferior (outer) aspect of the foot. In front the calcaneal portion of this compound bone articulates with a normal cuboid which bears the two outer metatarsals. The astragalar portion of the bone articulates in front with two bones which probably represent the inner and outer cuneiforms, which in turn support the three inner metatarsals. Thus the middle cuneiform and navicular are suppressed, but the latter is probably represented in the long anterior process of the fused tarsal bone above described. Near the base of the first metatarsal there is evidence of another joint and an additional bone. But this may be explained as an imperfectly united fracture of the metatarsal near its tarsal extremity. The three middle metatarsals show the longitudinal torsion of their diaphyses which is common in severe varus.

Plate XXI, fig. 2.—In the right leg and foot the muscles have been dissected superficially. The peroneus tertius (fig. 2, A) is very large, and the tibialis anticus with the ex...
tensor longus digitorum (fig. 2, b) are held in place by a strong anterior annular ligament, round which they play like a pulley in consequence of the displacement of the foot. The peroneus longus and brevis are also very large, but the calf muscles (soleus and gastrocnemius) are small, and take origin from the fibula. In the sole of the foot the muscles do not appear to vary much from the normal, though small and displaced by the position of the limb.

The upper end of the right fibula shows fibrous adhesions by which its cartilage was connected with the corresponding femur.

The specimens are preserved in the museum of the Royal College of Surgeons.

Case 3.—A photograph of a boy, æt. 17 (Plate XXII), who came under the writer’s observation in June, 1894, was also shown. The right tibia was absent, and the deformity which resulted was very similar to that of Case 1, with the exception of the condyles of the femur, which were undeveloped. He had the usual number of toes, but the first metatarsal bone was either very small or entirely absent. The internal cuneiform was also probably deficient. The rest of the foot was well developed. He had also a supernumerary little finger on left hand, but it was very rudimentary, and not articulating with the fifth metacarpal bone. There was, however, some bone in its interior, whilst the phalanges of the fifth digit were small and undeveloped. There was no history in his family of any deformity. He declined any operation, and died at home in August of the same year.


Patient, male, æt. 29, fell a distance of 20 feet on to some railings, a spike of which penetrated the left thigh in Scarpa’s triangle, and then broke off flush with the skin. The spike measured 6 inches × 3 inches. The femur was uninjured, the spike passing to the inner side of that bone and
the superficial femoral vessels, compressing the latter and rendering the limb cold and pulseless. When the spike, which was tightly jambed, was withdrawn, a large ragged cavity was left which was crossed in front by the superficial femoral vessels, and behind by the sciatic nerve. The vessels were unsupported for a space of 3 inches.

Wound was cleaned, and a counter puncture at back of thigh made for better drainage. Much suppuration, however, occurred.

Five days later secondary haemorrhage occurred, and the artery was ligatured in two places where it appeared healthy, and the intervening 3 inches cut out. The vein was rotten and gave way, and was also ligatured. In clearing away the sloughing skin the internal saphenous vein was also divided. The wound continued to suppurate, but subsequently did well, the temperature becoming normal on the forty-first day. A useful limb has resulted.

The case shows the possibility of the successful ligation of a large artery in a septic wound.


PATIENT was the subject of an attack of appendicitis, and three weeks later (September 13) the appendix was removed by an incision through the sheath of the right rectus. The layers were afterwards united in order from behind, the rectus muscle returning to its normal position in the sheath. The incision is made about an inch or one and a half inches to the inner side of the linea semilunaris on the right side. The sheath of the rectus is divided after the aponeurosis of the external oblique. The rectus is then drawn to the inner side, the posterior layer of the sheath, transversalis fascia, and peritoneum are divided. After removal of the appendix the layers are sutured from behind forwards, and the muscle returns to its normal position in the sheath, thus interposing its uninjured layer between the various sutured layers.
X.—A case of Ligature of both External Iliac Arteries by the transperitoneal method. By G. H. Makins. 

Exhibited November 22, 1895.

M., Aët. 35. The left artery was tied for an ilio-femoral aneurysm on September 20, 1892, the transperitoneal method being chosen on account of the extension of the aneurysm beneath Poupart’s ligament. It was thought that as the common iliac might need to be ligatured, this mode of operation gave considerable advantage for the alternative place of the ligature; and, again, that the method would obviate any interference with the outer wall of the sac. Three months later a symmetrical aneurysm of small size developed on the right common femoral artery at its upper limit. This slowly increased in size, and on May 3, 1893, the right external iliac was ligatured by the same method. Both operations were followed by a favorable course, but subsequent to the first the wound in the abdominal wall gaped superficially some days after the removal of the sutures, and healed by granulation. There was a distinct history of syphilis, and the aneurysms were therefore probably due to gummatous arteritis with secondary yielding of the wall, since neither general arterial degeneration nor renal disease was present. (The immediate history of the case is recorded in the Lancet, vol. xi, 1892, p. 1328, and vol. xi, 1893, p. 197.)

When exhibited the patient showed no signs of any further arterial trouble; during the last two years he had been performing his usual work as a carpenter, and wearing an abdominal belt. The scar in the left semilunar line, the one which healed by granulation, had given somewhat, so as to allow of the development of a small ventral hernia.

XI.—A case of Suppuration of the left Shoulder-joint in a man æt. 66, suffering from arthritis deformans, which was twice opened: recovery. By J. R. Lunn. 

Exhibited January 24, 1896.

MICHAEL G., æt. 66, admitted under my care November 27, 1893, with chronic arthritis deformans and swelling of left shoulder-joint.
Family history.—No history of gout or rheumatism in the family.

Personal history.—The patient states that he enjoyed good health until fifteen years ago, when he had his first attack of rheumatism; since then he had repeated attacks in most of his joints.

On admission the man appeared to be ill; he was feverish, restless, and inclined to be delirious; he complained of intense pain in the left shoulder-joint, with limited movements. The joint was very large, tense, and painful to touch. His temperature was 103·2°, pulse 110. He was treated with rest, ice-bag, and salicylate of sodium, but he did not improve. His temperature rose higher, and he begged for something to be done. The joint was tapped by an exploring needle, and pus was withdrawn.

On December 3 an incision was made in front of the left shoulder-joint, commencing at the outer side of the coracoid process, pus was let out, and the joint explored with the fingers, and a counter-opening made behind. The head of the humerus was rough and diseased, it was curetted with Barker’s gouge, the shoulder-joint being washed out with hot water. Iodoform emulsion was introduced, and the incisions closed in front, and a small drainage-tube was fastened in the posterior wound. This was removed the following day, and the wounds healed very soon, and the patient rapidly recovered.

In June, 1894, the same shoulder again began to swell, the temperature rose to 102·4°, and the man seemed as bad as ever. The pus was again let out, and the joint treated as before. Since the second operation the patient has enjoyed good health. He has now marked wasting of the left deltoid muscle and other muscles about the joint; the movements are very limited. He can only abduct his arm slightly, and can raise his arm nearly to a right angle to his trunk, but has no power to keep it there.

Remarks.—Arthritis deformans is a disease of advanced life, and generally occurring after fifty, though in some cases it is met with in early life; and in some cases degenerative changes go so far as to lead to caseous suppuration in the joints. These cases are, I believe, generally chronic. The above case seemed to be acute in its onset. I have seen many cases of arthritis deformans at the bedside and in post-mortem rooms, and this is only the second which has suppurated and has come under my notice, and this is my excuse for bringing it before this Society.

A. P., æt. 12. Female. In April, 1895, had influenza, followed by a relapse with meningitis. Then occurred cephalalgia, delirium, mania, and then muscular symptoms, as spasms, opisthotonos, and catalepsy.

The mental state changed. Her memory for all objects and also for events in health would disappear, and she would during the new condition have to learn everything new in regard both to persons and things, even her own name.

She was "good thing," and knew nothing of A. P. Her father was "Tom," mother "Mary Ann," and so on. Black was white, and she wrote backwards, not mirror writing.

Gradually by education she understood things and wrote properly, but her speech and manner were still changed. She suddenly passes from one state to the other without warning.

The abnormal state is the more persistent now, but by hypnotism she can be brought to the normal for short periods. Diagrammatically there is—

A. Normal stage of health previous to influenza.
B. Abnormal mental stage—"the good thing."
   Sub-stages.—c. Abnormal. "Old Nick," when she has violent passion and bites.
   d. "Dreadful wicked thing," when she reverses everything and writes backward.
   e. "Allie," when she is very amiable.

In each state there is complete oblivion of what occurs in any other state.

[Many other phenomena were described.]


W. M. T., a clerk, æt. 27, married, with two healthy children. His personal history is negative except for infantile
convulsions and an injury to the lower part of the back eight years ago. None of his family or of his ancestors (as far as he knows) have had anything like the illness from which he is suffering.

The symptoms began when he was twenty, and there has been no pseudo-hypertrophy, so that the case differs in these two particulars from the ordinary pseudo-hypertrophic paralysis of children. The first definite result of his weakness was a difficulty in getting upstairs. At present there is a wide-spread weakness and atrophy of muscles. While "standing" there is marked lordosis, the shoulders being thrown back to an extreme degree. The legs are not kept widely apart as in the infantile form. In "walking" he does not waddle, but sways his shoulders from side to side. The knee is lifted high from the unopposed action of the flexors of the thigh, while the leg and toe are dropped from weakness of their extensor muscles. On "sitting down" the lordosis is replaced by a universal kyphosis, showing that the former is due to weakness of the extensors of the pelvis on the thigh. If he "lies" on his back, the knees are slightly bent from over-action of the psoas and iliacus.

As he "gets up" from the recumbent posture he leans on the right elbow, then rests on the right palm, and attains the sitting position. Then he rests on his left palm, the left arm being straight, and flexes the left thigh and leg, abducting the thigh. He can then turn over on to all-fours. He cannot rise further without support, being unable to climb up his legs, probably from weakness of the shoulder muscles. But when on all-fours he can manage, by throwing his shoulders back, to sit on his heels. By resting his hands on a chair he can straighten his knees and so get erect, not by raising the trunk in a straight line, but by pushing off with his hands from the chair and swinging the trunk round through half a circle. As regards the muscles, there is very great atrophy of all those which are weak; and their electrical contractibility is diminished, but there is no reaction of degeneration. The face is not affected. There is no shortening of the antero-posterior diameter of the skull, such as has been observed in some cases.

The latissimus dorsi and lower part of the pectoralis major are greatly affected, the deltoids and infraspinati much less so. He can perform movements with the serratus magnus and trapezius fairly well. The triceps is very much affected, the biceps less so. The forearm and hand are un-
affected. The erector spinae is considerably affected, as are
the glutei, but the latter are not so small as might be expected.

The extensors of the pelvis on the thigh (biceps, &c.) are
affected, but the calf muscles are large and hard, and I think
really hypertrophied. At any rate he can stand on his toes.

The flexors of the thighs are not affected, but the quad-
riceps extensor is very much so. The extensor of the foot
are affected, and when standing with the feet flat he cannot
raise the toes off the ground.

Sensation is normal, and so are the rectal, vesical, and
sexual functions. The knee-jerk is lost. In each limb the
muscles near the trunk have been affected first, and the case
is in all respects most allied to the scapulo-humeral variety
of Erb, but it began in the lower extremity. This shows the
importance of not trying to make too rigid a distinction
between the different types of myopathic muscular atrophy,
or muscular dystrophy, as it is now unfortunately called.

It is not surprising that pseudo-hypertrophy should occur
when the disease begins in childhood, because it is natural,
considering the tendency to exuberant growth which is
present at that age, that the disappearance of muscular fibres
should be accompanied by an overgrowth of connective tissue.

XIV.—A case of Arthritis Deformans with closure of
the jaws from Ankylosis of both Temporo-maxillary
Articulations, successfully treated by division of the
necks of both condyles, and a wedge-shaped piece of
bone removed. By John R. Lunn. Exhibited
January 24, 1896.

John G., æt. 45, a cabman, was admitted into St. Maryle-
bone Infirmary, July 17, 1894.

Past history.—Twenty-five years ago he had rheumatic
fever, and from that time most of his joints began to be
affected, the knees being the first to become swollen; two
years later his jaw became stiff, and for the last twelve
months he has been unable to separate his teeth at all or to
take solid food.

On admission.—It was noticed that both the patient’s
knees were swollen and distended with fluid. Osteophytic
outgrowths surrounded the joints, and most of the articula-
Illustrating the condition before and after operation in Mr. J. R. Lunn's Case of Arthritis Deformans with Closure of the Jaws.
Fig. 1.—Before Operation.

Fig. 2.—After Operation.
tions in the body were affected with rheumatic arthritis; his neck was stiff, and could not be turned towards the right or left. Both hip-joints were stiff, and the jaw could not be opened. The upper row of teeth overlapped the lower ones; the latter were loose. The patient stated he had lost flesh, owing to the fact that he could not take solid or much liquid food without difficulty. "He was very anxious for something to be done to enable him to open his mouth, as he felt he must die."

On August 18, 1894, the patient was put under chloroform, and great force was used to try and open his mouth, but without any success. An incision 2 inches long was then made on the right side in a vertical direction, a finger's breadth in front of the ear. After tying a few bleeding vessels, bone was hit upon, and was thought to be the neck of the condyle, but was the zygomatic process of the malar bone. The neck of the jaw was then divided, but there was no movement of the jaw after its division, so a wedge-shaped piece of bone was freely chiselled below the cut neck, and the wound was temporarily plugged. A similar process was gone through on the left side, with the exception that the incision on the latter was oblique instead of vertical. A considerable portion of the parotid gland was found overlying the maxilla. The jaw was then forcibly opened by the screw-gag, so that the teeth were separated an inch; two teeth were accidentally forced out during the operation. Both wounds were closed and healed by primary union. A wooden gag was put between the teeth, and was tied in the mouth to keep the teeth apart. The whole operation lasted early two hours. The accompanying figures (Plate XXIII) show the condition before and after operation.

Remarks.—1. My excuse for bringing my case before this Society is that only a few cases of closure of the jaws from interarticular disease have been recorded.

2. Some surgeons have experienced the difficulty which occurred to me of finding the temporomaxillary articulation.

3. Mr. Holmes states, in his System of Surgery, that though the temporomaxillary articulation enjoys, on the whole, considerable immunity from disease, there are some affections in which it appears somewhat prone, as in arthritis deformans, and the movements of the jaw are interfered with. He says the ordinary forms of synovial disease are rarely met with. Sometimes a pyaemic state is found. Mr. Holmes also states that he has observed in the post-mortem
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room disease produced in the temporo-maxillary articulation by suppuration in the middle ear.

An interesting case of excision of the condyles of the jaw in a boy thirteen years old was reported by Mr. Page, of Newcastle, in the British Medical Journal for 1887.

I cannot help thinking the rarity of the disease of the temporo-maxillary joint is due to other successful palliative treatment being adopted.

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A, a married woman aged 44, was walking in the street four months ago, when she slipped and fell on to the back of her head on the pavement. She remained unconscious for seven hours, and then vomited several times. On recovering her senses she noticed that her left eye, which was not struck in the fall, was "bloodshot," and both the lids swollen. On the day after the accident she experienced "a buzzing noise" in the left side of her head, which has persisted without intermission up to the present time. About a week later the left eye was noticed to be unnaturally prominent; the discoloration of the eye and the swelling of the lids had now disappeared and double vision was a marked symptom, and has persisted.

The prominence of the eyeball is sufficiently marked at once to attract attention. The eye is not only pushed forwards, but is at a slightly lower level than its fellow. No pulsation can be seen or felt in the orbit. The globe appears to be normal, and there is no swelling or congestion of the conjunctiva. The left pupil is a little smaller than the right, but reacts normally to light and to accommodation. The external rectus muscle is paralysed so that the eyeball cannot be rotated outwards beyond the mid position. The other movements of the eye are normal.

The ophthalmoscopic appearances—when the eye was examined by Mr. Holmes Spicer a month ago—were normal. On auscultation with a stethoscope, applied with gentle pressure to the eyeball, a soft buzzing bruit is very easily heard. The bruit is continuous, but is accentuated with each beat of the heart. It is heard less clearly by applying the stethoscope to the bone at any part of the margin of the orbit.
The murmur is diminished, but not stopped, by compression of the left common carotid artery in the neck.

When I first saw the patient a month ago she expressed herself as sure that the prominence of the eye and the loudness of the buzzing noise in the head had become less during the preceding fortnight. During the last month, however, no change has been noticed either by the patient or myself.

The presence of the three symptoms—exophthalmos, bruit, and paralysis of the sixth nerve—justifies the inclusion of this case under the general heading "orbital aneurysm," although pulsation of the projecting eyeball has not been detected. The fact that in this case the lesion is of traumatic origin is sufficiently certain. The evidence of recorded cases renders it probable that the lesion is of the nature of a communication between the carotid artery and the cavernous sinus, and that no actual aneurysm exists in the cavity of the orbit. The continuous character of the bruit favours this view. The damage was probably the result of a fissured fracture of the base of the skull running forward into the left orbital plate, and thus accounting for the effusion of blood into the orbit which immediately followed the injury. Rivington's statistics show that, roughly speaking, the spontaneous form of this affection is twice as common in women as in men, and the traumatic form three times as common in men as in women. In this respect, therefore, the case is exceptional.

No treatment has so far been adopted, but a period of complete rest with a trial of digital compression of the carotid is recommended. The course which the case has run seems to justify the hope that a cure may be obtained by these simple measures, if not spontaneously. In the event of an increase of the symptoms, especially if attended with any interference with the nutrition of the eyeball, the question of ligature of the left common carotid artery would be taken into consideration.


Patient aged 17. Five years ago his foot was caught in a wheel and was twisted. He was laid up in bed for
some weeks, but did not go to hospital, and had no splints applied.

The lower end of right tibia is much smaller in all its dimensions. The sustentaculum tali projects out beneath the internal malleolus. The external malleolus is much larger and stouter than natural. The foot is a little turned inwards. Patient can walk half a mile, but with difficulty. After walking the pain is felt chiefly along the extensor muscles between the tibia and fibula in the middle of the leg.

XVII.—A case of extensive Skin Grafting. By Herbert Paterson (introduced by Howard Marsh). Exhibited January 24, 1896.

The patient, who is 58 years of age, was admitted into St. Bartholomew's Hospital, under the care of Mr. Willett, on November 16, 1893, with extensive cellulitis of the left lower limb, the result of an injury about the knee three weeks previously. Incisions were made, pus evacuated, and an abscess cavity found extending upwards on the outer side of the limb to within a hand's breadth of Poupart's ligament and two or three inches down the outer side of the leg. Notwithstanding the operation the cellulitis continued to spread, and much sloughing went on in the abscess cavity. On December 4 his condition was so serious that Mr. Willett asked several of his colleagues to see the case in consultation with him, and the question of amputation of the limb was raised. It was decided, however, that such a serious operation would in his condition be almost inevitably fatal, and that in any case it would be almost impossible, owing to the extensive destruction of skin, to cover in the necessary operation wound, and so it was agreed that the best course was not at present to perform any radical operation. On December 19 a further consultation was held, and it was then agreed that although amputation would probably be necessary later on, inasmuch as he was now not losing ground, and was taking his food well, it would be well to wait; in the meantime trying the effect of removing all the undermined skin, so as to allow free vent to all the pus, which tended here and there to be retained in recesses of the
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abscess cavity. If this succeeded, Mr. Willett suggested Thiersch's grafting later on.

Accordingly, under nitrous oxide gas, all the undermined skin was cutaway with scissors, leaving a large wound extending from Poupart's ligament and the iliac crest above, right down the outer aspect of the thigh and as far as the middle of the leg. Nor was it a mere superficial wound, inasmuch as Scarpa's triangle was exposed as in a dissection, and the femoral vessels could be plainly seen therein. On the outer side of the limb the vastus externus and biceps muscle were also exposed.

On January 10, 1894, Thiersch's grafting was performed; five strips of skin, measuring approximately 5½ by 2½ inches, taken from the patient's upper limbs, were laid at intervals transversely across the ulcer. The grafts were dressed on the sixth day, and were all found to be living.

On February 2 the remainder of the ulcer was covered in by grafts in the same manner.

The patient left the hospital on March 26, 1894.

Of course the skin grafting had nothing to do with the patient's recovery from the serious condition in which at one time he was, but it did greatly hasten his recovery after convalescence was once established, and materially lessened the duration of his stay in hospital. Further, there can be little doubt the skin grafting considerably improved the after utility of his limb. Had an ulcer of such large extent been allowed to heal in the ordinary way by scarring, it could—and this is the point on which I wish to lay stress—hardly have healed soundly, and would subsequently have broken down at intervals to the discomfort of the patient. Whereas at the present time the whole area of the ulcer has remained soundly healed; the limb is freely moveable, and has not caused him any trouble whatsoever,—in fact, as he himself says, the limb is as useful as it ever was. The scar now measures about 21 inches by 5–6 inches, and the original grafts can be plainly distinguished separated from each other by a narrow line of scar tissue. The skin all over the ulcer is quite elastic, and moves fairly readily over the deeper parts. In conclusion may I point out that, with the exception of one or two small scars, where too deep a cut was made, there is scarcely any indication on the upper extremities that any skin had been taken from them.
XVIII.—Three cases of Pseudo-hypertrophic Muscular Paralysis in one family. By Fletcher Little, Exhibited January 24, 1896.

THREE brothers—E. T., æt. 13, A. T., æt. 10, and S. T., æt. 5—were admitted to the London Temperance Hospital on January 15 suffering from pseudo-hypertrophic paralysis. There was no history of this or any other form of paralysis in either the father’s or mother’s families for three generations back, and these three boys are the whole of the family. The eldest boy was first affected between four and five years of age, the second at seven, and the youngest about nine months ago. All three have had measles, but no connection is known between the onset of this disease and their convalescence from measles. None of them complain of any pain, and their temperatures were all slightly subnormal. On the whole the cardiac action is irregular, but there are no murmurs, and the heart is somewhat enlarged. Respiration is normal. The urine in all cases is acid, and contains no albumen. E. T. began to lose power in his legs about eight years ago, and during the last few months his arms have become affected. In this early stage his mother describes his methods of rising from the floor and going upstairs as of the most typical order. In examining his muscular system the most conspicuous thing is the great size of his calf muscles, which, however, are very flabby. The muscles of the head and neck except the trapezius, which is somewhat atrophied, are apparently unaffected. In the shoulder the great size of the infraspinatus and deltoid are conspicuous, the other muscles being very small, especially the latissimus dorsi and lower part of the pectoralis major, which are almost gone. He can only abduct his arm very little, and cannot touch his shoulders with his fingers on the right side, though he can on his left. The muscles of the arm and forearm are small, except the biceps, which is large. He can flex his forearm completely, but the movement is very slow. Pronation and supination are fair. The muscles of the back are small and weak; the rectus abdominis is bulky; the muscles of the buttocks and thighs are of a fair size, but flabby. Some antero-posterior curvature of the spine with prominence of the lumbar region is noticed. There is marked talipes equino-varus. The ankle cannot be flexed
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beyond a right angle. He cannot stand at all now, and has not been able to for eight or nine months, and is quite powerless even when helped. He cannot without great effort rise to the sitting posture from the recumbent. Sensation is good everywhere, and the mental development advanced for the age. Tendon reflexes are abolished. The muscles react to galvanism and faradism, though electrical irritability is reduced to both.

A. T. has been affected for three years, but lost the power of standing eighteen months ago. The main difference from his elder brother is the strong contraction of the flexors of the knee, which render him quite unable to stand, and of the extensors of the ankle.

S. T. has only been affected nine months, and is still able to run about. He has the large hand, calves, and some enlargement of the deltid and infraspinatus and rectus femoris. He has the well-marked oscillating gait, and rises from the floor in the typical way. The electrical irritability of his muscles is but very little reduced. He has marked lateral curvature of the spine, and a tendency to talipes equino-varus.

I am much indebted to Mr. E. de Carle Prout, M.B., the resident medical officer at the Temperance Hospital, for the notes of these cases.


Patient is a boy æt. 10, the youngest of thirteen children; nothing of any importance can be ascertained in the family history; nine other children are living and well, and the mother had six brothers, all said to be healthy.

Patient had measles three years ago, but otherwise was always well and strong till about two years ago, when his mother says he began to walk badly, and he has gradually got weaker since.

He is very thin, and rather dull mentally; he never speaks unless spoken to, and is in the lowest class at school, but has attended very irregularly during the last two years.

Probably nearly all the muscles are weak, but some are much more wasted than others, the wasting being fairly but
not absolutely symmetrical: they all react to faradism; there are no fibrillar twitchings.

Patient can stand well, with moderate lordosis, which disappears when he sits down. He walks feebly, and goes upstairs slowly, one step at a time. He gets up from the floor without much difficulty, and without the characteristic action of pseudo-hypertrophic paralysis.

The face is expressionless and the muscles very weak; he does not contract the occipito-frontalis; can close the eyelids, but not tightly; and cannot pout or whistle.

The tongue, ocular, and masticatory muscles, and the sterno-mastoids seem normal.

The muscles of the hands and forearms are not much affected, but there is marked wasting of the biceps, triceps, and latissimus dorsi on each side, also of the right deltoid, and to a less extent of the right trapezius.

The right supraspinatus and infraspinatus are slightly wasted, but on the left side are well developed. On the other hand, the right serratus magnus is fairly marked, whilst the left seems completely wasted, so that when the left arm is thrust forward there is excessive projection of the posterior border and lower angle of the scapula.

The pectoral muscles are not markedly wasted. The back muscles are normal. The muscles of the abdominal wall are thin and wasted, particularly the recti abdominis, so that patient cannot raise himself from the recumbent position without using his arms. The extensors of the knees are considerably wasted, but the other muscles of the lower limbs are not much affected, except the calf muscles, which are proportionately excessively developed and distinctly hard. Knee-jerks and plantar reflexes absent. Sensation and sphincters normal.


A LITTLE boy, æt. 3, was brought to the Skin Department of the West London Hospital this afternoon with a large pustular lesion on the right upper eyelid, and another larger
and somewhat ulcerated on the chin—both being on inflamed indurated bases. The right eye is quite closed, and the right maxillary lymphatic glands are enlarged. The child is stated to have been vaccinated in infancy, but no marks are now discoverable. Ten days ago he was placed in a bed with a younger child who had been vaccinated about ten days previously; pimples on the eyelid and chin subsequently appeared, becoming large and inflamed since Sunday last. From the typical appearance of the lesions, especially that on the eyelid, there can be no doubt that the case is one of accidental vaccination.


H., æt. 12, was admitted to St. Thomas's Hospital on December 2, 1895, and remained under treatment until February 14, 1896, since which time he has been in the out-patient department.

The history is that the patient broke his forearm on the 21st of May, 1895. Six weeks after the fracture he could not put his fingers straight. Anterior and posterior splints had been applied, and on the removal of the splints a sore was found in the middle of the forearm under the anterior splint.

The left arm is wasted, and he keeps the forearm in a state of pronation and the fingers flexed, and the wrist also flexed. When the wrist is flexed the fingers can be extended, but when the wrist is extended it is not possible to extend the fingers at more than a right angle to the metacarpus. There is marked wasting of the hand muscles. There is some bony thickening at the seat of the fracture. A scar is present over the front of the forearm, but it is not adherent. Sensation is normal. Electrical reactions were normal, excepting as showing degeneration in the muscles of the hand, such as results from disease.

No lengthening of the flexors could be gained under anaesthetic; perhaps the fingers could be extended a little more, say half an inch. They appeared very rigid.
sion by means of an elastic apparatus was devised, but it was
not possible to keep it on because vesicles formed on the tips
of the fingers.

The treatment which is being carried out now is that of
rubbing, the use of the continuous current, and gymnastic
exercises on the horizontal bar.

XXII.—A case of Congenital Dislocation of Hip. By
C. A. Ballance, M.S., and James Taylor, M.D.
Exhibited February 28, 1896.

A FEMALE patient æt. 23, who came on account of
epileptic fits. She was seen to be lame, and on exami-
nation it was found that there was a great degree of mobility
at the right hip-joint, evidently a dislocation; and as the
lameness had existed during the whole of the patient’s life, it
was concluded that the case was one of congenital dislocation
of the hip. Mr. Ballance saw the case, and confirmed this
opinion. He also pointed out that there was a very unusual
degree of mobility at the hip, that there was hyperextension
in both knees, and also lateral mobility at these joints. There
is some grating at the hip, the right leg as a whole is smaller
than the left, and is several inches shorter; and there is a
considerable degree of lateral curvature.

XXIII.—A case of Multiple Fibro-myomata. By L. A.

MAN æt. 23. The patient had a small tumour on the back
of the scalp ever since he can remember, and he had
some operation done to it seven years ago.

Since the operation the original tumour has grown again,
and numerous fresh tumours have appeared all over his trunk.
These tumours vary in size from that of a small split pea to
that of half a walnut. The skin over all of them is not adherent, and can be pinched up.

Two of the tumours which caused inconvenience were removed, and microscopical section showed fibrous and fatty tissues.

He also has a congenital fatty tumour of the palm of the right hand. This has existed from infancy, and has not caused him any inconvenience.


This little girl, aet. 4, came under my care at St. Thomas’s Hospital with the following rare malformation. In the hypogastric region was a very marked protrusion. There was no umbilical cicatrix, but at the upper part of the protrusion, about 4 inches above the pubes, a very sharp concave fascial margin was to be felt. Laterally its edges were continued downwards and outwards to the pubes, which had no symphysis, and the two halves of the pelvis were separated for a distance of 1\frac{1}{4} inches. These fascial edges corresponded to the inner margins of the diverging recti muscles, and below became united into a transverse ligamentous band holding the two halves of the pelvis together. There was no mons Veneris, and the labia majora were of course widely separated, very short and rounded, and having much the appearance of a cleft scrotum. The clitoris was bifid and long, presenting on its under surface a prolongation of the urethral mucous membrane resembling closely a male hypospadias with cleft scrotum. The vaginal orifice was closed by a very exaggerated hymen, the opening of which was vertical and placed entirely to the left side of the middle line. The orifices of Bartholin’s glands were very prominent. The labia minora were very poorly developed. Hermaphroditism had been suggested, but per rectum, the uterus, tubes, and ovaries could be felt, but it could not be determined whether it was a uterus bicornis or not. The halves of the pelvis were so firmly united as to prevent any lateral movement, and
the child's walk was not affected. On passing a catheter into the undistended bladder, its point could be felt close beneath the skin in this area between the recti. There was no other malformation in this child, and none in any member of the family. In consequence of the protrusion and the weak abdominal wall, I did an operation to increase the support here in the following manner. A vertical incision was made in the middle line, and the skin was dissected off laterally until the anterior surfaces of the recti were exposed. This was in the weak area a very difficult procedure, as there was hardly any fascia or prevesical fat between the bladder wall and the skin, and the former, except for extreme care would have been undoubtedly opened. I then dissected off the fascia from the front of the recti on each side, and turning these fascial flaps inwards towards the middle line, sutured them accurately together. The skin was then sutured over them, and the wound dressed with cyanide gauze without drainage. The result has exceeded expectations, and now there is very little prominence, but as a precaution she wears an abdominal belt.

The interest in the case rests in its anatomy. In epispidias and ectopia vesicae (when the bladder is opened) the accepted explanation is that the cleft in the middle line running from the upper part of the urachus at the navel down through the bladder and anterior wall of penis (or clitoris) has failed to close, and in the latter case we know that the symphysis is almost always absent. In this patient the explanation seems to me to be that the anterior wall has only partially closed; the defective development of mesoblast in relation with the anterior part of the pelvic girdle has led to the non-formation of the symphysis, and other fascial structures in the mid-line, and at the same time has caused the want of proper dissociation of the anterior bladder wall from the soft parts, so that it remains adherent to the abdominal wall.

The case is one of extreme rarity, such a condition not being referred to in any English surgical text-book. It has been recognised, I believe, in Germany, and is included in the descriptions of ectopia vesicae, under which it may fairly be placed as its simplest and least objectionable form.

The patient is a young woman who gives no history of previous illness, and who has no rheumatic or syphilitic taint. Her general health has throughout this affection been good.

The left side of the face became completely paralysed three months ago, some hours after exposure to a draught. The affection of the right side commenced six weeks later, without any assignable cause.

The present condition is one of complete bilateral palsy of the peripheral type. Emotional conditions and efforts to control the face alike leave the features undisturbed. There is no affection of hearing or taste, and no paralysis of the palate. The muscles on both sides give typical reaction of degeneration.

The case seems undoubtedly one of double Bell’s palsy—probably the rarest of all forms of facial diplegia. The prognosis is good, as in unilateral cases; but, considering the grave nutritional change in the muscles, recovery will certainly be slow.


James D., æt. 43. Printer. Was admitted into St. Thomas’s Hospital on December 12, 1895, complaining of gradual increase in the size of his head, and bowing of the bones of his legs. Eight years ago patient had a bad fall from a ladder, injuring his head and spine, being laid up for four months in bed. On getting about again he noticed his legs were weak and bow-legged. Soon after he observed a small lump on the upper part of sternum, and this gradually increased in size. He next became unable to put on his hat, and had to get a larger one, which was again too small for him in about a year. The bones of the skull, thighs, and legs have been gradually getting larger, and his ribs have become affected. He has lost strength, and has gone
down in weight, now weighing 8½ st., but he did not weigh more than 9½ st. previous to accident. He has not been able to walk properly for four or five years, but he can still walk a little unaided. He attended Charing Cross Hospital during last March and April, and previous to admittance to St. Thomas’s was under Dr. Mackenzie’s care as an out-patient. He complained of pain in the lumbar region behind, and also down the side of the legs, the pain being sometimes worse at night. No history of rheumatism or gout; healthy family history, no history of alcohol or syphilis, and previous to his accident he had always been a healthy man.

On admission to St. Thomas’s Hospital he complained of enlargement of the bones generally, with ill-defined pains in the trunk and limbs. On examination his chest moved badly, but the lungs were healthy. Heart dulness began at the fifth rib, bounded on the right by the left edge of the sternum, and the apex-beat was in the fifth space, half an inch external to the nipple line. At the right base was a soft blowing systolic murmur conducted upwards to the right clavicle, which murmur could also be traced downwards across the sternum towards the left nipple. The second sound was normal. Pulse strong and full (84 per minute). Abdomen normal. Urine showed a trace of albumen.

Bones.—Great deformity and thickening. Lower part of the femora excessively thickened and bowed, the curved convexity being outwards. The tibiae and fibulae are much enlarged, and curved forwards and outwards. The crests of the ilia show great increase in thickness. Some of the ribs, especially the seventh on the right side, are greatly enlarged, and there is a rounded bony outgrowth of the sternum at the junction of the manubrium and gladiolus. The back is arched. The bones of the cranium have undergone great hypertrophy, so that both the height of the forehead and the antero-posterior and lateral diameters of the skull are considerably increased. The face bones are not altered. The temporal arteries are very tortuous and groove the bone. He was treated with red marrow extract 3j, t. d. s., and put on a full diet.

On December 18 he measured—head from centre of forehead to occipital protuberance on each side 12½ inches. Legs: right calf (hand’s breadth below knee) 12 inches; thigh (same distance above knee) 12½ inches. Left calf 13 inches. Left thigh 13 inches. Weight 8 st. 5 lbs. On December 18, when turning suddenly in bed he heard some-
thing snap in region of seventh or eight rib, which caused him pain on breathing deeply. Crepitus was not made out. On December 25, when trying to walk, his right leg seemed to give way halfway between the knee and ankle, a lump rising on the front of the tibia at the place. On January 11 his right ankle became swollen and painful. Measurements on that date—from centre of forehead to external bicipital protuberance 12½ inches. Left thigh (hand's breadth above knee) 13½ inches. Calf 12½ inches. Weight 8 st. 5 lbs. From then up to present time the patient's condition has remained unchanged. He has gained one pound in weight, the urine is normal, and there is nothing abnormal in the fundus oculi.

On February 18 he was ordered Ferri Sulphas, grs. iv; Acid. Sulph. Dil., miv; Liq. Strych. Hydroch., m vj; and Infus. Quass. ad 3 j. Ter die. The red marrow seemed to have some effect in relieving the general ill-defined pains, but had none on the condition of the bones.


M., æt. 22, a single girl, came to my out-patient room in January, 1895, with a spindle-shaped swelling, 2½ inches in length, occupying the position of the median nerve, just above the right wrist-joint.

The history of the case dated back to 1884, when she cut her wrist with a piece of a broken basin.

In 1887 she was operated on for a swelling in the position of the present one. When she came under my care she had all the signs of advanced paralysis of the median nerve in the hand. There was a trophic ulcer in the index finger, commencing ankylosis of the phalangeal joints, and the hand assumed the claw-like aspect so typical in these cases.

At the operation, when the tumour was exposed, it was found to involve the whole substance of the median nerve, commencing half an inch above the anterior annular ligament, and extending up the nerve for 2½ inches. The tumour was excised, and normal nerve tissue seen at each end of the
divided nerve. The two cut ends were then brought together, but apposition of the ends was only possible when the arm was flexed to a right angle on the forearm. This was accordingly done, and the ends united with silk. The skin was sewn up with a continuous suture, and the hand and arm fixed on a rectangular anterior poroplastic splint. The splint was removed on the seventeenth day, the wound having healed perfectly, and the hand was gradually extended.

The subsequent treatment—massage and galvanism for many months—was carried out by Dr. Mott, with the result that the patient now has a most useful hand, with good sensation, and normal condition of the skin, nails, muscles, and joints.

She is able to do her needlework and write.


G. C., male æt. 24, came under my care on November 13, 1895.

Three months previously, whilst getting through a window, he cut his right hand, dividing the extensor tendons of the ring and little fingers.

On extending the right hand the two outer fingers remained flexed in the palm, and it was only with difficulty that the patient was able to grasp anything.

I suggested an operation to him, but warned him that although his condition would be no worse it might not be improved. He was anxious to have something done, and willing to take the chance.

At the operation the distal ends of the tendons were easily exposed, but although the incision was prolonged some way up the arm, no trace of the proximal ends could be found. I therefore cleared the distal ends and divided them transversely to the extent of half an inch, and stitched them separately to the intact extensor tendon of the middle finger, placing one half of the transversely divided tendon above and the other below.

The wound was closed by a continuous suture, and healing
took place by first intention. The man left the hospital on November 26, just under the fortnight.

He has now perfect extending power of all the fingers alike, and it is difficult to detect any difference between the two hands.

Remarks.—The result of this operation is in every way gratifying. If the proximal ends had been obtained and united to the distal, I question very much whether the result would have been equally good. Muscles belonging to divided tendons waste rapidly and improve slowly, and the result is often not very good in cases where, after some long interval, the ends have been united.

Where there is a common nerve-supply, I believe that some such operation as I have here described is preferable to trying to find the proximal ends in old cases of divided tendons.


ÆT. 28. Enlargement of the forearm was first noted at six years of age; about that time she was bitten by a dog, an occurrence which she regards as of some ætiological importance, although it probably only drew attention to an existing condition.

Gradual increase in the size of the forearm has taken place since that time, while the bones have become somewhat curved with a radial convexity, and the development of the hand has suffered, the whole hand being three quarters of an inch shorter than the sound one, and proportionately smaller throughout.

The diseased forearm is now about one inch larger in circumference than the sound one except at the wrist, which is normal in size and appears constricted. Scattered over it are soft areas corresponding with cavernous spaces which extend deeply into the limb. The two largest are situated one over the dorsal aspect of the radius, the other at the outer side of the olecranon, burrowing deeply through the anconeus; in both these situations the bones are excavated.
These spaces have developed consecutively from below upwards, the lower of the two specially mentioned being noted at eight to nine years of age, the upper at twenty-six. They are readily emptied by pressure, but fill rapidly whether compression is made around them or not. They are not translucent. The size of the forearm varies at times, and it becomes painful if much used. The arm is normal. The superficial veins are normal in position and size. The naevoid condition is therefore confined to the deep veins, and probably lymphatics also, and appears to infiltrate the whole thickness of the limb, encroaching on both muscles and bones.

Complete extension and flexion of the forearm are interfered with, and pronation and supination are very limited.


E. H., a girl æt. 4, was admitted into the London Hospital on May 18, 1895, with a dislocation of the femur on the left side. The mother stated that the left buttock had always seemed fuller than the right, and that the child was late in walking and had always limped. She further stated that the delivery of the child had been difficult but not instrumental, and that so far as she knew the presentation had been cephalic. On examining the left buttock, the head of the femur could be felt dislocated upwards and backwards on to the dorsum ili, and could be made distinctly prominent by extreme adduction of the limb. The movements of the joint were more free than usual in every direction except abduction. The great trochanter was displaced upwards for 1½ inches, as measured by Bryant's triangle and Nélaton's line. The femur could, by forcible traction and pressure, be moved upwards and downwards within the capsule, through a range of motion of about 1 inch, so that when forcibly drawn down the shortening was reduced to 1 inch, but increased to 2 inches when the patient stood upon the limb. The neck of the femur appeared normal in length and curve. There was
no spinal curvature. The child walked with a characteristic limp.

On May 30, under an anaesthetic, and with the usual antiseptic precautions, reposition of the head of the femur within the acetabulum was performed according to Lorenz’s modification of Hoffa’s method,—incision from anterior superior iliac spine downwards parallel with and close to anterior border of great trochanter; sartorius and tensor vaginae and part of gluteus medius divided; capsule exposed and incised freely, so as to expose the head and neck of the femur, which were found normal in shape and curve. The ligamentum teres was absent. After very freely incising the capsule anteriorly and passing in the tip of the right forefinger for about a quarter of an inch the acetabulum was reached; it was triangular in shape and small in size. An attempt was made to replace the head by forcible traction upon the leg applied by pulleys, but reposition was prevented by the upper and posterior part of the cotyloid ligament, which was thicker than normal at this part. This was removed by scalpel and forceps. The floor and part of the rim of the acetabulum was gouged away so as to deepen and enlarge the hollow sufficiently to contain the head of the femur. Traction was again applied to the limb, and the head of the femur was drawn down and pushed into the newly enlarged acetabulum, where it remained wedged against the ilium. An assistant held the leg rotated inwards and abducted. The haemorrhage was slight; the joint was irrigated, a drainage-tube put in; the wound was sutured, dressed with iodoform and carbolic gauze, and a plaster-of-Paris case applied from the knee to the thorax.

The drainage-tube was removed and the dressing reapplied through an aperture in the plaster case on the third day. The plaster case was removed on the eighteenth day, when the wound was found healed. The sutures were removed and a second plaster case was reapplied, and removed in the sixth week. The leg was kept extended with a weight of seven pounds in a position of slight flexion, abduction, and rotation inwards. The recovery of the patient was uninterrupted. At the end of six weeks she was massaged and encouraged to walk. Improvement in power of walking has been gradual and continuous.

February 29.—Although the child still has a slight limp, yet the head of the femur lies within the acetabulum, and cannot be pushed upwards and pulled downwards as was formerly
possible. The shortening of the left leg is half an inch instead of one and a half, as it was before operation. The femur is freely moveable at the hip-joint, except in the direction of abduction. With this exception the joint is normal.

XXXI.—*A case of Deficiency of Ribs.* By J. Murray.  
*Exhibited April 24, 1896.*

A _ABRAHAM S.,_ æt. 5, with complete absence of the eighth, ninth, and tenth ribs on the left side. The eleventh rib is smaller than that on the opposite side, while the twelfth rib is larger and longer than the corresponding rib on the right side, and extends downwards to within a finger's breadth of the iliac crest.

The aperture in the thoracic wall between the seventh and eleventh ribs measures two and a half inches in the axillary line, and through this the spleen can be distinctly felt. When the child coughs the spleen is protruded, and the notch in its anterior border is then easily recognised.

By passing the finger under the lower border of seventh rib the diaphragm is felt descending at each inspiration, and more internally the impulse of the heart is apparent.

XXXII.—*A case of Defective Development of the lower end of Tibia after Transverse Fracture.* By Gordon Brodie.  
*Exhibited April 24, 1896.*

_The patient is a man_ æt. 22, who was admitted into the Middlesex Hospital twelve years ago, for a transverse fracture of the tibia, caused by the overturning of a hand-cart, which snapped the bone above the ankle, and caused a good deal of bruising about the joint. The patient cannot recollect the precise spot of the fracture, but places it well above the epiphysial line. He was put up on a splint for a week with an ice-bag, and at the latter end of this time was placed in
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plaster, which was kept on for three months. It was much swollen when taken out of the plaster. When running he noticed that it seemed to rick from time to time, and this got so much worse that six years ago he had to get an instrument made for him, consisting of an internal iron, fastening round the leg above the ankle by means of a strap. It was about this time that he first noticed a difference in the length of the legs, then about half an inch, but which has now increased to over an inch.

On examination the lower end of the tibia is seen to be dwarfed in size, with an inward curve of the lower fourth of the bone, bringing the external malleolus into fairly strong relief, causing the tibio-fibula articulation to be inclined inwards and downwards, and giving the foot an inward twist. No irregularity can be detected on the shaft of the tibia. There is considerable hypertrophy of the lower fourth of the projecting fibula, whose subcutaneous surface is much ridged. From the anterior border of the external malleolus a boss of bone has grown, causing this part to measure an inch more in breadth than on the opposite side. In order to compensate for the position of the foot there is well-marked talipes valgus. Röntgen's rays reveal absolute continuity of the bone.

Femora of equal length.

Right tibia (tuberosity to int. malleolus) = 13\(\frac{3}{8}\), left = 15\(\frac{1}{4}\) inches.

Right fibula (head to ext. malleolus) = 15\(\frac{1}{4}\), left = 15\(\frac{1}{4}\) inches.
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