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VOLUME SEVENTEENTH.

COMPRISING THE REPORT OF THE PROCEEDINGS FOR THE SESSION 1865-66.

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1866.

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53, Berners Street, Oxford Street,
October, 1866.

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1857-58 Alison, S. Scott, M.D., Physician to the Hospital for Consumption, Brompton, 80, Park-street, Grosvenor-square.

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1859-60 Andrew, Edwin, M.D., Windsor-house, Shrewsbury.

1862-63 Andrew, James, M.D., Assistant-Physician to St. Bartholomew's Hospital, 59, Russell-square.

1857-58 Anstie, Francis E., M.D., Assistant-Physician to the Westminster Hospital, 16, Wimpole-street.

Elected Session

1851-52 Ashton, T. J., Esq., Consulting-Surgeon to the St. Marylebone Infirmary, 31, Cavendish-square

1857-58 Avent, Nicholas, Esq., 18, Stamford-villas, Fulham-road.

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1864-65 Baker, William Morrant, Esq., Demonstrator of Anatomy at St. Bartholomew's Hospital, The College, St. Bartholomew's Hospital.

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*1851-52 Barclay, A. Whyte, M.D., Physician to St. George's Hospital, 23A, Bruton-street, Berkeley-square.

1860-61 Barker, Edgar, Esq., Jun., 6, Upper Hyde-park-street.

*1855-56 Barker, T. A., M.D. (V.P.), Senior Physician to St. Thomas's Hospital, 27, Wimpole-street.

1852-53 Bartlett, William, Esq., Surgeon to the Kensington Dispensary, Ladbroke Lodge, Ladbroke-square, Notting-hill.

1862-63 Barratt, Joseph Gillman, M.D., 8, Cleveland-gardens, Bayswater.

*1852-53 Barwell, Richard, Esq., Assistant-Surgeon to the Charing Cross Hospital, 32, George-street, Hanover-square.

1857-58 Basham, William R., M.D., Senior Physician to the Westminster Hospital, 17, Chester-street, Grosvenor-place.

1861-62 Bastian, H. Charlton, Esq., M.A., M.B., F.L.S., Assistant-Physician to St. Mary's Hospital, 81, Avenue-road, Regent's-park.

1865-66 Bazire, Pierre Victor, M.D., Assistant-Physician to the National Hospital for the Paralyzed and Epileptic, 28, Woburn-square.

*1851-52 Beale, Lionel S., M.B., F.R.S., Physician to King's College Hospital, 61, Grosvenor-street.

1855-56 Bealey, Adam, M.D., M.A., 27, Tavistock-square.

1852-53 Beck, Thomas Snow, M.D., F.R.S., 71, Portland-place.

1865-66 Beeby, Walter, M.D., Bromley, Kent.

1864-65 Beigel, Hermann, M.D., 3, Finsbury-square.

*1849-50 Beith, Robert, M.D., Deputy Inspector-General of Jamaica Hospitals.

1862-63 Bell, James B., Esq., 30, Margaret-street, Cavendish-square.

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1846-47 Bennet, James Henry, M.D., Weybridge, Surrey.

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‡1856-57 Bickersteth, Edward R., Esq., Surgeon to the Liverpool Royal Infirmary, 2, Rodney-street, Liverpool.

1855-56 Bird, W., Esq., Surgeon to the West London Hospital, 7, George-street, Hanover-square.

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Elected Session

1865-66 Bisshopp, James, Esq., 1, Lawn-place, South Lambeth.

1853-54 Black, Cornelius, M.D., Physician to the Chesterfield Dispensary, St. Mary's-gate, Chesterfield.

1849-50 Blagden, Robert, Esq., Stroud, Gloucestershire.

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*1846-47 Brinton, William, M.D., F.R.S. (V.P.), 24, Brook-street, Grosvenor-square.

1856-57 Briscoe, John, Esq., 12, Broad-street, Oxford.

*†1850-51 Bristowe, John S., M.D. (C.) (late Hon. Secretary), Physician to St. Thomas's Hospital, 2, Queen-square, Westminster.

1859-60 Broadbent, William Henry, M.D. Lond., Assistant-Physician to St. Mary's Hospital, and to the London Fever Hospital, 23, Upper Seymour-street, Portman-square.

*1851-52 Brodhurst, Bernard E., Esq., Assistant-Surgeon to St. George's Hospital, and to the Royal Orthopædic Hospital, 20, Grosvenor-street.

1863-64 Brodie, George Bernard, M.D., 10, Bolton-row, May-fair.

*1846-47 Brooke, Charles, M.B., F.R.S. (late V.P.), Surgeon to the Westminster Hospital, 16, Fitzroy-square.

1864-65 Brown, Augustus, M.D., 30, Belitha-villas, Barnsbury-park.

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1859-60 Browning, George, M.D., 10, St. Stephen's-crescent, Westbourne-park.

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1855-56 Bryant, Thomas, Esq. (C.), Assistant-Surgeon to Guy's Hospital, 2, Finsbury-square.

1854-55 Buchanan, George, M.D. (C.), Physician to the London Fever Hospital, and Assistant-Physician to the Hospital for Sick Children, 63, Harley-street, Cavendish-square.

1861-62 Buchanan, Albert, M.B. Lond., 11A, Myddelton-square.

1858-59 Buckland, Francis, Esq., late Surgeon to the 2nd Regiment of Life Guards, 156, Albany-street.

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Elected Session.

*†*Orig. Memb.* Camps, William, M.D., 40, Park-street, Grosvenor-square.

*1849-50 Canton, Edwin, Esq., Surgeon to the Charing Cross Hospital, 30, Montague-place, Russell-square.

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‡1865-66 Coates, Charles, M.D., Physician to the Bath United General Hospital, 10, Circus, Bath.

1865-66 Cobbold, T. Spencer, M.D., F.R.S., Lecturer on Comparative Anatomy at the Middlesex Hospital, 84, Wimpole-street.

**Orig. Memb.* Cock, Edward, Esq. (late V.P.), Surgeon to Guy's Hospital, Dean-street South, Tooley-street.

1857-58 Cockerton, Richard, Esq., Surgeon to the Kensington Dispensary, 12, Petersham-terrace, Gloucester-road, South Kensington.

1855-56 Cockle, John, M.D., M.A., Physician to the Royal Free Hospital, 63A, Brook-street, Hanover Square.

Orig. Memb. Cohen, Daniel Whitaker, M.D., 26, Oxford Road, Kilburn.

1858-59 Cooke, Robert Thomas, Esq., Surgeon to the Scarborough Dispensary, 15, St. Nicholas Cliff, Scarborough, Yorkshire.

*1850-51 Cooper, William White, Esq., Consulting Ophthalmic Surgeon to St. Mary's Hospital, 19, Berkeley-square.

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1853-54 Cornish, William Robert, Esq.

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Elected Session

Orig. Memb. Coulson, William, Esq. (late V.P.), Consulting Surgeon to St. Mary's Hospital, 1, Chester-terrace, Regent's-park.

†1861-62 Couper, John, Esq., Assistant-Surgeon to the London Hospital, 33, Finsbury- circus.

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*1848-49 Critchett, George, Esq., (V.P.) (formerly Hon. Sec.), Surgeon to the Royal London Ophthalmic Hospital, Moorfields, 75, Harley-street.

1855-56 Croft, John, Esq., Assistant-Surgeon to St. Thomas's Hospital, 88, Kennington Park-road.

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1854-55 Curgenven, J. Brendon, Esq., 11, Craven-hill-gardens, Bayswater.

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Orig. Memb. Davies, Herbert, M.D., Consulting Physician to the Infirmary for Asthma, &c., and Physician to the London Hospital, 23, Finsbury-square.

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1861-62 Diamond, W. H., L.R.C.P. Edinb., Resident-Physician of the Lunatic Asylum, Brixton.

1855-56 Dick, H., M.D., 59, Wimpole-street, Cavendish-square.

1858-59 Dickinson, W. H., M.D., (C.), Assistant-Physician to St. George's Hospital, and Assistant-Physician to the Hospital for Sick Children, 11, Chesterfield-street, May-fair.

Orig. Memb. Dixon, James, Esq., (late V.P.), Surgeon to the Royal Ophthalmic Hospital, Moorfields, 2, Portman-square.

‡1865-66 Down, John Langdon H., M.D. Lond., Resident Physician, Asylum for Idiots, Earlswood, Redhill, and Assistant Physician to the London Hospital.

Elected Session

1865-66 Dreury, George Overend, M.D., Physician to the City Dispensary, 5, Weymouth-street, Portland-place.

1864-65 Duckworth, Dyce, M.D., 70, Wimpole-street.

1863-64 Dudfield, Thomas Orme, M.D., 8, Upper Phillimore-place, Kensington.

1846-47 Dudgeon, Robert E., M.D., 53, Montagu-square.

1851-52 Duff, George, M.D., High-street, Elgin.

1865-66 Duffin, Alfred Baynard, M.D., Assistant-Physician to King's College Hospital, 18, Devonshire-street, Portland-place.

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1858-59 Durham, Arthur Edward, Esq., Assistant-Surgeon to Guy's Hospital, 30, Brook-street, Grosvenor-square.

1848-49 Eden, Thomas E., Esq., Surgeon-Dentist to the Farringdon General Dispensary, Cranfield Villa, Norwood, Surrey.

1854-55 Edwards, George N., M.D., Assistant-Physician to St. Bartholomew's Hospital, 20, Finsbury-square.

1846-47 Ellis, Joseph, Esq., Sudbrook-park, Richmond, Surrey.

*1846-47 Erichsen, John, Esq. (late V.P.), Surgeon to University College Hospital, 6, Cavendish-place, Cavendish-square.

1853-54 Evans, Conway, M.D., Pathological Registrar and Assistant-Physician to King's College Hospital, 56, Russell-square.

‡1858-59 Ewens, John, Esq., Milton-Abbas, Blandford, Dorset.

1864-65 Fagge, Charles Hilton, M.D., Demonstrator of Anatomy at Guy's Hospital, 43, Trinity-square, Southwark.

1861-62 Farquharson, Robert, M.D., Assistant-Surgeon, Coldstream Guards' Hospital, Vincent-square, Westminster.

1863-64 Fenwick, Samuel, M.D., Assistant-Physician to the City of London Hospital for Diseases of the Chest, 74, Harley-street.

*1847-48 Fergusson, Sir William, Bart., F.R.S. (late President), Surgeon to King's College Hospital, 16, George-street, Hanover-square.

*1846-47 Fincham, George T., M.D., Physician to the Westminster Hospital, 13, Belgrave-road.

1853-54 Fisher, W. Webster, M.D., Downing Professor of Medicine, Cambridge.

1859-60 Fisher, Alexander, M.D., Assistant-Surgeon, R.N., Her Majesty's Ship "Dragon," Chatham.

*1855-56 Flower, William H., Esq., F.R.S., Conservator of the Museum, Royal College of Surgeons, Lincoln's-inn Fields.

*1851-52 Forbes, J. Gregory, Esq., Surgeon to the Metropolitan Convalescent Institution, 9, Devonport-street, Hyde-park.

1849-50 Foreman, Robert Clifton, M.D., Resident Physician to the Asylum for Imbecile Children of the Upper Classes, Church-hill House, Brighton.

*†*Orig. Memb.* Forster, John Cooper, Esq., Assistant Surgeon to Guy's Hospital, Surgeon to the Royal Infirmary for Children, 10, St. Thomas's-street, Southwark.

Elected Session

1865-66 Foster, Balthazar Walter, M.D., Physician to the Queen's Hospital, Birmingham, 4, Old Square, Birmingham.

1859-60 Foster, Michael, Jun., M.D., Huntingdon.

1862-63 Fox, Wilson, M.D., Professor of Pathological Anatomy at University College, and Assistant-Physician to University College Hospital, 22a, Cavendish-square.

1865-66 Fox, W. Tilbury, M.D., 43, Sackville-street.

1858-59 Francis, Charles Richard, M.B., Bengal Medical Establishment, Indian Army.

1853-54 Freeman, William Henry, Esq., 21, Spring-gardens.

Orig. Memb. Frere, J. C., Esq., Trinity College, Cambridge.

1863-64 Frodsham, John Mill, M.D., Physician to St. John's Hospital for Diseases of the Skin, 17, Victoria-square, Pimlico.

*1846-47 Fuller, Henry W., M.D., Physician to St. George's Hospital, 13, Manchester-square.

‡1858-59 Gairdner, William Tennant, M.D., Professor of Medicine in the University of Glasgow, 21, Blythswood-square, Glasgow.

1855-56 Gamgee, Joseph Sampson, Esq., Surgeon to the Queen's Hospital, Birmingham, 20, Broad-street, Birmingham.

1855-56 Gamgee, J. Esq., Albert Veterinary College, Queen's-road, Bayswater.

1850-51 Garrett, Mark Brown, Esq., 4, Collet-place, Commercial Road East.

*1846-47 Garrod, Alfred Baring, M.D., F.R.S. (late V.P.), Physician to King's College Hospital, 84, Harley-street, Cavendish-square.

1858-59 Gascoyen, George Green, Esq., Surgeon to the Lock Hospital, and Assistant-Surgeon to, and Lecturer on Anatomy at, St. Mary's Hospital, 48, Queen-Anne-street, Cavendish Square.

1855-56 Gaskoin, George, Esq., 3, Westbourne-park, Paddington.

**Orig. Memb.* Gay, John, Esq., Senior Surgeon to the Great Northern Hospital, King's-cross, 10, Finsbury-place South.

1854-55 Gibb, George Duncan, M.D., L.L.D. (C.), Assistant-Physician to the Westminster Hospital, 1, Bryanston-street, Portman-square.

1853-54 Gibbon, Septimus, M.D., 13, Finsbury-square.

‡1857-58 Godfrey, Benjamin, M.D., Carlton-house, Enfield.

*1854-55 Goodfellow, Stephen Jennings, M.D., Physician to the Middlesex Hospital, 5, Savile-row, Burlington-gardens.

1857-58 Gowland, Peter Y., Esq., Surgeon to St. Mark's Hospital, 34, Finsbury-square.

1846-47 Gream, George T., M.D., (C.), 2, Upper Brook-street, Grosvenor-square.

1856-57 Greenhalgh, Robert, M.D., Physician-Accoucheur to St. Bartholomew's Hospital, 77, Grosvenor-street.

‡1854-55 Greenhill, William Alexander, M.D., Carlisle-parade, Hastings.

1863-64 Greenhow, Edward Headlam, M.D., Assistant-Physician to the Middlesex Hospital, 77, Upper Berkeley-street, Portman-square.

1860-61 Gueneau de Mussy, Henri, M.D., 4, Cavendish-place, Regent-street.

1863-64 Gull, William Withey, M.D., 26, Brook-street, Grosvenor-square.

1858-59 Gunn, Theophilus Miller, Esq., 40, York-place, Portman-square.

1851-52 Hacon, E. Dennis, Esq., Mare-street, Hackney.

Elected Session

†1851-52 Halley, Alexander, M.D., 7, Harley-street, Cavendish-square.

1851-52 Hansard, Richard James, Esq.

*1847-48 Hare, Charles John, M.D., Physician to University College Hospital, 41, Brook-street, Grosvenor-square.

*†1855-56 Harley, George, M.D., F.R.S., Assistant-Physician to University College Hospital, 77, Harley-street.

1862-63 Harling, Robert Dawson, M.D. Lond., 9, Upper Seymour-street, Portman-square.

1859-60 Harris, Francis, M.D., Assistant-Physician to St. Bartholomew's Hospital, and to the Hospital for Sick Children, 24, Cavendish-square.

†1857-58 Hart, Ernest, Esq., Ophthalmic Surgeon to St. Mary's Hospital, 69, Wimpole-street.

†1859-60 Hastings, Cecil William, M.B., 13, Queen Anne-street.

**Orig. Memb.* Hawkins, Cæsar H., Esq., F.R.S. (formerly President), Consulting-Surgeon to St. George's Hospital, 26, Grosvenor-street.

1856-57 Hawksley, Thomas, M.D., Physician to the Margaret-street Dispensary for Consumption, 70, Brook-street, Hanover-square.

1856-57 Heath, Christopher, Esq., (C.), Assistant-Surgeon to the Westminster Hospital, 9 Cavendish-place, Cavendish-square.

**Orig. Memb.* Hewett, Prescott G., Esq. (V.P.) (late President), Surgeon to St. George's Hospital, 1, Chesterfield-street, May-fair.

1854-55 Hewitt, Graily, M.D. (C.), Obstetric Physician to University College Hospital, 36, Berkeley-square.

1863-64 Hickman, William, M.B., Surgeon to the Samaritan Hospital, and to the Western General Dispensary, 1, Dorset-square.

1863-64 Hicks, J. Wale, M.D., Lecturer on Morbid Anatomy at St. Thomas's Hospital, 16, Ridley-road, Dalston.

1859-60 Hill, Matthew Berkeley, M.B. Lond., Assistant-Surgeon to University College Hospital, 14, Weymouth-street, Portland-place.

1854-55 Hillier, Thomas, M.D. (C.), Physician to the Hospital for Sick Children, Medical Officer of Health for St. Pancras, 32, Queen Anne-street, Cavendish-square.

**Orig. Memb.* Hillman, William Augustus, Esq., Senior-Assistant-Surgeon to the Westminster Hospital, 1, Argyll-street, Regent-street.

*†*Orig. Memb.* Hilton, John, Esq., F.R.S. (late V.P.), Surgeon to Guy's Hospital, 10, New Broad-street, City.

1855-56 Hinton, J., Esq., Aural Surgeon to Guy's Hospital, 18, Savile-row.

*1850-51 Hodgson, Joseph, Esq., F.R.S., 60, Westbourne-terrace.

*1852-53 Hogg, Jabez, Esq., Assistant-Surgeon to the Westminster Ophthalmic Hospital, 1, Bedford-square.

1846-47 Holman, H. Martin, M.D., Hurstpierpoint, Sussex.

*1854-55 Holmes, Timothy, Esq. (Hon. Secretary), Surgeon-in-Chief to the Metropolitan Police, Assistant-Surgeon to St. George's Hospital, and Surgeon to the Hospital for Sick Children, 22, Queen-street, May-fair.

*1849-50 Holt, Barnard Wight, Esq., Senior-Surgeon to the Westminster Hospital, 14, Savile-row.

**Orig. Memb.* Holthouse, Carsten, Esq., Surgeon to, and Lecturer on Surgery at, the Westminster Hospital, 2, Storey's-gate, St. James's-park.

Elected Session

1863-64 Hood, Wharton P., M.D., 65, Upper Berkeley-street, Portman-square.

1853-54 Hood, William Charles, M.D., Visiting Physician in Lunacy to the Court of Chancery, Croydon Lodge, Surrey.

1864-65 Hooper, John Harward, Esq., M.B., Tenby, South Wales.

1850-51 Hore, Henry A., Esq., Surgeon to the Bristol Royal Infirmary, 31, Park-street, Bristol.

1865-66 Howard, Edward, M.D., Redhill, Surrey.

†1855-56 Hudson, John, M.D., 11, Cork-street.

*1854-55 Hulke, John Whitaker, Esq., Assistant-Surgeon to the Middlesex Hospital, and to the Royal London Ophthalmic Hospital, 10, Old Burlington-street.

1854-55 Hulme, Edward Charles, Esq., Surgeon to the Great Northern Hospital, and to the Central London Ophthalmic Hospital, 38, Gower Street, Bedford-square.

1852-53 Humby, Edwin, Esq., 83, Hamilton-terrace, St. John's-wood.

1865-66 Hunter, Charles, Esq., 30, Wilton-place, Belgrave-square.

*1852-53 Hutchinson, Jonathan, Esq., Surgeon to the London Hospital, and Assistant-Surgeon to the Royal London Ophthalmic Hospital, Moorfields, 4, Finsbury-circus.

†1860-61 Ingram, Charles, M.D.

1865-66 Jackson, J. Hughlings, M.D., Assistant-Physician to the London Hospital, 28, Bedford-place, Russell-square.

1859-60 Jackson, Thomas Carr, Esq., Surgeon to the Great Northern Hospital, 3, Weymouth-street, Portland-place.

‡1853-54 Jardine, John Lee, Esq., Capel, near Dorking, Surrey.

1846-47 Jay, Edward, Esq., 51, Park-street, Grosvenor-square.

**Orig. Memb.* Jeaffreson, Henry, M.D. (formerly V.P.), Physician to St. Bartholomew's Hospital, 8, Finsbury-square.

**Orig. Memb.* Jenner, William, M.D., F.R.S. (late V.P.), Physician to the University College Hospital, 8, Harley-street.

1861-62 Jephson, John Holmes, M.D., Physician to the Great Northern Hospital, 1, Conduit-street West, Hyde-park.

1865-66 Jessop, Thomas Richard, Esq., 31, Park-square, Leeds.

1854-55 Johnson, Athol A. W., Esq., 20, Regency-square, Brighton.

1854-55 Johnson, Edward, M.D., 19, Cavendish-place, Cavendish-square.

**Orig. Memb.* Johnson, George, M.D. (late V.P.), Physician to King's College Hospital, 11, Savile-row.

*†*Orig. Memb.* Jones, Henry Bence, M.D., F.R.S. (formerly V.P.), 31, Brook-street, Grosvenor-square.

1853-54 Jones, Sydney, M.B. (C.), Assistant-Surgeon to St. Thomas's Hospital, 15, St. Thomas's-street, Southwark.

1861-62 Jones, Thomas, Esq., St. George's Hospital.

1858-59 Jones, William Price, M.D., Surbiton, Kingston.

1859-60 Jones, Walter, Esq., College-yard, Worcester.

1846-47 Kent, Thomas J., Esq., 60, St. James's-street.

Elected Session

1852-53 Kershaw, W. Wayland, M.D., Kingston-on-Thames.

1859-60 Kiallmark, Henry Walter, Esq., 66, Prince's-square, Bayswater.

1851-52 Kingdon, J. Abernethy, Esq., Surgeon to the City Dispensary, and to the City of London Truss Society, 2, New Bank-buildings.

‡1856-57 Kingsley, Henry, M.D., Physician to the Stratford Infirmary, Stratford-on-Avon, Warwickshire.

1854-55 Kirby, Edmund A., M.D., 26, Gordon-square.

‡1865-66 Lanchester, Henry Thomas, M.D., 53, High-street, Croydon.

*1850-51 Langmore, John C., M.B., 12, Sussex-gardens, Hyde-park.

1865-66 Langton, John, Esq., St. Bartholomew's Hospital.

1857-58 Lankester, Edwin, M.D., F.R.S., Medical Officer of Health for St. James's, Westminster, 23, Great Marlborough-street.

*1849-50 Latham, Peter Mere, M.D. (formerly President), late Physician to St. Bartholomew's Hospital, 36, Grosvenor-street.

1856-57 Laurence, John Z., Esq., Surgeon to the St. Marylebone General Dispensary, 30, Devonshire-street, Portland-place.

1853-54 Lawrence, Henry John Hughes, Esq., Assistant-Surgeon Grenadier Guards' Hospital, Rochester-row, Westminster.

1858-59 Lawson, George, Esq., Assistant-Surgeon to the Middlesex Hospital, and to the Royal London Ophthalmic Hospital, Moorfields, 5, Harley-street, Cavendish-square.

1864-65 Leach, Harry, Esq., H.M.S. "Dreadnought."

1857-58 Leared, Arthur, M.B., Physician to the Royal Infirmary for Diseases of the Chest, 12, Old Burlington-street.

*1851-52 Lee, Henry, Esq., Surgeon to St. George's Hospital, 9, Savile-row.

1852-53 Leggatt, Alfred, Esq. (C.), 13, William-street, Lowndes-square.

1864-65 Leighton, Edmund Thomas, M.B., 4, Henrietta-street, Cavendish-square.

1861-62 Lichtenberg, George, M.D., 47, Finsbury-square.

1848-49 Little, William John, M.D. (formerly V.P.), 34, Brook-street, Grosvenor-square.

†1862-63 Little, Louis S., Esq., Assistant-Surgeon to the London Hospital, 34, Brook-street, Grosvenor-square.

1863-64 Liveing, Robert, M.B., Assistant-Physician to the Middlesex Hospital, 17, Granville-place, Portman-square.

‡1860-61 Lund, George, M.D., 3, Park-villas East, Richmond, Surrey.

1858-59 Mackay, Allan Douglas, M.B., Stony-Stratford, Bucks.

1863-64 Mackenzie, Morell, M.D., Assistant-Physician to the London Hospital, 13, Weymouth-street, Portland-place.

1865-66 MacLaurin, H. N., M.D., Greenwich Hospital.

1857-58 Marcet, William, M.D., F.R.S., 23, Harley-street.

*1851-52 Markham, William O., M.D., Physician to St. Mary's Hospital, 3, Harley-street, Cavendish-square.

*1846-47 Marshall, John, Esq., F.R.S., Surgeon to University College Hospital, 10, Savile-row.

Elected Session

‡1860-61 Martin, John, Esq., Cambridge House, Portsmouth, and Keydell, near Horndean, Hants.

1856-57 Martin, Robert, M.D., Assistant-Physician to St. Bartholomew's Hospital, 19, Queen Anne-street.

1852-53 Martyn, S., M.D., Senior Physician to the Bristol General Hospital, 26, Park-street, Bristol.

1858-59 Martyn, William, M.D., 6, Trevor-terrace, Rutland-gate, Brompton.

1860-61 Mason, Francis, Esq., 10, Conduit-street, Regent-street.

†1858-59 Maunder, C. F., Esq., Assistant-Surgeon to the London Hospital, 29, New Broad-street.

‡1851-52 May, George, Jun., M.B., Surgeon to the Royal Berkshire Hospital, Reading.

1857-58 Meller, Charles James, Esq., Vice-Consul, Madagascar.

1859-60 Messer, John Cockburn, M.D., Assistant-Surgeon, R.N., Her Majesty's ship, "Edinburgh," Queensferry, N.B.

1865-66 Mickley, Arthur George, B.A. M.B., Cant., Buntingford.

†1858-59 Montefiore, Nathaniel, Esq., 36, Hyde-park-gardens.

1865-66 Moore, Charles Hewitt, Surgeon to the Middlesex Hospital, 102, Piccadilly.

1861-62 Morehead, Charles, M.D., 34, Melville-street, Edinburgh.

*1846-47 Morgan, John, Esq., 3, Sussex-place, Hyde-park-gardens.

1852-53 Moseley, George, Esq., 23, Priory-road, Kilburn.

1859-60 Moxon, Walter, M.B., Assistant-Physician to Guy's Hospital, 6, Finsbury-circus.

*1854-55 Murchison, Charles, M.D., F.R.S. (Hon. Sec.), Physician to, and Lecturer on the Practice of Medicine at, the Middlesex Hospital, and Senior Physician to the London Fever Hospital, 79, Wimpole-street.

Mussy, *see* Gueneau de Mussy.

1864-65 Myers, Arthur, B. R., Esq., Coldstream Guards' Hospital, Vincent-square, Westminster.

1864-65 Newman, William, M.D., Stamford, Lincolnshire.

1865-66 Nicoll, Charles R., Surgeon-Major, 1st Battalion, Grenadier Guards, 9, Claverton-street, Lupus-street.

1863-64 Norton, A. T., Esq., 4, Westbourne-grove West.

1864-65 Noverre, Arthur, Esq., 25, South-street, Park-lane.

1856-57 Nunn, Thomas William, Esq. (C.), Surgeon to the Middlesex Hospital, 8, Stratford-place, Oxford-street.

‡1858-59 Nunneley, Thomas, Esq., Senior Surgeon to the Leeds Eye and Ear Infirmary, Leeds.

*1850-51 Obré, Henry, Esq., Surgeon to the St. Marylebone Eye and Ear Institution, 1, Melcombe-place, Dorset-square.

*1850-51 Ogle, John W., M.D. (V.P.) (late Honorary Secretary), Physician to St. George's Hospital, 13, Upper Brook-street, Grosvenor-square.

‡1855-56 Oldfield, Edmund, Esq., Boscomb Lodge, Finchley-road.

1859-60 Orange, William, Esq., Broadmoor, Berkshire.

1857-58 Ord, William Miller, M.B., Lecturer on Comparative Anatomy at St. Thomas's Hospital, Brixton-hill.

Elected Session

1863-64 Orme, E., Esq.

1864-65 Owles, James Allden, M.D., 204, Burlington-street, Liverpool.

‡1859-60 Paget, Edward H., Esq., Friar-lane, Leicester.

1863-64 Palfrey, James, M.D., Assistant-Obstetric Physician to the London Hospital, 25, Finsbury-place.

1853-54 Parkinson, George, Esq., 16, Brook-street, Grosvenor-square.

1853-54 Part, James, M.D., 89, Camden-road, Camden-town.

**Orig. Memb.* Partridge, Richard, Esq. F.R.S., (formerly V.P.), Surgeon to King's College Hospital, 17, New-street, Spring-gardens.

1865-66 Pavy, Frederick William, M.D., F.R.S., Assistant-Physician to Guy's Hospital, 35, Grosvenor-street.

**Orig. Memb.* Peacock, Thomas Bevill, M.D. (President), Physician to St. Thomas's Hospital, and Physician to the City of London Hospital for Diseases of the Chest, 20, Finsbury-circus.

1862-63 Pearson, David R., M.D., 23, Upper Phillimore-place, Kensington.

1863-64 Pick, Thomas, Esq., Surgical Registrar to St. George's Hospital, 9, Bolton-row, May-fair.

1863-64 Playfair, W. S., M.D., Assistant-Physician for the Diseases of Women and Children, King's College, Hospital, 5, Curzon-street, May-fair.

1860-61 Pocock, William, Esq., 1, St. John's-villas, Brixton-road.

*1846-47 Pollock, George D., Esq. (late V.P. and Hon. Sec), Surgeon to St. George's Hospital, 27, Grosvenor-street.

*1850-51 Pollock, James Edward, M.D., Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, 52, Upper Brook-street.

1861-62 Pollock, Arthur Julius, M.D., Assistant-Physician to Charing-cross Hospital, 21, Montague-place, Russell-square.

1858-59 Potter, Henry, Esq., 56, Maddox-street, Hanover-square.

1854-55 Potts, William, Esq., 12, North Audley-street, Grosvenor-square.

1865-66 Powell, R. Douglas, Esq., M.B., Hospital for Consumption, Brompton.

1865-66 Power, Henry, M.B., Assistant-Surgeon to the Westminster Hospital, 43, Upper Seymour-street, Portman-square.

1856-57 Priestley, William Overend, M.D., Physician for the Diseases of Women and Children to King's College Hospital, Consulting Physician-Accoucheur to the St. Marylebone Infirmary, 17, Hertford-street, May-fair.

*†1848-49 Purnell, John James, Esq., Surgeon to the Royal General Dispensary, Woodlands, Streatham-hill.

*1850-51 Pyle, John, Esq., 59, Oxford-terrace, Hyde-park

**Orig. Memb.* Quain, Richard, M.D. (Treasurer, formerly Hon. Secretary), Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, 56, Harley-street, Cavendish-square.

1859-60 Radcliffe, Charles Bland, M.D., Physician to the Westminster Hospital, 25, Cavendish-square.

1855-56 Rae, James, Esq., Surgeon, R.N., Haslar Hospital.

Elected Session

Orig. Memb. Ramsbotham, Francis H., M.D.

1856-57 Ramskill, J. Spence, M.D., Assistant-Physician to the London Hospital, Physician to the National Hospital for the Paralysed and Epileptic, 5, St. Helen's-place, Bishopsgate-street.

1847-48 Randall, John, M.D., (C.), Medical Officer, St. Marylebone Infirmary, 14, Portman-street, Portman-square.

1856-57 Ranke, Henry, M.D., Munich.

1864-65 Rasch, Adolphus, M.D., 7, South-street, Finsbury-square.

*1846-47 Ray, Edward, Esq., Dulwich.

1858-59 Reed, Frederick George, M.D., 46, Hertford-street, May-fair.

1854-55 Reynolds, J. Russell, M.D., Physician to University College Hospital, 38, Grosvenor-street.

Orig. Memb. Ridge, Joseph, M.D.. 39, Dorset-square.

1865-66 Rivington, Walter, Esq., M.S., Lond., Assistant-Surgeon to the London Hospital, 22, Finsbury-square.

1863-64 Roberts, Arthur, Esq., 37, Kensington-square.

‡1865-66 Roberts, David Lloyd, M.D., Surgeon in Ordinary to St. Mary's Hospital, Manchester, 23, St. John's-street, Manchester.

1855-56 Roberts, John Henry, Esq., 10, Finchley-road, St. John's-wood.

1863-64 Robinson, Charles, Esq., F.R.C.P., Edinb., 11, Montagu-street, Portman-square.

1856-57 Robinson, Thomas, M.D., 64, Lamb's Conduit-street.

1859-60 Robinson, Frederick, M.D., Battalion Surgeon, Scots Fusileer Guards' Hospital, 48, Charlwood-street, Belgrave-road.

Orig. Memb. Roe, George Hamilton, M.D., Senior Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, 57, Park-street, Grosvenor-square.

1865-66 Rogers, George Henry, Esq., 14, Old Burlington-street.

1858-59 Rolleston, George, M.D., F.R.S., 5, Broad-street, Oxford.

1851-52 Rooke, H. T., M.D., (C.), Surgeon to the Seamen's Hospital-ship, "Dreadnought."

1858-59 Rose, Henry Cooper, M.D., Surgeon to the Hampstead Dispensary, High-street, Hampstead.

1858-59 Rouse, James, Esq., Assistant-Surgeon to the Royal Ophthalmic Hospital, 2, Wilton-street, Grosvenor-place.

*1852-53 Salter, Henry Hyde, M.D., F.R.S., Physician to the Charing Cross Hospital, 6, Harley-street, Cavendish-square.

*1853-54 Salter, Samuel James A., M.B., F.R.S., Surgeon-Dentist to Guy's Hospital, 17, New Broad-street, City.

1852-53 Sanderson, Hugh James, M.D., Physician to the Hospital for Women, 26, Upper Berkeley-street.

1854-55 Sanderson, John Burdon, M.D., (C.), Assistant-Physician to the Middlesex Hospital, Medical Officer of Health for Paddington, 49, Queen Anne-street, Cavendish-square.

1857-58 Schulhof, Maurice, M.D., Physician to the Royal General Dispensary, Bartholomew-close, 14, Brook-street.

Elected Session

1853-54 Scott, John, Esq., Surgeon to the Hospital for Women, Soho-square, 65, Harley-street, Cavendish-square.

‡1858-59 Scratchley, George, M.D., B.L.S., Member of the University of France, New Orleans, Louisiana, U.S.

*‡1846-47 Seaton, Edward C., M.D., Rochester-house, Surbiton.

1856-57 Sedgwick, William, Esq., Surgeon to the Marylebone Provident Dispensary, 12, Park-place, Upper Baker-street.

*1852-53 Semple, Robert Hunter, M.D., Physician to the Northern Dispensary, 8, Torrington-square.

**Orig. Memb.* Shaw, Alexander, Esq. (late V.P.), Surgeon to the Middlesex Hospital, 40, Abbey-road West, Kilburn.

1856-57 Shillitoe, Buxton, Esq., Surgeon to the Great Northern Hospital, and to the Lock Hospital. 34, Finsbury-circus.

*1855-56 Sibley, Septimus W., Esq., 12, New Burlington-street.

*1848-49 Sibson, Francis, M.D., F.R.S., (V.P.), Physician to St. Mary's Hospital, 40, Brook-street, Grosvenor-square.

*1847-48 Sieveking, Edward H., M.D., (late V.P.), Physician to St. Mary's Hospital, 17, Manchester-square.

**Orig. Memb.* Simon, John, Esq., F.R.S., (formerly V.P.), Surgeon to St. Thomas's Hospital, 8. Richmond-terrace, Whitehall.

1864-65 Sims, J. Marion, M.D.

**Orig. Memb.* Smith, Ebenezer Pye, Esq., Mare-street, Hackney.

1863-64 Smith, Henry, Esq., Assistant-Surgeon to King's College Hospital, 16, Caroline-street, Bedford-square.

1865-66 Smith, Heywood, Esq., M.B. Oxf., 25, Park-street, Grosvenor-square.

1865-66 Smith, Philip Henry Pye, M.D., Demonstrator of Anatomy at Guy's Hospital, Guy's Hospital, Southwark.

1846-47 Smith, Protheroe, M.D., Physician to the Hospital for Women, 25, Park-street, Grosvenor-square.

1855-56 Smith, Spencer, Esq., Surgeon to St. Mary's Hospital, 9, Queen Anne-street, Cavendish-square.

1856-57 Smith, Thomas, Esq., Assistant-Surgeon to St. Bartholomew's Hospital, 7, Montague-street, Russell-square.

1865-66 Smith, William, Esq., 10, Finsbury-place South.

1851-52 Smith, W. Tyler, M.D., Physician-Accoucheur to St. Mary's Hospital, Upper Grosvenor-street.

*1847-48 Solly, Samuel, Esq., F.R.S., Surgeon to St. Thomas's Hospital, 6, Savile-row.

1865-66 Spooner, Charles, Esq., Professor and Principal in the Royal Veterinary College, Great College-street, Camden Town.

1865-66 Squarey, Charles, Esq., Resident Medical Officer, London Fever Hospital.

1854-55 Squire, William, Esq., 6, Orchard-street, Portman-square.

1860-61 Squire, Alexander Balmanno, Esq., 57, Wimpole-street.

1854-55 Stewart, William Edward, Esq., Surgeon to St. Marylebone Provident Dispensary, 12, Weymouth-street, Portland-place.

1862-63 Stone, William Domett, M.D., 42, Lincoln's-inn-fields.

1862-63 Stone, William Henry, M.D. Oxon., 13, Vigo-street, Regent-street.

Elected Session

†1853-54 Streatfeild, J. F., Esq., Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and to the Eye Infirmary in University College Hospital, 15, Upper Brook-street.

1862-63 Sturges, Octavius, M.B. Cant., 85, Wimpole-street.

†1850-51 Sutherland, Alex. John, M.D., F.R.S., 6, Richmond-terrace, Whitehall.

1863-64 Sutton, Henry G., M.B., 30, Finsbury-square.

1858-59 Swete, Benjamin L., Esq., Surgeon to the British Orphan Asylum, Clapham-rise, 7, Park-road, Stockwell.

‡1856-57 Symonds, Frederick, Esq., Surgeon to the Radcliffe Infirmary, 32, Beaumont-street, Oxford.

Orig. Memb. Tamplin, R. W., Esq., Surgeon to the Royal Orthopædic Hospital, 33, Old Burlington-street.

‡1855-56 Tapp, W. Denning, Esq., Hillside-house, Hathlerly-road, Cheltenham.

1851-52 Taylor, Robert, Esq., Surgeon to the Central London Ophthalmic Hospital, 21, Edwards-street, Portman-square.

1860-61 Teevan, William Frederic, Esq., Surgeon to the West London Hospital, 10, Portman-square.

*1852-53 Thompson, Henry, Esq. (late Honorary Secretary) (C.), Surgeon to University College Hospital, 35, Wimpole-street, Cavendish-square.

‡1861-62 Thompson, Joseph, Esq., Surgeon to the Nottingham General Hospital, Oxford-street, Nottingham.

1865-66 Thorowgood, J. C., M.D., 15, Queen Anne-street.

1856-57 Tomes, J., Esq., F.R.S., Surgeon-Dentist to the Middlesex Hospital, 37, Cavendish-square.

1864-65 Tonge, Morris, M.D., Medical Registrar, King's College Hospital, 5, Bolton-row, May-fair.

1851-52 Trotter, John W., Esq. (C.), Assistant-Surgeon, Coldstream Guards' Hospital, Vincent-square, Westminster.

1859-60 Truman, Edwin Thomas, Esq., Surgeon-Dentist in Ordinary to Her Majesty's Household, 23, Old Burlington-street.

1857-58 Tudor, John, Esq., Dorchester, Dorset.

1852-53 Tulloch, James S., M.D., 1, Pembridge-place, Bayswater.

1863-64 Turner, James Smith, Esq., 30, Margaret-street, Cavendish-square.

1857-58 Turtle, Frederick, Esq., Lamberhurst, Surrey.

1854-55 Vasey, Charles, Esq., Surgeon-Dentist to St. George's Hospital, 5, Cavendish-place, Cavendish-square.

1865-66 Vernon, Bowater John, Esq., St. Bartholomew's Hospital.

Orig. Memb. Waite, Charles D., M.D., Senior Physician to the Westminster General Dispensary, 3, Old Burlington-street.

1864-65 Walker, Joseph, M.D., 22, Grosvenor-street, Grosvenor-square, W.

1859-60 Walters, John, M.B. Lond., Assistant-Surgeon attached to Second Battalion, 17th Regiment.

‡*Orig. Memb.* Ward, Joseph, Esq., Epsom, Surrey.

Elected Session

*1846-47 Ward, T. Ogier, M.D., Cowbridge, Glamorganshire.

1857-58 Wardell, John Richard, M.D., 4, Belmont, Tunbridge Wells.

*1855-56 Watson, Sir Thomas, Bart., M.D., F.R.S. (late President), President of the Royal College of Physicians, 16, Henrietta-street, Cavendish-square.

1864-65 Watson, W. Spencer, Esq., Assistant-Surgeon to King's College Hospital, 27, Montague-street, Russell-square.

1865-66 Watts, Fred. H., Esq., late of Middlesex Hospital (India).

1860-61 Way, John, M.D., 4, Eaton-square.

1857-58 Weber, Hermann, M.D., Physician to the German Hospital, 49, Finsbury-square.

1864-65 Welch, Thomas Davies, Esq., M.B., Church Lane, Lee, Kent.

1860-61 Wells, John Soelberg, Esq., Ophthalmic Surgeon to King's College Hospital, 16, Savile-row.

1853-54 Wells, Thomas Spencer, Esq. (C.), Surgeon to the Samaritan Free Hospital for Women and Children, 3, Upper Grosvenor-street.

*1850-51 West, Charles, M.D., Physician to the Hospital for Sick Children, 61, Wimpole-street, Cavendish-square.

1858-59 White, Frederick, Esq., 20, Oxford-terrace, Hyde-park.

1863-64 Wilks, Alfred G. P., M.A., M.B., Guy's Hospital, Southwark.

*1854-55 Wilks, Samuel, M.D., Assistant-Physician to Guy's Hospital, 11, St. Thomas's-street, Southwark.

**Orig. Memb.* Williams, C. J. B., M.D., F.R.S. (formerly President, late V.P.), Consulting-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, 49, Upper Brook-street, Grosvenor-square.

‡1858-59 Williams, Charles, Esq., Surgeon to the Norwich Dispensary, 2, Bank-plain, Norwich.

1865-66 Williams, Charles Theodore, M.B , Oxf., 49, Upper Brook-street, Grosvenor-square.

1863-64 Williams, W. Rhys, Esq., Bethlehem Hospital.

1863-64 Willis, Francis, Esq., M.B. Oxon, 45, Upper Brook-street.

1858-59 Wilson, Edward Thomas, M.B., Montpelier-terrace, Cheltenham.

1859-60 Wilson, Robert James, Esq., 24, Grand Parade, St. Leonard's-on-Sea.

1863-64 Wiltshire, Alfred, M.D., 100, Hampstead-road.

‡1861-62 Windsor, Thomas, Esq., Surgeon to the Salford Royal Hospital, 65, Piccadilly, Manchester.

1864-65 Witherby, William H., M.D, Coombe, Croydon.

*1850-51 Wood, John, Esq., Assistant-Surgeon to King's College Hospital, 4, Montague-street, Russell-square.

1854-55 Wood, William, M.D., Physician to St. Luke's Hospital, 54, Upper Harley-street.

1865-66 Workman, Charles John, M.D., 21, Margaret-street, Cavendish-square.

1863-64 Worley, William Charles, Esq., 1, New North Road, Hoxton.

1859-60 Wotton, William Gordon, Esq., King's Langley, Herts.

1852-53 Wright, Edward John, Esq., 13, Montague-place, Clapham-road.

LIST OF SPECIMENS

EXHIBITED AT THE MEETINGS OF THE SOCIETY DURING THE SESSION 1865-6.

I.—DISEASES, ETC., OF THE NERVOUS SYSTEM.

II.—DISEASES, ETC., OF THE ORGANS OF RESPIRATION.

III.—DISEASES, ETC., OF THE ORGANS OF CIRCULATION.

IV.—DISEASES, ETC., OF THE ORGANS OF DIGESTION.

A. TONGUE AND DIGESTIVE CANAL.

B. LIVER, ETC.

V.—DISEASES, ETC., OF THE GENITO-URINARY ORGANS.

A.—KIDNEYS, BLADDER, ETC.

B. MALE GENITAL ORGANS.

C. FEMALE GENITAL ORGANS.

VI.—DISEASES, ETC., OF THE OSSEOUS SYSTEM.

VII. DISEASES, ETC., OF THE ORGANS OF SPECIAL SENSE.

A. EYE.

B. EAR.

VIII.—TUMOURS.

IX.—DISEASES, ETC., OF THE DUCTLESS GLANDS.

A. SPLEEN.

B. SUPRA-RENAL CAPSULES.

X.—DISEASES, ETC., OF THE SKIN.

XI.—MISCELLANEOUS SPECIMENS.

XII.—SPECIMENS FROM THE LOWER ANIMALS.

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REPORT.

SESSION, 1865-66.

I.—DISEASES ETC., OF THE NERVOUS SYSTEM.

1. *Abscess of the cerebellum, caries of the internal ear.*

W. L., æt. 42, was admitted into the Middlesex Hospital on November 3rd, under the care of Dr. Goodfellow. His health had always been very good with the exception of occasional attacks of rheumatism, but from childhood he had had a purulent discharge from the right ear. Five weeks before his admission he was suddenly attacked by a violent pain over the top of the head accompanied by vomiting. The pain continued to recur at uncertain intervals up to the time of his admission.

On admission, he had an anæmic appearance; there was no tenderness about the head or any febrile symptoms. About once a-day a violent racking pain came on, shooting through the forehead from side to side, and passing backwards to the occiput. During these paroxysms he occasionally became somewhat delirious. The accession of the attack was generally attended by vomiting. There was complete deafness on the right side, and a purulent discharge from the ear. The paroxysm of pain gradually became more frequent, recurring several times a-day. On November 30th, during a paroxysm, he became comatose, and shortly afterwards died.

On *post-mortem* examination, an abscess was found about the middle of the right lobe of the cerebellum, immediately beneath the surface, it contained about an ounce of viscid greenish pus, with an offensive odour. Some of this pus had escaped through into the arachnoid cavity. On the posterior surface of the right petrous bone there was a space, about the side of a threepenny-piece, where the bone was deficient, but the opening was closed by the dura mater. Corresponding to this, in

the interior of the bone, was an irregular cavity filled with pus; this appeared to be formed by the mastoid cells, but the labyrinth was encroached upon, and there was a communication with the tympanum which was filled with pus, and its membrana was perforated. The malleus was still recognisable, but the other ossicula were absent. There was no communication between the abscess in the cerebellum and the cavity in the temporal bone. None of the sinuses of the dura mater were diseased. The other organs were normal.

Dr. W. Cayley, *5th of December*, 1865.

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2. *Large mass of calcareous matter weighing above a drachm in the substance of the brain; most probably the results of transformation of scrofulous material. Sudden death following slight symptoms. Comparison between the chemical character of the calcareous substance and other morbid calcareous productions.*

The patient, a married woman, æt. 40, was found dead in bed and an inquest was held upon her. It proved that for some time she had been inactive in habits, sleeping much and neglecting her children and household duties. This was attributed by some persons to laziness; by some she was said to have been a drunkard, but this was not admitted by others. She had for some time complained of headache and symptoms referred to dyspepsia, and had been "odd" in her mind; but it did not appear that any other symptoms had ever been complained of. There had been nothing like paralysis of the face, eyes, or any of the limbs.

On *post-mortem* examination, the dura mater covering the right cerebral hemisphere was found to be at one spot adherent to the brain, and this proved to be through the medium of a quantity of calcareous matter which was embedded in the upper part of the brain, a portion of which around was softened into a pultaceous substance and even converted into an abscess. Other parts of the brain in contact with the calcareous mass were not softened or apparently otherwise altered. The entire mass when dried weighed above sixty grains and became broken up into several fragments, mostly of large size, but some of small size; only half of the mass was exhibited.*

Dr. John Davy was kind enough to examine and analyze for Dr. Ogle a portion of this calcareous mass, and he reported of it as follows:

* The mass of calcareous matter is described in St. George's Hospital Pathological Catalogue (see Appendix to Series viii., No. 224).

He says, "It consists of sixty per cent. of phosphate of lime and magnesia, and of forty per cent of albuminous matter, which, after the removal of the earthy salts, retains the form of the concretion, and under the microscope shows chiefly fibrous tissue, and partially a cellular structure. I could detect no cholestearine, nor carbonate of lime, nor oxide of iron."

Thinking it would be instructive to have a comparison made between the chemical composition of this calcareous substance from the brain, and other calcareous concretions met with in various parts of the body, Dr. Davy was prevailed on to analyze (No. 1) portions of calcified mesenteric glands; (No. 2) portions of calcareous matter removed from an obsolete and dried-up vomica of the lung; and (No. 3) portions of a calcified bronchial gland. Concerning these he observes:—

"The following was the composition of the three concretions as regards the proportion of animal and earthy matters, as determined by incineration. No. 1, that from a calcified mesenteric gland, contained 70·1 of earthy matter and 29·9 of animal."

"No. 2, that from the vomica of a lung, contained 60 of earthy, and 40 of animal, matter. In each instance the earthy matter consisted chiefly of phosphate of lime with a little carbonate of lime and magnesia. The animal matter was of the albuminous kind. In neither of them under the microscope could I detect any crystalline matter. All three were strictly amorphous. The inorganic (if the phosphates of lime, &c., may be so called) and the organic or animal matter, were intimately united, or if not united, mixed."

"The chief difference, on comparing them, was in the proportion of lime-compounds; or physically, in the degrees of compactness."

"No. 1 had a hard crust."

"No. 2 was nearly of the consistence of chalk, but less compact."

"No. 3 was in parts hard and in parts soft."

Dr. Ogle had to thank Dr. Martindale Ward, of Twickenham, for the opportunity of exhibiting the above-described specimen to the Society. He had, in conjunction with his father, Dr. Ward, of Chelsea, made the *post-mortem* examination. Dr. Ward, of Chelsea, informed Dr. Ogle that he had met with calcareous deposits such as that above-described, in two previous cases; of these cases one, a boy, John S., æt. 9½, who had always been considered by other boys as "daft," died in 1861, of cerebral congestion and effusion of serum into the ventricles, at the Royal Military Asylum; the other, also a boy, Francis H., æt. 13, died in the same Asylum and in the same year, of subacute hydroce-

phalus, having been subject to porrigo. In this case, in addition to serous effusion into the ventricles, scrofulous deposit was found in the cerebellum. Dr. Ogle referred the Society to a somewhat similar case of calcareous deposit in the brain, arising, as he thought, from alteration in the composition of scrofulous deposit, which he had described at length in Dr. Beale's *Archives of Medicine*, Vol. I., pp. 81 and 187; also in the *British and Foreign Medico-Chirurgical Review* for April, 1865, p. 514, Case CLIV.

Dr. John W. Ogle, *5th of December*, 1865.

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3. *"False membrane" apparently formed from extravasated blood covering both cerebral hemispheres; that on the left side being the firmest and thickest. Dementia.*

The patient, a coal-miner, æt. 78, with curvature of the spine, was admitted into the Somerset Lunatic Asylum, seven weeks before death, in a very excited and demented state, having a strong propensity to pick off the walls, which he succeeded in accomplishing in his bedroom to a great extent. He slept but little and required to be fed, one person holding his hands during the time, and as he took a sufficient quantity of food his strength was sustained until the day of his death. He was incoherent to the last.

On *post-mortem* examination, the body was found to weigh one hundred and two pounds, being five feet in height. The left cerebral hemisphere was covered by a firm "false membrane," evidently the results of effused blood, which had undergone changes, in the arachnoid cavity. On the opposite (the right) side, lining the dura mater, was a very thin layer of a similar kind of membrane studded with specks of blood, the arachnoid membrane beneath being opaque. The brain was healthy. The other organs of the body were healthy.

Microscopical examination.—Portions of the false membrane were found to consist entirely of fibrous tissue of varying strength and thickness. Here and there very slight indications of the formation of vessels existed; but they were but scanty and indistinct. In the neighbourhood of the patches of extravasated blood, blended with the false membrane, minute aggregations of brightly refracting globular masses, more or less deeply brown- and yellow-coloured, were seen, evidently débris of the coloured elements of blood.*

Dr. John W. Ogle, *5th of December*, 1865.

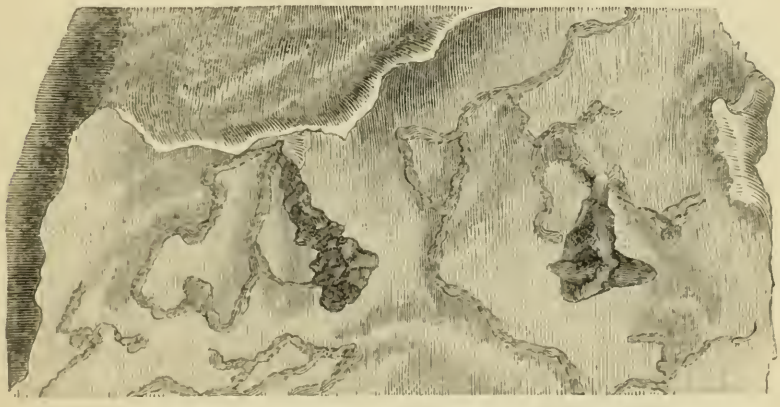
* The specimen is described in St. George's Hospital Pathological Catalogue (see Appendix to Series viii., No. 215).

4. *Arachnoid membrane and pia mater very vascular and greatly thickened, and having peculiar bodies attached to their inner surface.*

The patient, a man, æt. 47, was brought into the Somerset Lunatic Asylum in a very excited and incoherent state, and suffering from severe epileptic attacks which had latterly prostrated him; he died on the third day after admission. He had been subject to epilepsy for nine years.

On *post-mortem* examination, the body was found to weigh one hundred and seventeen pounds, being five feet ten inches high. The arachnoid membrane covering the left cerebral hemisphere was, at one part, very thickened and vascular, and correspondently the pia mater presented three small cysts, when recent not unlike what is often found connected with the choroid plexuses.* On the outer side of the right cerebral hemisphere was a cyst of a similar kind in connection with the pia mater. On minute examination it was found (see Woodcut No. 1) that the veins of the pia mater and arachnoid membrane were

Woodcut 1.



Pendulous bodies attached to the pia mater. That on the left-hand side of the figure is the one first described.

much enlarged, and that in one case one of the cysts, above-described, was formed by an enlarged vein which was somewhat varicose, and hardened apparently by calcareous deposit, and surrounded by a kind of capsule (which is not figured in the woodcut). In another case a pendulous body existed, apparently originating in an altered vein; this was expanded towards its free extremity, and perforated by an opening through which passed a small rounded substance, the connections of

* The specimen is described in St. George's Hospital Pathological Catalogue (see Appendix to Series viii.).

which had been destroyed in removing the specimen; but which probably had been an enlarged vein. The relation of the pedunculated body and of the substance passing through it was that of two links of a chain when coupled together.

Dr. John W. Ogle, 19*th of December*, 1865.

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5. *Drawing of hand after injury to ulnar nerve, and observations of the temperature, etc., of the hand.*

J. L., æt. 6½, male, was first seen by Mr. Nunn, October, 1861. In the preceding August the ulnar nerve, and probably a part of the median, had been divided by an accident. The cicatrix of the wound ran from just beyond the pisiform bone towards the origin of the flexor brevis pollicis.

The muscles supplied by the ulnar nerve were wasted by about one-third. The temperature of the hand was 10° Fahr. lower than that of the sound hand.

November 28*th*.—The difference between the temperatures of the two hands was 5° Fahr.

July 11*th*, 1862.—The same difference of temperature existed. The boy's father, a very intelligent tradesman, was now provided with a thermometer, and instructed in its use. His report in December was that the difference of temperature varied from 1° to 5°.

The last observation was made by Mr. Nunn, November, 1865. There was only half a degree of difference, and the muscles of the hand had regained their normal bulk.

Mr. Nunn, 20*th of February*, 1866.

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6. *Abscess in the right hemisphere of the brain.*

The specimen was removed from a boy, æt. 4, who was a patient of Dr. Peacock's at St. Thomas's Hospital. The boy was admitted in April, and then was reported to have been ill three months. He had been first seized by convulsions, and on recovery was found to be paralyzed on the left side. On admission he was very intelligent for a child of his age, but the left arm and leg were completely powerless. There was ptosis of the right eyelid, both pupils were dilated, and the right was entirely insensible to light, the left nearly so; he was apparently blind of the right eye. When asked what was the matter with him, he uniformly placed his hand on the right temple, and said "pain," "pain."

Some time after he had been in the Hospital the ptosis disappeared, but both pupils were dilated and insensible, and the vision of the right eye was apparently abolished, and that of the left imperfect. He was again taken with convulsions, and died very shortly after, in July. On dissection an abscess containing fully eight ounces of greenish-yellow coloured pus was found in the right middle cerebral lobe, extending close to the convolutions. This was surrounded by indurated tissue, containing compound granular corpuscles, and a few similar corpuscles existed also in the right corpus striatum and thalamus. There was some sub-arachnoid effusion, and lymph on the surface of the right hemisphere. The left side of the brain, the spinal cord, and its membranes, and the other organs of the body were free from disease. Dr. Peacock, when exhibiting the specimen, remarked that the great interest of the case arose from the fact that, though the abscess was evidently of old date, the child was peculiarly intelligent up to a very short time before his death. Dr. Peacock, *6th of March*, 1866.

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7. *Encephalocele of the cerebellum.*

The subject of this case died at the age of 3 weeks. The front part of the head was rather small, but well-formed; the occiput was deficient, and projecting from it was a large rounded tumour fully one-third the size of the rest of the head. This tumour was constricted at its base, and showed a large lobe on the right side. I saw the child several times during its life, and conjectured from the position of the tumour that it was an occipital encephalocele containing the cerebellum. The child was the subject of talipes calcaneus in an extreme degree and quite symmetrical.

On dissecting the head it was found that the foramen magnum extended backwards as high as the torcular Herophili, forming a very large oval opening. No part of the cerebellum was within the cranium.

A strong fibrous band crossed the foramen magnum, separating the medulla from the extruded cerebellum. The tentorium was attached laterally to a slightly marked ridge just above the foramen magnum, and was but little developed.

The encephalocele consisted of a large lobulated cyst containing clear fluid, and in the walls of which a thin layer of the cortical substance of the cerebellum could be detected. At most parts this outspread layer was very thin, and now that the specimen has been in spirit, it is not dis-

tinguishable; at others, large masses of cerebellar substance occur, and project into the cyst. These larger masses are not arranged symmetrically, and I have quite failed in my endeavours to identify the different parts of the organ. The cavity of the cyst is prolonged upwards, as a sort of tube, beneath the thickened membranes to the transverse fissure. The fourth ventricle is much dilated, but it was protected above by thickened pia mater, and did not (I think) communicate directly with the cyst.

Mr. Jonathan Hutchinson, 20*th of March*, 1866.

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8. *Specimens showing morbid appearance of the capillaries in certain states of the brain, attended with motor paralysis.*

The vessels were seen to be variously contorted from their original course. In some, the vessel exhibited nearly a sigmoid curvation; in others, the contortion formed kinks and knots of considerable complexity.

Dr. Sankey said, that the appearance had been described as peculiar to "general paresis;" but this, according to his experience, was not the case, for, though he had found the same appearance in one other kind of case only, it had been described by Wedl, as occurring in imbecility and around the area of old apopletic effusions into the brain. Wedl had examined the capillaries by washing away the cerebral tissue under a current of water, and some of the preparations exhibited were made in the same way; others by the mode which was employed by Mr. Lockhart Clarke. The author said that he believed the appearance found by Rokitansky in the Brain, and described as aneurismal dilatations of the capillaries, really consisted of one of these knots of varicose vessel. When the specimens are examined by imperfect light, and without the use of colouring material, the preparations have all the appearance of small aneurisms; but with better light and the use of stains, the same parts were seen to consist of a contorted vessel, enclosed, or surrounded by a hyaline membrane. In proof of this he stated that the drawings, which well displayed the condition described, were made from the preparations by Mr. West before the author and artist had ever met.

Wedl had given a description of the hyaline envelope of these diseased capillaries. Dr. Sankey gave it as his opinion that this hyaline is thrown out around the capillary, and that its gradual shrinking and

DESCRIPTION OF PLATE I.

The plate illustrates Dr. Sankey's researches on the morbid state of the capillaries, in certain states of the Brain attended with Motor Paralysis, (p. 8).

The figures are copied from preparations made by washing away the cerebral matter under streams of water. The rest of the preparations figured in this plate were made from brain hardened by chromic acid. It may be of interest to add that the drawings were made by Mr. West from the preparations, and completed before the artist and author met.

The preparations are arranged in the order which Dr. Sankey believed to accord with the stages of the disease. In No. 1 there is represented around the vessel a hyaline substance, in which there are seen a few incrustation-cells and fat-particles. In No. 2, from a dried preparation, the vessel is thrown into a few simple curves, such as would occur from slight shortening or contraction of the hyaline membrane. In No. 3 the vessel is still more tortuous. This preparation is from the same brain as No. 2; the tortuosity is also doubtless increased by the impulsion of the blood *a tergo*. In No. 4 the vessel is still more doubled on itself. The general outline of this vessel in its sheath is somewhat fusiform, and when examined prior to colouring and with imperfect light, this portion of the vessel appears like a simple enlargement or bulging of the walls of the vessel. At each end the vessel continues its course without reduplication, and is therefore less in diameter. This appearance, I believe, has been considered to be due to aneurismal disease. In Fig. 5, the curves of the vessel are still more complicated; this preparation, seen as an opaque object under the microscope, appears to consist of two or three bulgings of the walls of a vessel. The preparation of Fig. 6 (which is from the same subject as Fig. 4) was made by washing. The hyaline membrane is still adherent, and the vessel is twisted into a very complicated knot. By imperfect microscopic manipulation, small portions of this vessel also appear like aneurismal enlargements on the calibre of a single vessel.

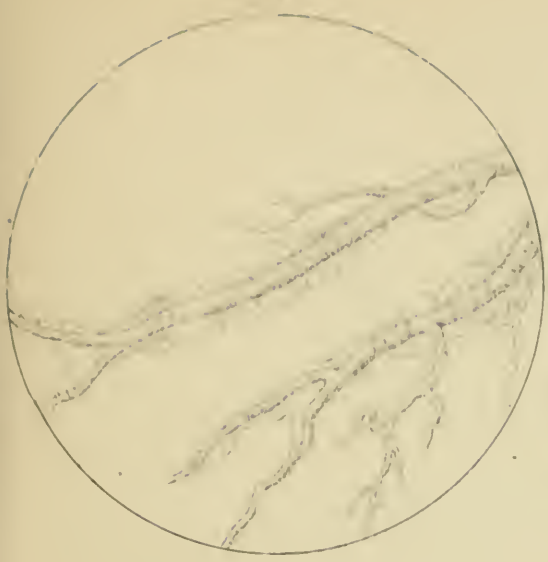


Fig 3

Fig 4

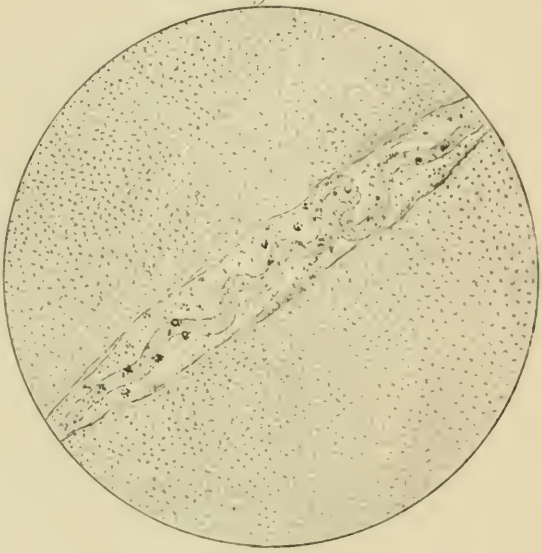
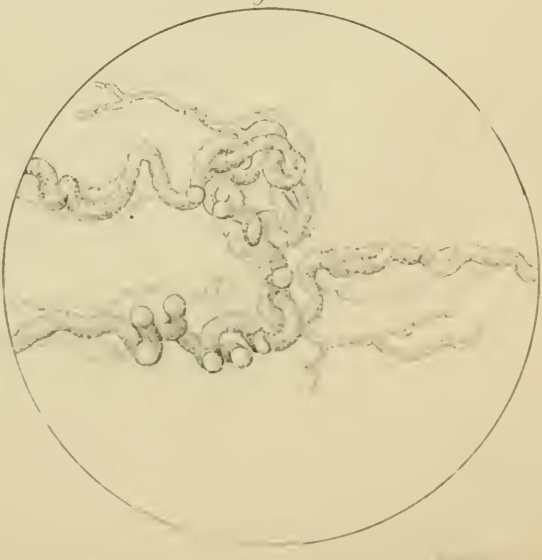


Fig 5

Fig 6



shortening throw the vessel into the complicated knots in which it is found in the worst cases.

Dr. Sankey stated that he did not consider the appearance as pathognomonic of General Paresis, for, though he had found the appearance in every case of that disease which he had examined, he had found the same state in one other case, which differed in its essential character from that disease, though it was attended with a state of incomplete but general paralytic symptoms.

The appearances described are represented in the annexed plate (Plate I.).

Dr. Sankey then described the manner in which he had obtained the preparations exhibited to the Society, as follows :—

"I have found the following mode of preparation the most successful, when submitting the brain-substance and capillaries to microscopical examination. I have usually selected a portion of brain from one locality for all my examinations, in order that there may be a truer comparison made between different brains. I remove a portion of the hemispheres, of about one cubic inch in extent, from the parietal regions, and I do so by cutting through the membrane and substance with a sharp knife, taking care to remove the membranes with the brain-substance. I immerse the piece at once in Goadby's B Solution; this is made by taking one part of a concentrated solution of chloride of sodium and diluting it with an equal quantity of water. On first immersion the portion of brain will float, but as it gradually imbibes the solution it will sink. The solution must be changed daily, and daily increased in strength. In about a week or ten days the tissue will be sufficiently salted to prevent its decomposition; it is now fit for the process of hardening. This can be done by adding gradually a solution of chromic acid, of about six grains to the ounce, until the brain becomes hardened. The solution of chromic acid may be added, and be allowed to displace the salt solution, until the salt is completely removed; the brain will then be fit to cut into slices, which may be done by a Valentin's knife or by means of a razor. These slices have now to be submitted to the action of a colouring matter. It has been found that dyes affect different tissues differently, so that one tissue is rendered more distinct than another. The dye I use and prefer is a solution of litmus in weak spirit. The slices of brain may be placed in a weak mixture of spirit and water, one part to six, coloured with litmus, and be allowed to soak for twenty-four hours; the preparation can then be put into glycerine, and

mounted in that medium in the usual way. I prefer, however, the use of Canada balsam. To use this the following mode is adopted:—After soaking in the colouring material, if any traces of chloride of sodium remain in the solution, as shown by the action of nitrate of silver, the slices must be removed to fresh weak spirit, until the whole of the salt is washed out. Having thus got the slices in a menstruum, which is wholly volatile, the next step is to get rid of the water, and to get the slices impregnated with turpentine. To do this I take a wide-mouth stopper bottle, and place a piece of blotting-paper around the inside, putting the slices on the paper, to which they will adhere. I then drop a few drops of turpentine into the bottle, which rises in the blotting-paper, and as fast as the spirit and water evaporate the preparation becomes impregnated with turpentine. The turpentine must be pure; it is as well to wash it with liquor potassæ before use. After a week or ten days, the small slices can be placed on a glass with Canada balsam, and they are fit for examination.

"The sections made by this mode are chiefly of service in the investigation of the cerebral substance; to examine into the state of the capillaries there is another method, which I have also adopted; the capillaries, of course, branch in all directions, so that any vertical section of the brain will generally cut transversely across the artery, and it is only a fortuitous occurrence if the knife should lay open a capillary in its longitudinal track. I have succeeded in doing this, however, in several instances. To examine the capillaries I have pursued the course recommended by Wedl, who took a small piece of brain, and submitted it to a current of water until all the nerve-tissues were washed away; after doing this, I have stained the vessels remaining in litmus solution."

Dr. Murchison *for* Dr. Sankey, *3rd of April*, 1866.

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9. *Extensive laceration of the left cerebral hemisphere from contre-coup.*

Although the several injuries to which the cranial contents are liable, as a result of what is denominated by surgeons *contre-coup*, are more or less familiar to pathologists, the following instance is worthy of record, not merely on account of the extent to which the brain-substance underwent laceration from this cause, but also from the character and appearances of the laceration itself, which was as perfectly and cleanly cut as if it had been intentionally made by the knife of an expert anatomist.

A drunken waiter, æt. 56, was found at an early hour of the morning lying upon the street pavement insensible, and unable to move his limbs, with a little blood oozing from the right ear. He was at once conveyed to King's College Hospital, where he died nine hours after admission. While under observation in the Hospital, he remained completely insensible and incapable of being roused, but the symmetry of the facial muscles was not at all disturbed. He never spoke, nor moved any of his limbs; but on one occasion, the power of swallowing, which on admission appeared to be in abeyance, returned for a short time, and a small quantity of brandy was got down. The pupils were insensible to light, the left being slightly larger than the right: there was no puffing of either cheek, nor were the muscles of any limb in the least degree rigid. No wound or bruise of the scalp or face, nor indeed of any part of the body, could be detected; but blood, in small quantity, continued to ooze from the right ear up to the time of death. No satisfactory evidence could be obtained as to the mode in which the injury occurred, but there were good reasons for concluding that it had simply resulted from the fall of the man, when intoxicated, in the street, and striking the right side of his head against the flat pavement.

Upon examining the head (seventy-four hours after death), the appearances were as follows:—The right ear contained a bulky coagulum; and, upon dividing the scalp, a small quantity of blood was found effused beneath the pericranium in the immediate vicinity of this organ, chiefly above and behind it. The skull was very thin; but the dura mater was remarkably thick and tough, and so firmly adherent to the skull that the detachment of the latter was only effected by the use of considerable force. On removing the dura mater, much coagulated and semifluid blood was found over the surface of the left hemisphere, principally in the anterior and temporal regions, but extending also downwards to the base of the brain. This effusion was situated in the arachnoid space, the blood being readily removed by a sponge, which left the visceral layer of the arachnoid beneath it shining and transparent. Besides this, a large amount of blood was effused into the subarachnoid space, and also in and beneath the pia mater, covering almost the entire surface of the cerebrum, extending anteriorly along the longitudinal fissure, and upwards over the convolutional surface of both hemispheres, and posteriorly almost surrounding the cerebellum and medulla oblongata. This latter extravasation was tolerably equally diffused over both sides of the brain, but it existed in greatest amount over the base and in front, and it exhibited the appearance of having

spread from the brain's base forwards and upwards. At a point in the left hemisphere, almost exactly corresponding with the left ear, the brain-substance was found to be lacerated, the laceration extending in a vertical line completely through the visceral arachnoid, pia mater, and the grey and white matter of the convolutions, and penetrating by its lower part into the descending cornu of the left lateral ventricle. The laceration was as clean and perfect as if it had been made by a sharp knife, and the cut surface presented a superficies of between one and a half and two square inches. The opposed surfaces of lacerated brain were quite smooth, and not in the least infiltrated or stained by blood. Both lateral ventricles were empty, but their internal surfaces exhibited the appearance of having been distended with blood, the structures forming their walls being softened and roughened, and the septum between them almost completely broken down. Upon stripping off the dura mater from the interior of the skull, a fissure was discovered commencing near the internal occipital protuberance, crossing obliquely the groove of the right lateral sinus, and extending completely through the petrous portion of the right temporal bone and across the external auditory meatus of the same side. This fissure, upon subsequent maceration of the parts, displayed all the features of a well-marked fracture. In regard to the other organs of the body, it is only necessary here to mention that they were free from indications of acute or recent disease.

In connection with this case it may be remarked that, had this laceration of brain-substance, which here unquestionably was due to *contre-coup*, been the only material injury sustained, and had it been unaccompanied with either fracture or extensive sanguineous effusion, it is by no means difficult to understand from a consideration of the peculiar characters presented by the laceration, and especially of the fact that the divided surfaces would remain in accurate apposition, that, under favourable circumstances, the healing process might take place. If this be so, it can scarcely be doubted that in cases of brain-laceration, involving only a very limited extent of surface, and without any other injury, cicatrization of a more or less perfect character may be a not infrequent result; and in this circumstance may, and indeed probably does, lie the real pathological explanation of certain of those cases of cerebral injury, now so attractive of attention, which originate in the shaking or concussion of the cranium and its contents in connection with railway collisions. Dr. Conway Evans, 17*th of April*, 1866.

10. *Meningeal apoplexy associated with purpura.*

The subject of this affection was a waiter, æt. 40, and in the habit of drinking freely. He had been three times a patient in St. George's Hospital. On the first two occasions he had much the same symptoms, general yellowness of skin with a cachectic broken-down look, and spots of purpura, particularly on the limbs. He had tumours of sudden appearance, first in the thigh, and then in the right arm, which were believed to consist of sudden effusions of blood. The tumour in the arm, which was on the inner side of the humerus, appeared to be about the size of an egg, and was associated with numbness of the parts supplied by the ulnar nerve—the little finger and the adjacent side of the ring-finger.

On the 29th of January, having been recently discharged, he was suddenly attacked with pain at the back of the neck, rigors, vomiting, and want of sleep. On the 31st he was again admitted, under the care of Dr. Barclay. He was then very feeble. The pain which occupied the back of the head and neck, was intense. He said, he felt that he should "lose his wits." He was restless and rather delirious, but answered questions coherently. He lay upon his belly holding by the side of the bed, declaring that he was afraid of rolling out. There was no paralysis. The pupils were natural. He was yellow as before, and had spots of purpura upon the limbs. Pulse 88, very feeble. He remained restless, rolling about and throwing off the bedclothes. The motions were passed into the bed. Next day he was incapable of speaking; he refused food, and was evidently sinking. On the evening of February 1st, he died.

Post-mortem examination. — The body was slightly tinged with jaundice, and there were slight spots of purpura in many places. The swelling in the arm consisted of an oval mass of soft matter, which bore a remarkable resemblance to fæces, embedded in the biceps muscle, so as to press upon the ulnar nerve. It appeared to be altered blood.

The dura mater was adherent to the skull. A quantity of soft black coagulum was spread over the whole convex surface of the brain. It lay chiefly in the sulci, underneath the arachnoid. There was a smaller amount of the same sort of effusion in the sub-arachnoid space at the base of the brain, besides which, an ounce, or rather more, of fluid blood was found in the cavity of the arachnoid. The brain was natural internally. All the large vessels were free from

atheroma. The minute vessels of the pia mater were examined with the microscope in many situations, and proved to be natural in all respects. There were a few spots of extravasated blood on the pia mater of the spinal cord, and a film of blood in the cavity of the spinal arachnoid.

There were patches of old thickening upon the pericardium; all the valves of the heart, excepting those of the pulmonary artery, were thickened by old fibroid material.

The blood contained in the heart and large vessels, was fluid, uniform, and like the juice of cooked cherries or plums. It was examined microscopically, but nothing unusual was detected.

The liver was of about the natural size, but was in a state of advanced cirrhosis. It was granular on the surface; while the section displayed a multitude of minute globules, in some places no larger than mustard-seeds, of which the organ appeared made up.

The other viscera were natural.

Remarks.—It may be generally stated that extravasation of blood within the cranium is either the result of external violence, or is associated with diseased blood-vessels. This case is an exception to the rule. The large and small vessels were natural as far as could be ascertained. The change was in the blood itself. The hæmorrhagic tendency appeared to have arisen in this case from the disease of the liver. Hepatic disease, especially such as leads to retention of bile, has long been recognised as one of the causes of purpura. I may instance a case of purpura associated with obstruction of the common duct by hydatids, which is published in Vol. xiii., of the *Transactions*, p. 104. In that case there had been a quanity of blood extravasated under the iliacus muscle, which gave rise to symptoms like those of hip-disease. Dr. Dickinson, *1st of May*, 1866.

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11. *Extensive softening of parts of both cerebral hemispheres. Large cyst, (? the remains of former extravasation of blood) in the left hemisphere. Epileptic attacks. Coma before death. Relief to pain by subcutaneous injection of morphia.*

The details of this case were mainly put together by Mr. Barrett

of Poplar, with whom, and with Dr. Bain, Dr. Ogle visited the patient.

George A. M., æt. 64, had for many years been a man of intemperate habits; his intemperance, however, not being continuous, but coming on in paroxysms. Fourteen years ago, he had a severe attack of delirium tremens, and since then, until the present time, he has had many minor attacks, and several threatenings. In December, 1865, he fell in the street, as was supposed by some, owing to an attack of unconsciousness, or as thought by others, owing to intoxication; since that time, he has gradually declined.

At first he only had symptoms of derangement of the stomach and liver; after this, the utmost depression of mind existed, which was constant, until towards the close of life when fatuity came on. About six weeks before death, he began to complain of great pain in the back, apparently deep-seated; not referred to any one spot, but diffused over the entire lumbar and lower part of the dorsal region. Its severity was often greatest in the region of the kidneys, but no disease of those organs was declared by examination of the urine, which, however, often contained an increased precipitate of "phosphates." For the acute pain in the back Dr. Ogle suggested the subcutaneous injection of morphia, beginning with one quarter of a grain: this was followed by very marked relief to pain. At about the same time also that this pain in the back came on, a *want of power* was observed in the *left leg*, and this subsequently increased, no interference with the sensibility of the skin being noticed. There was also at the same time slight loss of power in the muscles of the *left* arm.

Shortly after this, the patient had a convulsive attack answering, according to the description of by-standers, to the 'petit mal' of the French, and subsequently sleep could only be procured by powerful narcotics, or by the subcutaneous injection of morphia above-named. The appetite remained fairly good, and the tongue moderately clean, the pulse firm and regular, averaging about 76. As his despondency increased, his memory began to fail, he became very irritable and restless, and his movements aimless and confused. On the 15th of April last, he had eight attacks of an epileptic character succeeding one another rapidly, and after these he lay in a comatose state for three or four hours. On being roused, he appeared to be suffering great pain, and throughout the rest of the day and night kept constantly ejaculating short sentences, and starting up in bed to press his hand on

his back. Early on the following day, he was conscious, but his articulation was "thick" and confused, and his words incoherent; later in the day he had a return of the convulsive attacks, and he then fell into a state of stupor, and so remained some time. On the 17th, he was conscious, but had a difficulty in swallowing; on the 18th, he had twenty-eight convulsive attacks, and then relapsed into deep coma, often with stertorous breathing, the pupils of the eyes being dilated and fixed, and the evacuations passed involuntary. The pulse, though fluctuating had until now remained comparatively firm, and was about 75 a minute. From the 18th to the 20th, he remained quite comatose, having several convulsive attacks each day. On the 20th, dyspnœa supervened with spasmodic action of the inspiratory muscles, the pulse suddenly fell, mucous râles came on in the throat, and he died early the following morning.

On *post-mortem* examination, performed by Mr. Barrett, in the presence of Dr. Bain and Dr. Ogle, fifty-six hours after death, the cranial bones were found to be thin, but not vascular; the dura mater was very adherent to it in many parts, but otherwise natural, and the other cerebral membranes, as also the arteries and veins at the base of the brain, were natural. The brain-substance was throughout rather softened, especially the right cerebral hemisphere. At the anterior part of the *left* cerebral hemisphere was a patch of softening, in the middle of which was a cyst of the size of a walnut, containing greyish-yellow fluid, and lined by a soft, but tolerably consistent flocculent membrane. The posterior part of the *right* optic thalamus was very much softened, and of a reddish mottled colour; and in the middle of the posterior lobe of this (the right) hemisphere, was a large portion much softened, being, in the more central parts, of the colour of strawberries and cream, and quite in the middle, containing a hardened lump of clotted blood. No other parts of the body were examined.*

Microscopical examination.—The broken-down parts of the brain-substance presented much granular and fatty matter, disintegrated nerve-tubes, large and small compound granular corpuscles, with, here and there, débris of blood.

Remarks.—Dr. Ogle suggested that the formation of the softening of the left cerebral hemisphere, which appeared to date further back than the disintegration on the right side, was contemporaneous

* The specimen is described in the St. George's Hospital Pathological Catalogue (see Appendix to Series viii., No. 222).

with the attack of December, 1865, when the patient fell down unconscious. The recent symptoms, in which want of muscular power on the left side of the body was observed, were doubtless referrible to the lesion of the right cerebral hemisphere.

Dr. John W. Ogle, 1*st of May*, 1866.

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12. *Softening of the spinal cord in a case of suicidal melancholy. Firm carcinomatous growths connected with the lung, pleura, liver, and mesenteric glands.*

The patient, R. C., a tailor, æt. 78, was admitted into the Somerset Lunatic Asylum, June 27th, 1848. He was discharged in 1849 and re-admitted in 1853, in a state of melancholia, brought on, as it was thought, by the death of his wife. He stated that before admission he had a great desire to commit suicide. He remained in the Asylum, owing to his strong wish not to be sent away for fear of committing suicide, towards which he appeared to have no inclination whilst in the Asylum. He was otherwise rational and made himself useful in his trade and in performing various offices about the Asylum. He was an habitual smoker, and made no complaint of illness until November, 1865, when he suffered from pain in the stomach, which was relieved by a rhubarb draught. At the end of January he was sent to the Infirmary, owing to cough, and there was dulness on percussion over the left side of the chest, the right side being resonant and the respiration puerile. He expectorated a quantity of muco-purulent sputum, and had constant pain in the epigastrium. The tongue was brown, the breath offensive, and the pulse quick and feeble. He became worse and fell into a semi-comatose state in which he died.

On *post-mortem* examination the upper third of the spinal cord was found to be softened,* and more fluid than natural was met with in the cerebral ventricles. The brain was large, weighing fifty-three ounces and a-half, and the cerebral arachnoid was very opaque. The left pleural cavity contained about six pints of fluid, and the left lung was compressed and "carnified," weighing only nine ounces, whilst the right one weighed twenty-three ounces. On the left side the costal pleura, especially at the upper part, had several white, very firm, nodules, of sizes varying from that of a pea to that of a fowl's-egg

* The softened Spinal Cord is described in St. George's Hospital Pathological Catalogue (see Appendix to Series viii., No. 228).

attached to it, and in the upper part of the left lung were a few nodules of the same nature. These growths when examined *microscopically* had the appearance of being carcinomatous. The liver weighed one hundred and ten ounces and three-quarters, and was the seat, as were the mesenteric glands at the head of the pancreas, of many nodules of the same nature as those above-described. The mucous membrane of the ileum was congested.

Dr. John W. Ogle, *15th of May*, 1866.

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13. *Softening of the entire length of the spinal cord from a case of "general paralysis of the insane." Blood effused into the spinal canal.*

The patient was a sober married man, æt. 45, who had received a severe blow on the head, after which "paralytic symptoms" were said to have arisen. Four years subsequently he was admitted into the Somerset Lunatic Asylum,* in July, 1862, and was discharged as recovered in December. He was re-admitted in September, 1864, with well-marked symptoms of the last stage of general paralysis. Power of motion was almost lost; he had the gait peculiar to the "general paralytic," and his speech was much affected. He had the delusions, expansive delirium, &c., common to those affected by his disease, thinking himself the master of large territorial possessions. He suffered from retention of urine, and required catheterism for some days. On the 22nd of January, 1865, he was seized with a kind of semi-cataleptic attack and died in four days.

On *post-mortem* examination, the spinal cord was found to be softened, but not discoloured, throughout its whole extent, and much blood was met with between the spinal dura mater and arachnoid; the cranial dura mater was firmly adherent to the calvarium; a considerable amount of fluid existed in the cerebral ventricles; otherwise the various organs of the abdomen were found to be natural.†

Dr. John W. Ogle, *15th of May*, 1866.

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* For the opportunity of submitting this specimen to the Society, Dr. Ogle had to thank Dr. Boyd, Resident Medical Officer of the Asylum.

† The softened Spinal Cord is described in St. George's Hospital Pathological Catalogue (see Appendix to Series viii., No. 229).

14. *Hard fibrous growth containing peculiar laminated circular bodies, occupying a portion of the anterior parts of both cerebral hemispheres, especially the left one. Epilepsy. Death following coma.*

On the left side, the growth, which was of an opaque-white colour, and very firm in texture, and in parts gritty, occupied the upper surface of the brain to the extent of one inch and a-half, and penetrated in one part so as to form the boundary of a portion (to the extent of an inch) of the left lateral ventricle, but did not at all encroach on the cavity itself. In the right cerebral hemisphere, the morbid growth was only about a third the size of that in the left hemisphere just described. The other parts of the brain were natural; the arachnoid membrane between the hemispheres was rough and granular.

The patient was a man, æt. 32, who had been epileptic since childhood, and lived the last five years of his life in the Somerset Lunatic Asylum,* his fits being frequent and severe. In 1863 he took iodide of potassium, gradually increased in quantity, for some months without benefit, and in that year he had two hundred and forty-eight fits by day and forty-five by night.

In 1864 he had two hundred and twenty-two fits by day and thirty-five by night. In 1865 there was no improvement, and three days before his death he had nine fits, his limbs turned cold, he soon became comatose and remained so until his death, on the 22nd of October, 1865.

On *post-mortem* examination, the encephalon was found to be unusually large, weighing fifty-six ounces; each cerebral hemisphere weighed twenty-five ounces, the cerebellum five ounces and a-quarter, and the medulla oblongata and the pons Varolii three-quarters of an ounce. The body generally was in good condition, weighing one hundred and thirty-seven pounds; its height was five feet nine inches. In addition to the morbid state of the brain before described, the base of the right lung was in a state of hepatization. The abdominal organs were natural.

Microscopical examination.—On minutely examining the growth in the brain, it was found to be very solid and resistant to the knife, and here and there it had a calcareous, gritty character. It mainly consisted of fibrous or fibroid tissue of different degrees of density; but portions of every part examined, were found to contain interspersed throughout, numbers of rounded, chiefly spherical, but

* Dr. Ogle had to thank Dr. Boyd, of the Asylum, for the opportunity of submitting this specimen to the Society.

here and there oblong, masses, varying in size up to $\frac{1}{100}$th of an inch. These were seen with a quarter-inch object-glass and high eye-piece to be rough and nodulated on their surface, having, in places, quite a glistening, vitreous look, and at their peripheral parts, to present a laminated character (*See* Plate II.). This was evident previous to the addition of any chemical reagents. On adding dilute acetic acid, however, effervescence was produced, and the laminated arrangement, before spoken of, was found to pervade, more or less, the whole substance of most, if not all, of the conglomerate masses when the action of the acid was complete. Moreover, parts of the fibrous stroma of the growth were found to contain very fine crystalline particles of calcareous matter; and this was well shown in some instances by boiling the tissue with liquor potassæ, which had the effect of bringing out remarkably well the crystalline nature of the calcareous masses. The use of iodine and sulphuric acid gave no amyloid reaction.*

Dr. Ogle was inclined to look upon this specimen as an instance of a fibrous growth (possibly of syphilitic origin) which had undergone calcareous transformation in part. It reminded one in some respects of the fibrous growth near the angle of the lower jaw, studded with multitudes of isolated points of calcification, described by Mr. Buxton Shillitoe, in Vol. xvi. of the Society's *Transactions* (p. 233), and illustrated by a drawing (Plate X.). But in Mr. Shillitoe's case the points of calcification do not appear to have possessed any laminæ or concentric arrangement, as did the masses contained in the brain-tumour just described. Whether the concentric arrangement of the microscopic bodies proved that these were of amyloid character or not, Dr. Ogle was uncertain. Dr. Grainger Stewart, of Edinburgh, who had kindly examined them, was inclined to look upon them as such, in spite of the absence of iodine reaction, &c.

Dr. John W. Ogle, 15*th of May*, 1866.

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15. *Diseases of the brain and spinal cord consequent on a railway-collision.*

This, I believe, is the first of these curious cases in which the condition of the brain and spinal cord has been ascertained, or at least recorded. The patient was under the care of Mr. Gore, of Bath,

* The specimen is described in the St. George's Hospital Pathological Museum (see Appendix to Series viii.)

DESCRIPTION OF PLATE II.

Illustrating Dr. J. W. Ogle's case of Tumour of the Brain, (p. 19). All the figures magnified 100 diameters. The largest reach about $\frac{1}{100}$ inch in diameter, and from this downwards.

Fig. 1. shews the rounded conglomerate masses imbedded in fibrous tissue, which is somewhat condensed around them, probably, in part at least, by pressure; glycerine has been added to render the structures somewhat more transparent.

Fig. 2. Crystalline masses obtained by boiling in caustic potash and washing; the fine crystalline dust has been lost in the latter process. The majority are truly spherical, but a few are oblong in form. Viewed as an opaque object.

Fig. 3. shews the appearances after partial action of dilute acetic acid, which produces effervescence; the calcareous matter has disappeared from the smaller crystalloids, and is gradually being dissolved from the larger. Portions of the tissue are seen to be thickly studded with fine spherical crystalline particles. The tissue does not appear to swell at all with the action of acid.

Fig. 4. By complete action of acetic acid the parietal matter appears to have entirely disappeared, bringing out a laminated structure throughout the masses, which in some is especially evident.

Fig. 1

Fig 2.

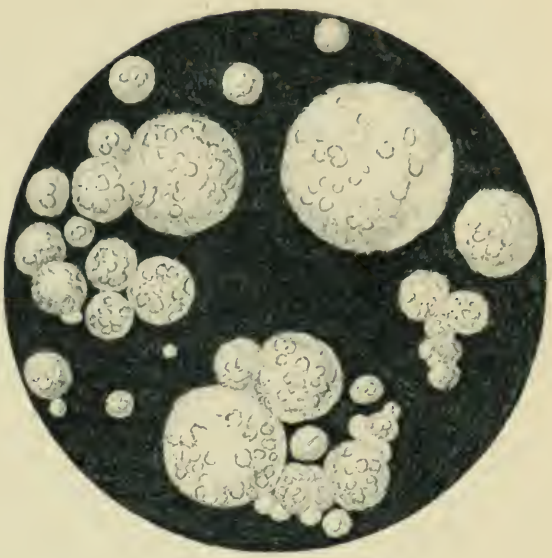


Fig. 3.

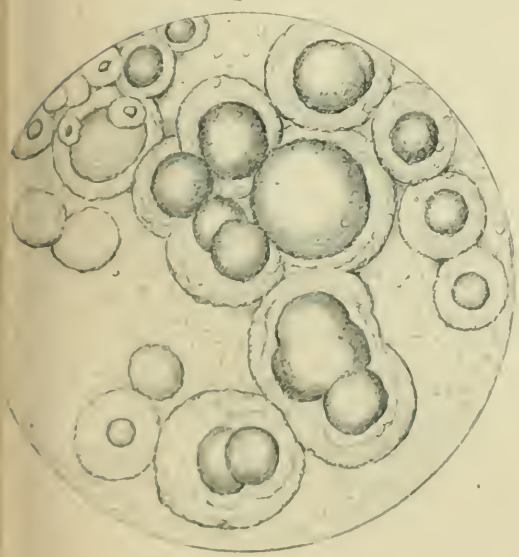
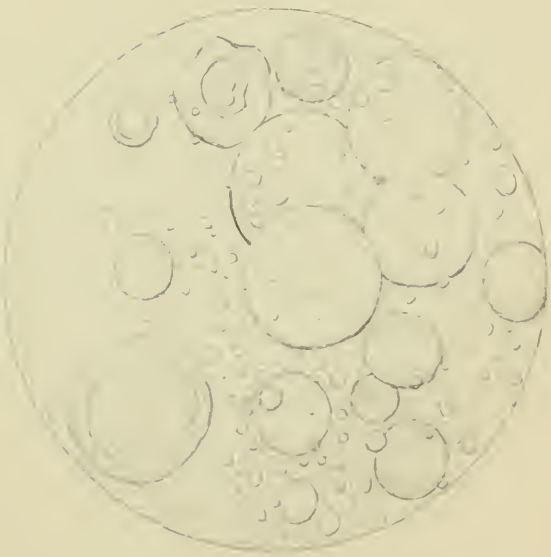


Fig 4



who sent me the spinal cord, together with the following particulars :—

"A gentleman, æt. 52 at the time of death, had been the subject of many distressing symptoms, all arising out of the shock he received in a railway-collision 3½ years before his death. He had no wounds, nor fractures, nor material contusions; but having been previously an active, intelligent man, conducting, with success, a large business, he began at once to suffer vaguely with pains down the back and in the head, though not of a very acute kind. He gradually, though very slowly, failed in every respect as to mind and body—not, however, losing his intellect. He became unable to walk with steadiness or firmness, and before his death, which was clearly hastened (say three months) by an accidental fall, he could barely walk with the aid of two sticks, and was for the last month confined to his bed.

"One other symptom of disorder, clearly connected with all the others, was inability of the bladder, with eventually want of control over it. The urine also was pale, turbid, and alkaline, with muco-purulent deposits. Nothing of this kind had existed before.

"At the *post-mortem* examination, in addition to a generally shrunken, and wasted condition of the spinal cord, there was in the brain, general, though slight, opacity of the arachnoid, with sub-arachnoid effusion. The cortical substance of the brain generally was pallid and soft; this was particularly the case on the under surface of the anterior lobes on both sides. (His speech had been for a month or six weeks thick and hesitating.)

"The kidneys were much disordered—hard, dense, and with many isolated purulent deposits. The bladder was contracted, and its mucous membrane pulpy and vascular."

On examining the spinal cord, as it was sent to me by Mr. Gore, I found that the membranes at some parts were thickened, and adherent at others, to the surface of the white columns. In the cord itself, one of the most striking changes consisted in a diminution of the antero-posterior diameter, which, in many places, was not more than equal to half the transverse. This was particularly the case in the upper portion of the cervical enlargement, where the cord was consequently much flattened from behind forward. On making sections, I was surprised to find that of all the *white* columns, the *posterior* were exclusively the seat of disease. These columns were darker, browner, denser, and more opaque than the antero-lateral; and when they were examined, both transversely and longitudinally, in their preparations

under the microscope, this appearance was found to be due to a multitude of compound granular corpuscles, and isolated granules, and to an exuberance of wavy fibrous-tissue disposed in a longitudinal direction. It was very evident that many of the nerve-fibres had been replaced by this tissue, and that at certain spots or tracts, which were more transparent than others, especially along the sides of the posterior median fissures, they had wholly disappeared. Corpora amylacea, also, were thickly interspersed through the same columns, particularly near the central line.

The extremities of the posterior horns contained an abundance of isolated granules like those in the columns; and in some sections the transverse commissure was somewhat damaged by disintegration. The anterior cornua were decidedly smaller than natural, and altered in shape, but no change in structure was observed.

The striking resemblance between this case and cases of locomotor ataxy, as regards the limitation of the lesion of the white substance of the cord to the posterior columns, although the *nature* of the lesion is somewhat different, excited my curiosity to ascertain whether the paralysis and difficulty of locomotion partook of the nature of ataxy. In a letter to Mr. Gore I inquired whether the patient's gait was remarkable for its unsteadiness, like that of a man somewhat intoxicated; or whether the movement were jerking or spasmodic. In reply I received the following information:—

"The semi-paralytic state which I attempted to describe was precisely that of unsteadiness, somewhat like that of partial intoxication; but, on the other hand, there was very little, if any, jerking or twitching." Mr. J. Lockhart Clarke, 15*th of May*, 1866.

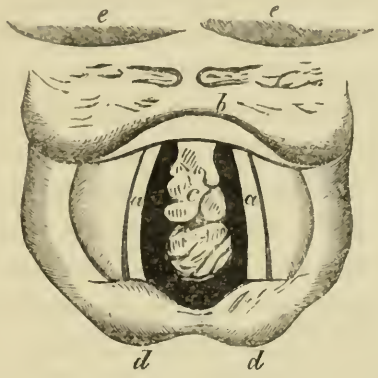
DISEASES, ETC., OF THE ORGANS OF RESPIRATION.

1. *Two tumours removed from the larynx, in a case of long-standing aphonia, with immediate restoration of the voice.*

The patient was a single lady, æt. 38 years, residing at Sheffield, who had had a bad throat for six years, the voice being reduced to a croupy whisper. The complaint commenced with hoarseness, and during the first three years she coughed up pieces of "flesh," one of which was an inch long and the shape of a shrimp. For the

greater part of the time she could not lie down at night, from supposed cardiac disease with dyspnœa, and her complexion was very florid. She stated that she had had disease of the heart and rheumatism when young. On examination with the laryngoscope in April 1865, a long, fleshy, somewhat bulbous growth was seen to occupy the greater part of the sub-glottic space, springing from the anterior part of the larynx, below the origin of the true vocal cords, and quite immovable. The larynx in other respects was comparatively healthy, but there was much irritability and spasm about its proper muscles. The woodcut (Fig. 2.) represents the appearances in the laryngeal

Woodcut 2.



a, The vocal cords; *b*, The epiglottis, beneath which are seen the growths, *c*, in the subglottic space; *d. d.* The arytenoid cartilages; *e. e.* The back of the tongue.

mirror. The true vocal cords, although congested, became of their normal white colour during the examination; and the congestion when passively present seemed more the result of difficult circulation through the larynx, than of any other cause. After some six weeks' preparation, on the 27th May, with the assistance of Dr. Logan, who held the patient's tongue out of the mouth, I succeeded in snaring with the aid of the laryngoscope, a growth in the loop of wire of my laryngeal écraseur, cut its pedicle, and withdrew it firmly held by a piece of uncut mucous membrane in the retracted loop, in a similar manner to the outer coat of an artery after ligature. I now found a second and larger growth, which had formed the bed of that already removed, and this was snared on June 1st, in a similar manner to the first, with the aid of Dr. Logan again holding out the tongue, the tumour being likewise withdrawn in the retracted wire-loop of the écraseur. The voice was *immediately* (then and there) restored, for

the mechanical obstruction to the closure of the glottis, and the consequent inability of vibration of the vocal cords, were got rid of. On each occasion about two drops of pure blood were expectorated. In a few days the little wound cicatrised, no obstruction was visible, the trachea was seen to be quite normal, and the patient left for the North, quite cured. I may remark that when the gratifying result of the restoration of the voice occurred, it was loud and distinct, with a laryngeal tone about it; two days after, it was very good and powerful, and subsequently it became quite natural.

Dr. Sieveking kindly examined the little tumours and found them composed wholly of epithelial cells; to the naked eye they resembled a congeries of small cysts; they were of the size of round beans.

I exhibited the tumours before the Society with the wires attached to the mucous membrane, and remarked that in the removal of these bodies, in other and similar cases, when the loop of wire is not violently or spasmodically drawn home, the growths invariably are withdrawn with the instrument itself. This case makes my sixteenth in which I have now successfully abstracted growths from the larynx by means of wire-loops, and this in their entirety, not in fragments. The shape and position of the tumours in the present instance, independent of their exhibition, were well illustrated by a large diagram, which is here represented by the woodcut.

Dr. Gibb, 17*th of October* 1865.

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2. *Stone-worker's pulmonary disease.*

W. J. F., æt. 38, formerly a French mill-stone maker, but for the last eight years a stone-mason, was admitted into the Middlesex Hospital under my care, September the 21st, 1865.

He had for twenty years been subject to morning cough, attended by scanty white expectoration, but he stated that he had never suffered from dyspnœa. His cough had generally been worse in the winter season, but he had never been laid up with it until now. Eight weeks before his admission, a chill, from unusual exposure at night, had been followed by shivering and catarrh, and since that time his cough had been much aggravated; the expectoration had become very copious and muco-purulent, and he had lost flesh rapidly. On admission, his skin was cool, pulse 78, small and compressible. The expansion of the chest in respiration was deficient, but it was equal on both sides. The percus-

sion resonance was deficient over the upper and anterior part of the thorax; also over the whole left side of the thorax posteriorly, especially in the supra-scapular region, and likewise in a less degree over the right side. The vocal fremitus was increased in the sub-clavicular and supra-scapular regions on both sides, and there was bronchophony at the left nipple. The respiration was dry and harsh, and the sound of expiration much prolonged over the whole chest. There was coarse crepitation over a limited space near the left nipple, and also occasionally on deep breathing in the left supra-scapular region. The heart-sounds were normal. A few days after his admission the expectoration contained a few streaks of blood, but his appetite continued good; his skin was cool, though moist, and his pulse quiet. On the 8th of October he had a severe attack of diarrhœa, and the following day his pulse was quick and feeble, his features shrunken, and his skin cold. Towards evening profuse hæmoptysis supervened, under which he sank.

Post-mortem examination.—The lungs, especially the posterior parts, were externally much darker than usual, and studded with dark pigment-patches. The anterior borders of both lungs were emphysematous. The left lung, from a little below the apex to the base, was firmly adherent by its posterior surface; otherwise the lungs were free from adhesions. The apices of both lungs were puckered and presented several cicatrix-like folds, around which were emphysematous bullæ. The posterior part of the upper lobe of the left lung, for two-thirds of its depth downwards from the apex, was converted into an extremely dense and hard solid tissue of an almost coal-black colour, and of gristly consistence, but giving a slight sense of grittiness on being cut through. The freshly-cut surface was remarkably smooth, and presented a somewhat mottled appearance, the black hue being diversified by irregularly-arranged lines of an iron-grey colour. The bronchial tubes in this part of the lung were dilated and thickened. The remaining portion of the upper lobe was also nearly black and very dense, but crepitant. The lower lobe was likewise very dark on section; it contained a deep-seated irregular cavity about two inches in long diameter, the walls of which were shreddy and black. A small quantity of dark bloody fluid was found in the cavity. The posterior part of the lobe was non-crepitant, tough, and nearly black, but less hard and dense than the upper lobe. A portion of the posterior part of the upper lobe of the right lung was converted into a dense black tissue similar to that already described in the left lung, but of smaller

extent. The rest of the lung was congested, and very dark from deposit of pigment, but crepitant. Scattered here and there, in the crepitant portions of both lungs, were a few small solid nodules, varying from the size of a split pea to that of a small bean, and found on section to be of a pale colour and firm consistence. The trachea and large bronchi were somewhat dilated, and filled with mucus intermixed with bright red blood. The mucous membrane of the larger bronchial tubes was slightly injected. The bronchial glands were somewhat enlarged, very hard, and of a deep black colour throughout. The lungs together weighed three pounds ten ounces. There was slight recent pericarditis; the pericardium contained about an ounce of turbid serum, and a few very small flocculi of lymph. The heart was otherwise quite healthy, as were likewise the intestines, kidneys, and other abdominal organs.

On microscopic examination of a portion of the dense hard tissue from the upper part of the lungs, it was seen to consist of elastic fibrous tissue, abundantly intermixed with granular exudation cells, and with black pigment, the latter being in some places arranged in well-defined roundish masses, and in others in the form of fine granules. Sections of the lungs, at the junction of the solid and crepitant portions, showed thickening of the walls of the air-cells, with a deposit of black pigment in their substance. The small, solid, pale-coloured nodules in the crepitant portions of the lungs had the character of chronic inflammatory exudations; they consisted of nucleated cells and nuclei, granular matter, and cells containing oil-globules, interspersed with a little fibrous material and black pigment.

Portions about the size of a small horse-bean, taken from the apices of both lungs, having been thoroughly incinerated in a porcelain vessel, left a considerable amount of white ash. On boiling this ash in strong hydrochloric acid the greater part was dissolved, leaving a heavy residue of a greyish-white colour, which, on being thrown into a glass of water, fell rapidly to the bottom. Under the microscope, this residue was found to consist of very minute angular-looking particles, which did not polarize light, but which were dissipated on being exposed to the fumes of hydro-fluoric acid, thus proving them to be silica. A portion of consolidated lung taken from the body of a man who had died of chronic pulmonary disease, having been treated in the same manner, left a much smaller proportion of ash which was entirely dissolved in boiling hydrochloric acid. In order to place beyond question that the insoluble residue was in fact mill-stone dust, I obtained

some fine dust of French burr, through the kindness of Dr. Peacock, who first drew attention to the prevalence of pulmonary disease among the mill-stone-makers of the Metropolis, and demonstrated the presence of grit in their lungs. (*Pathological Transactions*, vol. xii., p. 36.) This dust being placed under the microscope with polarized light showed no signs of polarization, and a portion of it having been ground down in a mortar, and afterwards treated with hydrochloric acid, so as to reduce it to a similar condition with that of the residue from the lung, was found under the microscope to be apparently in all respects identical with that deposit.

Remarks.—The pulmonary disease in this case had evidently been caused merely by the mechanical irritation, excited by the inhalation of gritty particles to which the patient had been exposed by his occupation. The coincidence of a cool skin and a quiet pulse, with wheezy asthmatic cough, and copious muco-purulent expectoration would indeed have rendered the diagnosis of the case from one of tubercular phthisis comparatively easy, even without a knowledge of the nature of the patient's employment. The sequence of events in the case exactly corresponded with the history of many similar cases which have come under my observation. Such patients often suffer for many months or years from chronic cough or expectoration, without being disabled from work until the supervention of some acute catarrhal attack, to which persons in this condition are peculiarly liable. This, as we have seen, was the case in the present instance, notwithstanding the extensive changes which the lungs had undergone, and I have frequently seen potters, needle-pointers, flax-hacklers, chaff-cutters, and other artisans, who had contracted pulmonary disease from the inhalation of various kinds of dust incident to their occupations, still able to continue their labour, when, judging by the physical signs, the disease appeared to have been even more advanced than it was in the case under consideration. Disregarding the cough, expectoration and dyspnœa, to which they have long been used, persons, in these circumstances, most frequently date the commencement of their illness from the catarrhal attack which only aggravated it, and this, in fact, was done by the patient in the present case. He persisted at first that he had been in good health until his last illness, although the disease in his lungs was obviously of much older date, and it was only by close inquiry that the fact was elicited of his having suffered for many years from habitual cough. Dr. Greenhow, *17th of October*, 1865.

3. *Acute inflammation of the epiglottis.*

The tongue and larynx of a boy, 8 years of age, were exhibited. The boy was indisposed for three or four days, but no symptoms to indicate danger, were present; he had a little fever, and a slight cough; these were followed by symptoms somewhat resembling those of croup, but not so as to lead to any serious apprehension as to an unfavourable termination of the case. Mr. Hopewell, of Chelsea, with whom Dr. Crisp inspected the body, was sent for in haste, and, on his arrival, found the patient dead, the boy having died apparently from suffocation.

A careful inspection of the body revealed a swelling of the epiglottis, especially at its base, the part being also intensely red, no other lesion was discernible in any other part. A wax cast, which represented the appearance of the parts when first seen, was also exhibited.

The peculiarities of this case were thought to be the sudden invasion of the symptoms, and the circumscribed form of the inflammation, which was confined to the parts named. Death probably arose from spasm of the glottis. No irritant of any kind had been taken.

Dr. Crisp, 17*th of October*, 1865.

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4. *A case of croup, treated by tracheotomy, fatal issue, thirty-six hours after the operation.*

F. P., æt. 3, a well-nourished and hitherto healthy child, was seized with symptoms of croup, on the 7th of September, 1865. He had been treated chiefly by the administration of antimonial emetics, up to the 11th of September, when he was first seen by Mr. Spencer Watson. There were then croupy respiration and rhonchus over the posterior part of the chest, where there was, however, distinct resonance on percussion. The only alteration in the treatment was the rubbing in of mercurial ointment, with a view of getting the system under its influence.

On the following day there was very little improvement, and as the respiration was getting more and more impeded, Mr. Watson performed tracheotomy.

During the operation respiration entirely ceased; as soon, therefore, as the tube had been inserted, suction was employed to remove the blood and mucus which was evidently blocking up the trachea, and artificial respiration by Silvester's method was at once resorted to. After about twelve or fourteen successive movements of the arms

upwards and downwards, pressure being at the same time made on the chest, natural respiration became re-established. The child now sank into a quiet sleep, in waking from which, he took food readily, the respiration being quite tranquil and unembarrassed for twelve or fourteen hours.

After this time, however, there succeeded a period of exhaustion and restlessness which terminated in death thirty-six hours after the operation had been performed, and between thirteen and fourteen days from the commencement of the symptoms.

After death, examination of the lungs revealed hepatization of the lower lobes, and an extension of the croupy exudation from the rima glottidis, to the ultimate ramifications of the bronchial tubes, as far as they could be traced.

The heart contained, in both sides, but chiefly in the auricles, pale-yellow fibrinous coagula, of firm consistence, and rather closely adherent to the irregular projections on the walls of these cavities. These coagula did not contain any of the colouring-matter of the blood, and extended for some distance into the large veins opening into the auricles. The opening into the trachea was above the isthmus of the thyroid gland, and the cricoid cartilage had been divided.

Mr. Spencer Watson, *7th of November*, 1865.

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5. *Fibrinous cast of the trachea and bronchi from a case of croup.*

This was a beautiful example of fibrinous exudation, occurring in a child, æt. 4, who was admitted on the third day of croup, into the Westminster Hospital, under Dr. Fincham's care, and upon whom tracheotomy was performed on the night of admission. The child went on well up to the third day, when the tube of the canula became blocked up by portions of loose fibrine, which nearly suffocated him; indeed, he was almost gone, had it not been for the perseverance of Mr. St. Aubyn Hawken, the House-Physician, who removed the canula, and extracted a complete fibrinous cast of the entire trachea and larger bronchial tubes. The child rallied after some hours, and for a few days gave promise of recovery, but unfortunately pneumonia supervened, followed by death on the ninth day after the operation, and on the twelfth of the croup.

The fibrinous exudation was cylindrical throughout, excepting at its smaller termination, where the bronchial tubes seemed to have been wholly blocked up. Dr. Gibb, *5th of December*, 1865.

6. *Paralysis of the left crico-arytænoideus posticus (diagnosed with the aid of the laryngoscope, eighteen months before death, with post-mortem proof of complete atrophy of that muscle) caused by pressure on the left recurrent nerve of a malignant tumour of the thyroid gland.*

Samuel K., æt. 50, became an out-patient of the Hospital for Diseases of the Throat, on the 10th of May, 1864. His breathing at that time was embarrassed and slightly stridulous; he had a croupy cough, and his voice was slightly hoarse. His expression was anxious, and his countenance and extremities of a somewhat purple hue: he was thin and weak. He stated that the symptoms had been coming on for six years, but had gradually become aggravated during the last few months: he had formerly suffered from constitutional syphilis. The smallest exertion now brought on a paroxysm of suffocation, and he occasionally experienced difficulty in swallowing; twice he had spat blood—once bringing up half-a-pint, and another time nearly a pint. There were slight bronchial râles at the apices of both lungs. The heart-sounds were normal. No aneurysmal bruit could be detected, nor was the arterial circulation perceptibly affected on either side of the body.

On making a laryngoscopic examination, it was seen that there was paralysis of the left vocal cord, with central fixture—that is to say, that on inspiration, the left vocal cord was not drawn outwards, but remained with its inner edge near to the median line. An opinion was at once expressed, that there was paralysis of the left crico-arytænoideus posticus—the abductor of the vocal cord on that side—and that the paralysis was caused by pressure on the left recurrent nerve.

In support of the latter opinion, a few weeks later, a very slight round projection could be detected in the median line just above the sternal notch. The symptoms became gradually worse, and Dr. Morell Mackenzie sent the patient to Dr. Davies (with a description of the paralysis of the left crico-arytænoideus posticus) for a careful stethoscopic examination. Dr. Davies admitted the patient into the London Hospital, but the most careful auscultation gave negative results. He left the Hospital after a few weeks, and was re-admitted several times, finally dying on the 2nd of November, 1865. During the eighteen months that the patient was under observation, all the symptoms had become greatly aggravated, and the dyspnœa had increased so much that the patient could only sleep in an arm-chair.

DESCRIPTION OF PLATE III.

Illustrating Dr. Morell Mackenzie's case of Cancer of the Thyroid Gland, involving the left recurrent nerve and giving rise to paralysis and atrophy of the left crico-arytænoideus posticus muscle (p. 30).

Fig. 1. represents the tumour extending from the cricoid cartilage (*cr.*) to the arch of the aorta (*a*). A vertical section has been made from the cricoid cartilage to the aorta. The tumour is seen to be of a nodular character; *x* and *z* * are two prominences; two other projections are seen immediately beneath them, and a fifth behind and to the outer side of *x*. The right pneumogastric nerve (*b*) is seen giving off the right recurrent nerve (*r*) and the left recurrent nerve (*l*), is seen branching off from the left pneumogastric nerve (*c*), and passing upwards behind the aorta into the tumour.

Fig. 2. Posterior view of the cricoid and arytænoid cartilages, shewing a healthy right crico-arytænoideus posticus (*a*), and an atrophied condition of the left muscle, only a few of the fibres remaining at the inner and lower part (*b*); the posterior tubercle of the left arytænoid cartilage (*c*) is exposed.

Fig. 3. Microscopic appearance of tumour, from a drawing by Dr. Andrew Clark.

* A slice has been taken from *z* to shew the microscopic structure in Fig. 3.

FIG 1

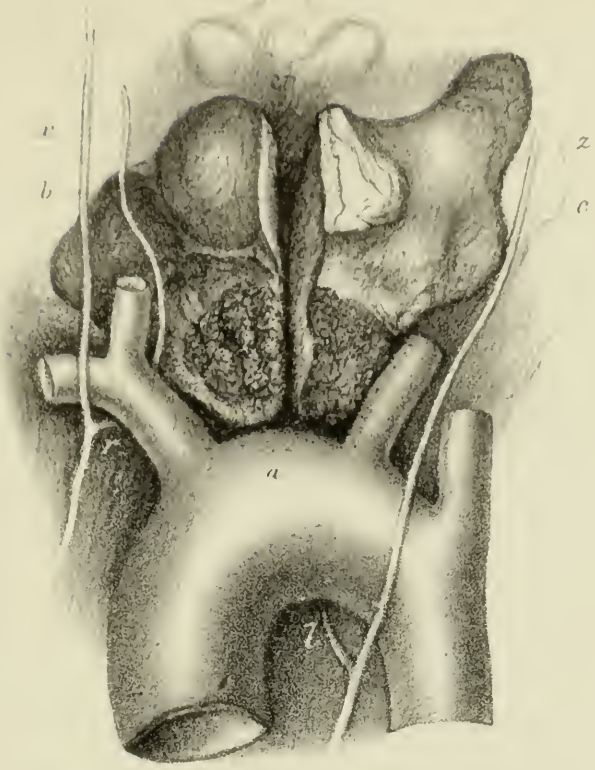

FIG 2.

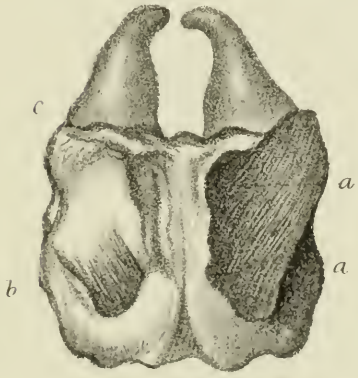

FIG. 3

E Burgess lith

W West imp.

The tumour in the neck had become much larger, and was exceedingly hard. It appeared to be due—at least in part—to ossification of the rings of the trachea. In the last moments, tracheotomy was performed by the House-Surgeon, but "owing to venous hæmorrhage, the narrow space between the cricoid cartilage and the tumour, the hardness of the trachea, and the difficulty of introducing, the tube," he died almost as soon as the operation was completed.

The *post-mortem* examination showed a hard nodular cancerous tumour two inches in breadth, reaching from the arch of the aorta to the cricoid cartilage. In its growth backwards, it had first pushed the rings of the trachea before it, so that they were within a quarter-of-an-inch of the posterior wall of the trachea, and then had burst forth beyond and formed an oblong tumour, about half-an-inch in width, which extended rather obliquely down the trachea for an inch-and-a-quarter, from just below its second ring. The calibre of the trachea, at this part, was diminished to the eighth part of an inch. In its growth, the tumour had pushed through the left wall of the trachea and just penetrated into the canal of the œsophagus. The tumour had completely incorporated the left recurrent nerve just where it passes up from beneath the upper border of the arch of the aorta (*See* Plate. III. Fig. 1.) The left crico-arytænoideus posticus was completely atrophied, only a few pale thin fibres could be seen at its lower and inner part (Plate III. Fig. 2, *b.*) whilst its fellow was large and well nourished (Plate III. Fig 2, *a.*).

The following report, and the microscopic drawing (Plate III. Fig. 3.) were kindly furnished by Dr. Andrew Clark :—"The disease appears to have begun in the thyroid gland, and to have been at first nothing more than a sort of hypertrophy, with the production of colloid matter. Next there seems to have been lymph effused in the centre and back part of the gland, which has undergone cretaceous transformation. The disease seems to have broken through into the trachea, and finally to have reached the œsophagus. In the air-tube it seems first to have assumed a new character. In the obscurely villous growth at this part I find nests of free vesicular nuclei, and here and there areolæ filled with variously shaped tumid cells, containing multiple vesicular nuclei, and vacuoles. I consider the growth to be a rudimentary cancer." Cancerous deposits were found in the liver and lungs. Dr. Morell Makenzie, 19*th of December*, 1865.

7. *Growth removed, with the aid of the laryngoscope, from a child's larynx; aphonia of seven years' standing; voice restored.*

Conway C., æt. 12, from Gosport, came under Dr. Morell Mackenzie's care in January 1865, on account of loss of voice and shortness of breath. When five years old the boy had measles followed by croup, and since then had not been able to speak out loud. For the last eighteen months he had suffered from shortness of breath, being quite unable to play at any games, and several times during the last year "he seemed as if he would have been strangled." On making a laryngoscopic examination, a growth, attached to the right vocal cord, and beneath the anterior commissure of the cords, was seen, occupying the anterior half of the glottis. The appearance is shown in the annexed woodcut. On the 3rd of February the case was carefully examined with the laryngoscope, by Mr. Francis Mason, who made a drawing of the growth. (Fig. 3.) By a series of operations Dr. Mackenzie succeeded in removing piece by piece with his "tube-forceps" the whole of the growth, and in June Mr. Mason testified to its complete evulsion.

Woodcut 3.

The following is Dr. Andrew Clark's report on the specimens or fragments, which in the laryngeal mirror presented the appearance of a single growth:

"The specimens are examples of simple, papillary, warty, or cauliflower growths. Each papilla is composed of a central system of blood-vessels surrounded by more or less well-developed areolar tissue, and clothed with numerous layers of epithelial cells, the deepest being small and spherical, the most superficial, large, scaly, and desquamating. That these growths are likely to be reproduced, appears probable for the following reasons, which constitute the only peculiarities of the specimens:—First, at the base of some of the papillæ, the cells have become disorderly and broken into the meshes of the areolar tissue lying beneath them:—Secondly, when one of these papillæ is broken up, the nuclei of many of the cells are seen to be large, double, containing cells and exhibiting independent vacuoles."

Dr. Morell Mackenzie, 19*th of December*, 1865.

8. *Larynx of a child six months old with a piece of nut-shell impacted in it, tracheotomy.*

Thomas M., aged six months, was admitted into the Middlesex Hospital on the 21st of January. The account given of him was that a few hours before he had been suddenly attacked by stoppage of the breath, for which no cause could be assigned.

On admission the child was suffering from great dyspnœa, his countenance was somewhat blue, the inspiration accompanied by a stridulous noise, and there was an occasional brassy-sounding cough. At intervals these spmptoms were aggravated by spasmodic attacks of urgent dyspnœa which threatened immediate suffocation. As there was nothing in the history of the case to give rise to the suspicion of the lodgement of a foreign body, in itself an unlikely accident to happen to a suckling, the case was looked upon as one of spasmodic croup.

After the child had been in the Hospital a few hours, a more than usually urgent attack of dyspnœa came on, during which Mr. Shaw, the House-Surgeon, performed tracheotomy; notwithstanding the extremely small size of the trachea, the operation was effected with great facility, and a tube introduced, but the child did not rally, and died shortly after the completion of the operation. On *post-mortem* examination a curved piece of nut-shell, about five lines in length, was found impacted in the larynx:—its upper extremity, which was was somewhat pointed, was hooked into the left laryngeal sinus, the convexity of the nut-shell being turned towards the laryngeal cavity. On making subsequent inquiries, it came out that the child's brother and sisters had been playing with nut-shells at the time the dyspnœa came on.

Dr. W. Cayley, *28th of February*, 1866.

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9. *Epithelial cancer of the larynx: portions removed during life with the aid of the laryngoscope.*

Eliza W., æt. 45, applied at the Hospital for Diseases of the Throat, the 18th of January, 1866, on account of complete loss of voice, and slight shortness of breath. She stated that for the last twenty-five years she had been hoarse, and that for the last eight, her voice had gone altogether; latterly, she had occasionally suffered from distressing attacks of suffocation. She had been treated by external galvanism, and had been severely blistered on the neck, but without benefit.

On examination with the laryngoscope a large excrescence was seen occupying the space between the vocal cords. Its exact origin could not be made out, but it appeared to grow from the anterior third of the left vocal cord, and on inspiration closed the anterior three-fourths of the laryngeal canal.

The upper opening of the larynx was small, and in other respects the case was a difficult one for operative manipulation. Under these circumstances Dr. Mackenzie was unable to use forceps, but with a very simple instrument of his own contrivance—a piece of rigid wire bent at a suitable angle, and terminating in a loop—he succeeded in jerking off the principal portion of the growth. In cases successfully treated with the laryngeal écraseur, it is probable that the growths were removed in the same way as in this case, and that, in point of fact, the so-called laryngeal écraseur does not act on the principle of the écraseur.

Dr. Andrew Clark, who had made a careful microscopic examination of the specimen, described it, as "highly developed, typical, epithelial cancer—pathologically speaking, the most malignant variety he had ever seen, of any *small* growth in that locality." The clinical history of the case did not, however, correspond with the histological deductions—the long time (twenty-five years) that the tumour, or more correctly speaking, its symptoms, had been in existence, and the total absence of cachexia, indicating a growth of more benign character.

There is a portion of the growth still in the larynx, but the symptoms are greatly alleviated—the voice instead of being completely suppressed, being now hoarse, and the respiration not being in the least embarrassed. The patient remains under treatment.

Dr. Morell Mackenzie, 20*th of February*, 1866.

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10. *Specimen of collier's lung.*

I am indebted to Dr. G. H. Philipson, of Newcastle-upon-Tyne, for the specimen exhibited to the Society. It was taken from the body of a pitman, æt. 30, who died four hours after his admission into the Newcastle Infirmary, for severe injuries occasioned by a fall of stone from the roof of the mine in which he was working. The man had been employed as a collier for twenty years.

At the *post-mortem* examination, the pleuræ on both sides were found to be firmly adherent, and the lungs remarkably exsanguine and doughy. There was no consolidation, nor any trace of tubercle, and the

bronchial glands were of ordinary size, and not discoloured. The portion of lung shown appears to have been taken from the free margin of the upper lobe, and is very dark, being speckled and streaked with black. With the assistance of my friend, Dr. Cayley, I made a careful microscopical examination of sections taken from various parts of the specimen. In some of these we found air-cells perfectly normal in appearance; whilst in others several cells had coalesced, as though from rupture of the intervening walls. In the walls of many of the cells were deposits of amorphous black pigment, in some places taking a granular form, in others accumulated into black masses which had a tendency to arrange themselves in a longitudinal direction, but with occasional branching and frequent interruptions. In some parts these black seams appeared to sweep round the individual air-cells; in one section a longitudinal mass of black pigment ran across the field, giving off branches and suggesting that a vessel was both plugged up and surrounded by black pigment. The lung had been preserved in glycerine, in which also the sections were immersed for microscopical examination, and numerous small granules of black pigment apparently identical in nature with that seen in the pulmonary tissue were floating freely about the field of every section examined. (*See* Plate IV., Figs. 1 and 2.) The smaller bronchial tubes contained some red viscid mucus, which, under the microscope, was seen to consist of fibrillæ, blood-corpuscles, and irregular cells, mixed with some small masses of amorphous granular pigment, identical in appearance with that seen in the lung-tissue.

Assisted, as on former occasions, by my colleague, Mr. Heisch, I incinerated a portion of the lung, about the size of a hazel-nut, in a porcelain crucible. It left a dark reddish-coloured ash, much more abundant than that which remained from the incineration of a piece of normal lung of the same bulk. This ash, on being boiled in strong hydrochloric and nitric acids, was partially dissolved, but left a white residue that rapidly fell to the bottom of the vessel, and which, under the microscope, was seen to consist mainly of amorphous deposit, mixed, however, with a few minute crystals which polarized light. On exposure to the fumes of hydrofluoric acid, in a covered platinum vessel, both the amorphous and crystalline deposits were entirely dissipated, proving them to be silica.

Feeling assured that the presence of the silica was due to inhalation of dust from the coal measures, I presumed that it would probably be associated with alumina. In order to determine this point the acid liquor, left by the subsidence of the silica, was first treated with pure

solution of potash—ascertained by careful preparatory testing to be perfectly free from any trace of alumina—and by this process red oxide of iron was thrown down. The iron having been filtered out, the filtrate was neutralized with hydrochloric acid, and treated with ammonia, when alumina, in a flocculent form, was abundantly deposited.

Remarks.—This case is the more interesting because the man did not die from disease of the lungs, but from the effects of an accident whilst continuing his labour as a pitman, and apparently in tolerable health. The disease was, in fact, only in an early stage, and yet the examination shows that a considerable quantity of foreign matter was lodged in the stroma of the lungs. In former communications to the Society on kindred cases, I have described the usually slow and insidious course of pulmonary disease excited by mechanical irritants, and of this a further illustration appears to be afforded by the present case. Dr. Greenhow, *6th of March*, 1866.

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11. *Specimen of potter's lung.*

This specimen, forwarded to me by Mr. W. D. Spanton, House-Surgeon to the North Staffordshire Infirmary, was taken from the body of a man æt. 35, who had been a potter all his life, and had latterly worked as a Parian-ware maker. The portion of lung sent, evidently consists of the upper and middle lobes, and part of the lower lobe of the right lung. The surface of the upper lobe is covered with old false membrane, and is generally of a very dark colour, the pigment being arranged in minute dots, or in small circular patches, but near the lower border the surface is uniformly black. On being cut through, this lobe was found to contain two larger, and several smaller, irregular, ragged cavities; the pulmonary tissue surrounding these cavities was solidified, and on section presented an aggregation of hard, perfectly black nodules from the size of hemp-seed downwards. Near the apex of the lung these nodules were intermixed with yellowish granular matter resembling tubercle. The greater part of the middle lobe was also solidified, but much less dark in colour, and the section was granular, and for the most part of a yellow colour, intermixed with some dark pigment. The upper part of the lower lobe resembled the middle lobe; but the lower portion was crepitant, and on section studded with

DESCRIPTION OF PLATE IV.

The plate illustrates Dr. Greenhow's description of Specimens of Colliers' and Potters' Lung, and is taken from drawings made from microscopical sections by Mr. F. H. Watts of the Middlesex Hospital (p. 34).

Fig. 1. shews the deposit of amorphous black pigment, in granules and masses of various sizes, in the parenchyma of the colliers' lung. One of the longitudinal bodies, supposed to be vessels choked up with deposit, is seen crossing the field.

Fig. 2. shews a more highly-magnified section of the same lung.

Fig. 3. shews the manner in which black pigment is deposited in the potters' lung.

Fig. 4. shews an air-cell in the potters' lung filled with opaque yellow granular matter, the surrounding walls containing numerous deposits of black pigment.

Fig. 1.

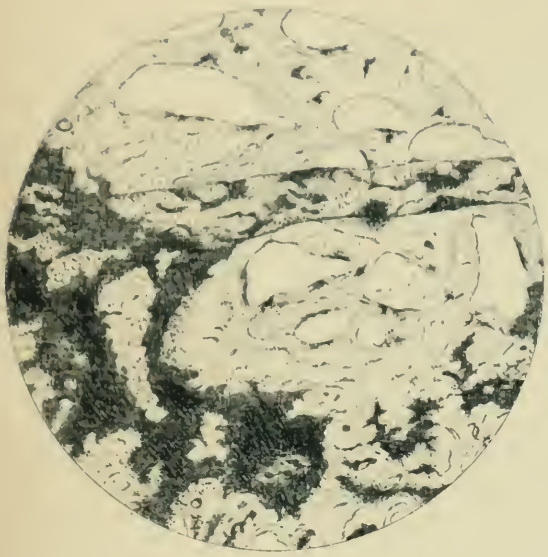


Fig. 2.

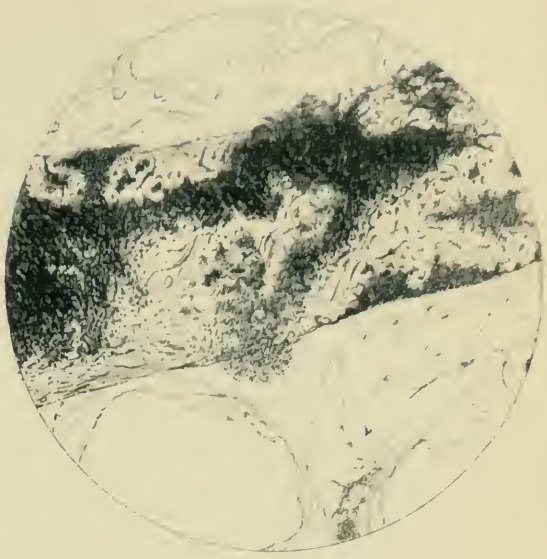


Fig. 3.

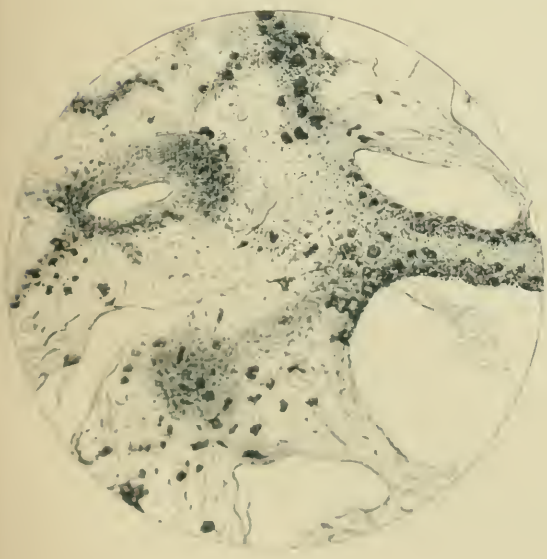
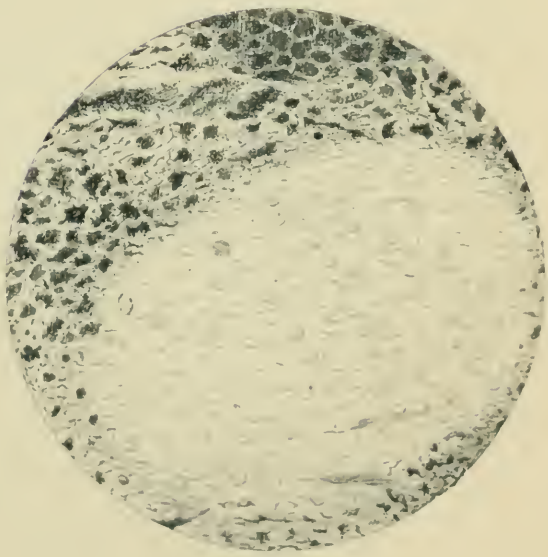


Fig. 4.



patches of dark pigment, between which the pulmonary tissue was pale. The borders of the lung were emphysematous.

With the same kind assistance, which I have acknowledged in the previous case, the specimen was carefully examined microscopically and chemically. Sections under the microscope showed a deposit in the air-cells of opaque yellow granular matter, mixed with irregular nuclei. The cell-walls contained a deposit of black pigment, which was, in some places, arranged round the cells in what appeared to be the thickened cell-walls. The yellow deposit, within the air-cells, appeared to be here and there detached from the cell-walls, leaving a visible interval. In some of the sections the field was traversed by what looked like semi-transparent fibrous bands of the breadth of four or five cell-walls, and containing pigment-deposits. The boundary between these fibrous bands, and the surrounding granular deposit, was in every instance well-defined (*See* Plate IV., Figs. 3 and 4.).

A small portion of the upper lobe of the lung, having been thoroughly incinerated, left a somewhat abundant greyish-coloured ash, which, on being boiled for some time in hydrochloric and nitric acids, was partially dissolved, leaving a white amorphous residue which did not polarize light, but was entirely dissipated by the fumes of hydrofluoric acid. The acid liquor, left by the subsidence of the silica, having been carefully tested in the manner described in the previous case, was found to contain a smaller quantity of iron, but a larger quantity of alumina, than was obtained from the collier's lung.

Remarks.—The great liability of potters to pulmonary disease has long been known, and was mentioned by Sir Charles Hastings, among others, in his work on *Bronchitis*, published upwards of forty years ago. Moreover, in the autumn of 1860, I myself spent a week in the pottery districts of Staffordshire for the purpose of investigating the nature and causes, of the disease, popularly known as potters' asthma, or consumption, and the results of that inquiry, published in the third Report of the Medical Officer to the Privy Council, showed that the disease closely resembled that to which colliers, razor-grinders, and other operatives exposed to inhale dust, are found to be subject. In that paper I showed that the pottery operatives, who principally suffer from this disease, were the china-scourers, the flat-pressers, and the hollow-ware pressers, but that other persons employed in potteries were not altogether exempt. I stated that the immediate cause of the disease was the inhalation of the fine dry dust given off in the process

of china-scouring, or raised from the floor of the hot potter's workshops by the pattering to and fro of the boys employed in carrying the green ware to the drying stove. I need scarcely say that this dust consists chiefly of silica and alumina, which form the main constituents of the clay used in the manufacture of china and earthenware.

The disease itself appeared to me to begin as a chronic bronchial affection, to which pneumonia might, at a later period, become superadded, and I had no doubt that the development of tubercular phthisis was promoted in persons predisposed to that disease. The results of the examination of the present specimen fully accord with these opinions which I expressed after examining many potters' workshops, and many living specimens of potters' pulmonary disease. Silica and alumina were, as we have seen, abundantly found in the lung, and the disease was of a mixed character, partaking partly of the nature of the chronic bronchial affection, excited by mechanical irritants, and partly of that of tubercular phthisis. Dr. Greenhow, *6th of March*, 1866.

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12. *Warty growths in the larynx of a child, causing asphyxia.*

The specimen was taken from a boy, æt. 2, who was admitted into the Great Northern Hospital under Dr. Webb, with the history of an ordinary attack of croup, commencing two days previously. He was rather a healthy-looking, well-nourished child. The countenance was rather dusky and anxious. Pulse 140, weak. Respirations 22, laborious, hoarse, and stridulous. Cough frequent and of a croupy character. The lungs were resonant on percussion, and only a few coarse moist râles were audible behind. Free vomiting, caused by medicine, on the first night of the attack, had been followed by considerable relief; but the symptoms returning and persisting in spite of treatment, he had been brought to the Hospital. Ipecacuanha was given till free emesis was excited, and again considerable relief was obtained. The next morning he was much better; but during the day he had a very severe attack of dyspnœa, lasting about three minutes and leaving him in much the same state as before. Dr. Webb then proposed tracheotomy, but it was advised against in consultation with the surgeon. Through that, and the fifth and sixth days, he went on in much the same way; sometimes markedly better, and having now and then short severe attacks of dyspnœa; but, though taking brandy and ammonia, he got decidedly weaker. On the seventh day, Dr. Webb learned from the child's grand-

mother, that for nine months he had been unable to speak or cry, and had been subject to sudden attacks of difficulty of breathing. The mother was also seen, and though she denied having ever had any particular malady, it was noted that she was unhealthy-looking, that she had on the forehead a scar which looked very much as if there had been a loss of bone, and that she had had severe ulceration of the fauces. On the afternoon of that day the child again became much worse, and tracheotomy was resorted to. During its performance by one of the surgeons, very free hæmorrhage occurred from a vein crossing the trachea, and the child died on the operating table.

On *post-mortem* examination, a mass of warty growths were found completely filling the rima glottidis; they were white, rather firm, and varied in size and length; they sprang from the true vocal cords, and the adjacent mucous membrane: they consisted of basement epithelium. There was no trace of inflammatory exudation of any kind in the larynx, trachea, or bronchi; and no disease of any other organ.

The vein from which the hæmorrhage had proceeded crossed the trachea just below the isthmus of the thyroid gland; it proceeded from the left side of that body, and terminated in the right internal jugular vein. Dr. W. Cholmeley, *April 3rd*, 1866.

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13. *Cases of ulceration of the pharyngeal surface of the cricoid cartilage, associated with cricoid dysphagia.*

This is a form of ulceration of the throat so peculiar in its situation and dangerous in its consequences, as to demand the special attention of pathologists, more particularly now that the laryngoscope furnishes such valuable aid in its diagnosis. The part of the throat first involved is the mucous membrane in the centre of the posterior or pharyngeal surface of the cricoid cartilage, and the affection is invariably associated from the beginning with dysphagia more or less severe. Indeed so characteristic is the difficulty of swallowing arising from it, that I have all along called it *cricoid dysphagia*, to distinguish it from any other form, such as the arytænoid, epiglottic, or other varieties. It is of the utmost consequence that it should be diagnosed early, so that the ulcerative process may be arrested before it has extended to the perichondrium of the cricoid cartilage. Should this unfortunately have happened, spasm of the lower portion of the sac of the pharynx supervenes,

which, in the majority of cases, ends in stricture of a permanent character. The interior of the larynx becomes involved, together with the arytænoid cartilages, the epiglottis is spasmodically pendent, and if malignant conversion of the pharyngeal ulceration does not ensue, the patient dies either from inanition, or is strangled by the sympathetic spasm of the glottis. The disease seldom occurs before the age of 40; indeed, I may say that it has not come under my observation before that period of life.

Several striking examples have come under my care during the past six years, which the drawings exhibited are intended to illustrate. Recovery, as a rule, is rare, unless the affection is seen sufficiently early, its nature and seat clearly made out with the laryngoscope, and treatment, both topical and general, persistently and carefully carried out. The following instances are selected from my case-books, as affording an outline of the main features of the disease, its history, progress and termination. Unfortunately, in the majority of cases, the patient has been under treatment for some time—probably some months or weeks—before the cause and origin of the disease are clearly made out by laryngeal inspection. By this time the cartilaginous structure is probably involved, and a cure is impossible. On the other hand, by timely inspection (as in the case that immediately follows) the ulceration on the pharyngeal surface of the cricoid cartilage is revealed, before the patient has commenced to suffer from insufficient nourishment, and the ulcer becomes cicatrized by daily topical treatment, followed by restoration to health.

Case I.—*Pharyngeal ulceration over the cricoid cartilage for two months, with dysphagia; recovery.*

Mr. B., æt. 42., residing at Swansea, I saw in consultation with Mr. Brend, surgeon, of Bath Place, Kensington, on the 29th of December, 1865. He had had irritation at the top of the windpipe for two months, with tickling in the throat at night, which induced cough; he had no regular cough; his lungs were sound, and his general health was good. He had dysphagia especially with liquids, but could eat bread-and-butter. Lost his voice for a few days when first ill; now the voice is husky though strong. Lost his father and mother from phthisis; the former said to have had his disease begin in the throat. The laryngoscope revealed some redness and pendency of the epiglottis and relaxation of the laryngeal mucous membrane. Distinct ulceration was observed on the pharyngeal surface of the cricoid cartilage, the source of all his

trouble; it was irregular in form, and close to the arytænoid cartilages. There was much free mucous secretion, and the uvula, which was bifid, had a long loose piece of membrane at the end, which I snipped off. A two scruple solution of nitrate of silver was applied to the ulceration, and this was ordered to be done daily. Mr. Brend carried this out very regularly. The patient was put upon small doses of iodide of ammonium, and tincture of matico, with other ingredients to form a mixture, together with a soothing, astringent, healing, and lubricating gargle, and was ordered to live well. By the 12th of January 1866, he could eat well; but drinking still bothered him, two or three gulps in succession producing choking. The cricoid ulceration had all healed excepting a little spot between the arytænoids. There was a great diminution of secretion, and scarcely any cough at night; but he was hoarse. The epiglottis was quite flat and pendent, and as the end of the uvula was ulcerated, it was ordered to be touched daily with nitrate of silver until healed. The first day he was seen there was much spasm on using the laryngoscope; now there was little, or none. The treatment was ordered to be continued, the dose of the iodide of ammonium to be increased.

On January 23rd, he could swallow solids capitally, and fluids in single mouthfuls. The voice was clear, loud, distinct and sonorous; he looked very well. The laryngoscope showed everything quite healed, with a little dimple or hollow immediately below the junction of the arytænoids. As the mucous membrane of the larynx was a little relaxed, he inhaled some spray of a solution of sulphate of zinc with immediate relief. There was no constriction of the pharynx or œsophagus. He was to continue treatment for a little while longer, and he left for home quite well.

The good result in this case was mainly brought about through the care and attention of Mr. Brend, who assiduously carried out the topical treatment until the ulceration had wholly healed.

Case II.—*Ulceration of pharangeal surface of the cricoid cartilage for twelve months; constriction of the œsophagus; dysphagia; fatal result.*

Mr. S., æt. 70, residing at Abingdon, I first saw on the 24th of October, 1865. He had had a bad throat for nearly twelve months. He could not swallow solid food, and barely, minced food, after a second or third effort; but he could drink fluids. He was weak and thin, but had been previously very stout; voice good, but it had been bad, and there was still an occasional catch in it. At times great dyspnœa; no cough, unless when he feels some irritation in his throat; has much stridor, and

has a sort of croupy cough occasionally. He feels something loose in the throat. Food lodges for days. No sleep at nights, but he dozes, and wakes up choking, with great noise. Expectorates nearly two pints of mucus in twenty-four hours. Health always good before. There was great irritability and spasm of the muscles of the throat, on using the laryngoscope. The epiglottis was seen pendent and curled under on both sides, with some tumefaction of both false cords; ulceration at the back of the cricoid cartilage, irregular and fissured, and extending to the perichondrium, and probably to the structure of the cartilage itself; constriction of the commencement of the œsophagus just below the seat of the ulceration. A No. 2 œsophagus bougie, of Weiss, was passed; the same treatment was pursued as in the previous case, excepting that eight grain doses of the bromide of ammonium were given in the place of iodide. Mr. Daniel Stone, and Mr. Martin, of Abingdon, carried out what was necessary, and by the 4th of November, the ulceration had for the most part healed; but on the 30th it was as bad as ever, and seemed deep, irregular and jagged, and bright red inflammation had extended to the right arytænoid cartilage. He had been taking the iodide of sodium since the 4th, followed by diminution in the quantity of expectoration, and he certainly swallowed much better; in other respects he was the same. I passed a No. 7 bougie with ease. In the local treatment a much stronger solution of the nitrate of silver was employed; but the mischief was too deep-seated to permit of good results, for whilst the swallowing sensibly improved, the dyspnœa and stridor increased, and death ensued on the 13th of December.

Case III.—*Extensive pharyngeal ulceration over the cricoid cartilage for some months, with dysphagia: death from suffocation.*

Mrs. G., æt. 40, was brought to me on the 11th of January, 1864, by Mr. R. N. Lipscomb, surgeon, of Tring. She had seen Mr. Luke, Mr. Lawrence, and other surgeons, but had never been examined with the aid of the laryngoscope. She had felt something in her throat for ten years, but had been worse for the last three months. She had dysphagia with fluids, much increased of late, but could swallow pultaceous solids. Voice naturally low and weak, had been hoarse for the last four days; always been a thin sallow-looking person, but with no family history of cancer; no regular cough, but profuse expectoration the last fortnight. No family; married three years. The use of a probang had caused great pain, and had met with obstruction, Mr. Lipscomb told me, somewhere about the epiglottis. The laryngoscope

showed the vocal cords, and interior of the larynx and epiglottis to be quite healthy. Both arytænoid cartilages were so prominent from infiltration of serum, as to resemble a pair of gelatinous polypi. On the posterior or pharyngeal surface of the *entire* cricoid cartilage, for a width of upwards of an inch, was seen a ragged ulceration with a very malignant aspect, yet there was no odour from it, nor any distinct projection like a tumour; it was irregular, shallow and deep in places, with red margins. Here was the seat of disease, extending most probably to the deep-seated structures.

By request she was admitted into the Westminster Hospital, under the care of my colleague, Mr. Holthouse, and myself, and was put upon large doses of bromide of ammonium, and the topical use daily of strong solutions of nitrate of silver, applied by means of curved brushes. By the 19th, we found a great improvement in the state of the ulcer; it was cleaner and disposed to heal; the arytænoid swellings were less; she was altogether better, and could now swallow pretty well: the complexion was clearer.

February 9th.—The ulceration seemed quite or nearly healed, but the two round swellings of the arytænoid cartilages were still large and prominent; she could swallow fluids and solids pretty well. The solution of nitrate of silver had latterly been applied by Mr. Holthouse, twice a-week, and she was taking the bromide of ammonium in fifteen grain doses, as well as using gargles of the same substance.

March 8th.—There is now no ulceration, but still the swelling of the arytænoids; and also now of the false cords. She has some dyspnœa and shortness of breath, and is low-spirited from residence in the Hospital. She returned home on the 12th, and I learnt on the 23rd, that her breathing was so much obstructed, that I advised Mr. Lipscomb to carry out his proposition of tracheotomy; but it appears that the patient's husband would not consent to it, and she died of suffocation on the 25th. This result was due no doubt to supra-glottic œdema affecting the false cords, and probably to the extension of the brawny malignant infiltration from the arytænoid cartilages. Although no *post-mortem* examination was permitted, we may assume that there was no actual stricture of the pharynx or œsophagus.

Case IV.—*Ulceration of the pharyngeal surface of the cricoid cartilage, with contraction of the pharynx and œdema of arytænoids, the last from carcinoma; fatal result.*

Mrs. Charlotte G., æt. 55, residing at Yoxford, in Suffolk, admitted

into Westminster Hospital, on the 25th of September, 1865, and placed under my care by my colleague, Dr. Frederick Bird, to whom she had been sent up by her medical attendant. She had had difficulty in swallowing for nearly five months, and now could get down scarcely any solid or liquid food; she was constantly hemming to clear the throat, and food passed out of the nostrils. Voice was good, and breathing easy, except at night, when she was nearly choked, and had shooting-pains from the ears to the throat; getting very thin. On using the laryngoscope with sun-light, rather extensive ulceration was seen on the pharyngeal surface of the cricoid cartilage, with contraction of the pharynx low down, and both arytænoids were œdematous. The larynx in other respects was normal. The loose gelatinous character of the ulceration with an offensive odour, pointed to the malignant character of the disease; not much was to be done by treatment. She was fed by the bowel, and antiseptic gargles were employed, but used with great difficulty. Subsequently much expectoration of pus and blood ensued from the throat; the neck became generally swollen, especially on the left side; the ulceration extended to the left arytænoid cartilage, and the patient could swallow little or nothing. Mr. Brooke passed a large catheter down the œsophagus without difficulty, and this permitted her to swallow a teacupful of milk in small quantities. On the 12th of October, a consultation was held, as to the advisability of œsophagotomy, but it was not deemed prudent to have recourse to it, as all the cervical structures were infiltrated by the malignant deposit. The swelling in the neck increased, became harder, and painful; she got very weak and emaciated, and could retain the nutritive enemata but a very short time. The odour from the throat now became intolerable, and she left for home, to die on the 28th of October.

These examples sufficiently illustrate the nature and seat of the ulceration in the throat, upon that part of the cricoid cartilage which forms one of the boundaries of the pharynx, and leads in many cases to an actual stricture, from the tendency to continuous spasm which it keeps up. The expression of *cricoid dysphagia* serves at once to indicate the seat of the mischief. Dr. Gibb, *15th of May*, 1866.

III.—DISEASES, ETC., OF THE ORGANS OF CIRCULATION.

1. *Malformation of the heart; contraction of the infundibular portion of the right ventricle; deficiency in the septum of the ventricles, the aorta arising chiefly from the right ventricle; foramen ovale closed.*

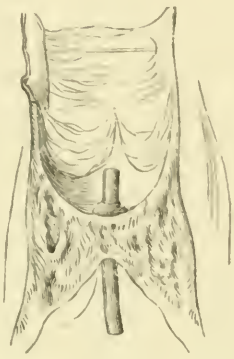
The specimen, which was sent to Dr. Peacock by Mr. Roper, of Islington, was removed from a boy, æt. 7, who, from shortly after birth, had been markedly cyanotic, his cheeks, lips, and hands being decidedly blue. He was also subject to syncopic seizures, attended by difficulty of breathing and palpitation. He died suddenly in one of these attacks, which occurred after he had eaten heartily of fruit tart.

The heart was of large size for the age of the subject, and, when recent, would probably have weighed about six ounces avoirdupois. The right ventricle was much increased in capacity, and its walls thicker than natural; the left ventricle being disproportionately small. The former measured externally in circumference 5·06 English inches (128 millimètres), the latter 3·19 English inches, 81 millimètres). The aorta arose in great part from the right ventricle, the opening into the vessel from that cavity admitting of the passage of a ball measuring in circumference 2·664 English inches (60·75 millimètres), while the communication between the aorta and left ventricle only allowed of the passage of a ball of 2·131 English inches (54 millimètres). The septum of the ventricles was largely deficient at the base. The outlet of the right ventricle was very much contracted, being reduced to a round aperture only allowing of the passage of a crow-quill. This opening was situated about a quarter-of-an-inch below the attached margins of the semi-lunar valves. The obstruction was caused by hypertrophied muscular substance, and a small cavity thus existed between the opening and orifice of the vessels, which, doubtless, represented the atrophied infundibular portion of the right ventricle or conus arteriosus. The orifice of the vessel also was somewhat small, but was very much larger than the opening below, and the valves were not materially thickened; they were only two in number, and were protruded forwards in the course of the artery, so as to leave deep sinuses behind each. One of them was larger than the other, and the remains of a frœnum were displayed on the arterial side of the large valve. The pulmonary artery was less than the aorta. The aortic valves were considerably thickened. The trunk of the vessel was of full size. The right auricle was somewhat dilated; the foramen ovale completely closed. The mitral and

tricuspid valves were not materially diseased. The pulmonary artery and aorta were cut off below the points at which the ductus arteriosus is given off and inserted, when the specimen was sent to Dr. Peacock, and the condition of that passage could not in consequence be ascertained. (*See* Woodcut 4.)

The case, Dr. Peacock remarked, afforded an example of a not uncommon form of malformation,—that in which the outlet of the right

Woodcut 4.



ventricle is contracted, and the septum of the ventricles deficient. There were, however, some peculiarities in it. 1st. The contraction was situated at what appeared to be the commencement of the infundibular portion of the ventricle, and consisted in the narrowing of that part by hypertrophied muscular tissue, so as entirely to separate the infundibular portion of the ventricle, or the conus arteriosus, from the sinus. This is a much less frequent seat and cause of obstruction than the thickening and contraction of the valves.* 2ndly. The foramen ovale was found closed. This occurrence is comparatively uncommon in cases of this kind of malformation, and especially when the contraction at the outlet of the ventricle is very great; but it was here explained by the extremely defective state of the septum of the ventricles, by which a ready passage for the blood from the right to the left side of the heart was allowed. From the very small size of the opening from the sinus of the right ventricle into the pulmonary artery, compared with the calibre of the vessel itself, it is most probable that the ductus arteriosus was not closed, and that a further portion of blood entered the pulmonary artery from the aorta, and was so subjected to the influence of the air in the lungs. Dr. Peacock, 17*th of October*, 1865.

* The form of anomaly is referred to by Dr. Peacock in his work on *Malformations of the Heart*, at page 60.

2. *Disease of the aortic valves; only two segments present.*

Emma M., æt. 20, single. Three years before her death, she had a fit followed by hemiplegia of the left side. She was said to have had but one attack of rheumatic fever, and that only three or four months before her death. The hemiplegia was found to have been caused by atrophy of the right corpus striatum and optic thalamus, with an impervious condition of the right middle cerebral artery at its commencement. The affection of the artery appeared to have been due to embolism; so that, it is possible that heart-disease existed at the time of the occurrence of hemiplegia; and, if the history is trustworthy, that this heart-disease was not rheumatic, but an instance of disease attacking a congenitally-malformed structure. Under these circumstances, it was a little curious that the large cusp, evidently formed by the fusion of two, should have comparatively escaped; whilst the single cusp, whose development must have been more normal, should have suffered so severely. The heart weighed twenty ounces. The increase in weight was due principally to hypertrophy of the left ventricle, the right chamber being only slightly dilated. The tricuspid and pulmonary valves were natural. The ventricular surface of the large anterior cusp of the mitral valve, and also of the aortic valves, was beset with large fibrinous vegetations, which also extended some little distance up the arota above the orifices of the coronary arteries. There seemed to have been only two aortic valves; the posterior one was almost completely destroyed, even the line of its attachment could not be traced throughout. On the aortic aspect of the remaining segment, there were distinct traces of a bridle dividing it into two unequal parts.

Dr. Andrew, 21*st of November*, 1865.

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3. *Embolism of the pulmonary artery.*

Ellen V., æt. 38, a woman of intemperate habits, was admitted into St. Bartholomew's Hospital on the 15th of October, 1866, having been run over by an omnibus, which had completely crushed the two outer toes of the right foot. There was also considerable bruising of the dorsum of the foot. The toes, and a considerable portion of the corresponding metatarsal bones, were at once removed. Some sloughing of the integuments over the dorsum of this foot afterwards took place, and she suffered a good deal of pain; but, with the exception of being a little

pale, she appeared to be going on well up to the 28th of October, by which time the sloughs had all separated, and the wound was looking healthy. At three A.M. on the morning of that day, she suddenly complained of pain in the epigastrium, with dypsnœa and faintness. A little brandy, and a mustard poultice on the epigastrium, relieved her, and she fell asleep again. At ten A.M. she was, according to the note taken by the House-Surgeon, a little pale, but not extremely so; skin cool and moist. Tongue clean, pulse 84. She complained of feeling faint, and of pain in the foot, but the wound looked healthy. At three P.M. she had a sudden attack, similar to, but much more violent than, the one twelve hours previously. She could not lie down. Respiration difficult and very rapid. Pulse scarcely perceptible. Face extremely pale; skin cold and clammy. She complained too of great pain in the chest, and of extreme faintness. She was seen by Mr. Paget, who attributed her symptoms to embolism of the pulmonary artery. The means employed gave no relief, and she died about six P.M.

Post-mortem examination forty-six hours after death.—The pulmonary artery throughout both lungs was found distended by a firm dark clot; embedded in which, and seated for the most part at the angles formed by the subdivision of the artery, were small white masses, upon which the dark clot seemed to have been built up. These masses, under the microscope, were found to consist almost entirely of cells undistinguishable from ordinary white blood-corpuscles, and the amount of fibrine they contained was extremely small, contrasting strongly in this respect with the dark portions of the clot, which presented the ordinary fibrillated appearance. The tissue of the lungs was not congested; the heart healthy. The liver a little large. The spleen also a little large, soft and dark in colour. No collection of pus, and no *ante-mortem* clots were found in any part of the injured limb, which was most carefully examined throughout. But small white masses, similar to those described above, were found in all the systemic veins, *e.g.*, in the cerebral sinus, the mesenteric veins, and in all the large veins of the trunk, in the tributaries of the upper, no less than of the lower, vena cava.

In this case, it is scarcely possible to doubt that the obstruction to the pulmonary circulation was the immediate cause of death. The results of the *post-mortem* examination appear to show:—First, that the emboli, which determined the coagulation of the blood in the pulmonary artery, had their origin in the cellular, and not in the coagula-

ble elements of the blood, and, secondly, that the change in the properties of the white blood-corpuscles leading to their aggregation into masses of a size sufficient to act as emboli, was a general one, and not due to any merely local consequences of the injury.

Dr. ANDREW, 21*st November*, 1865.

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4. *Ruptured left ventricle of the heart.*

A lady, aged about 45, had been, from time to time, suffering from the usual symptoms resulting from fatty degeneration of the heart. She had made good progress, and had just returned from the sea-side, when on the morning of the 7th of November, at nine A.M., she was seized with acute pain in the epigastric region, complained of feeling sick, was very pallid, and almost pulseless. She had breakfasted one hour previously, and had taken only tea and bread-and-butter in moderate quantity. She rose, unaided, from her chair, and walked into her bedroom, a distance of fifteen yards. Stimulants and sinapisms were ordered. At one o'clock it was said that she had fallen into a doze; at half-past four she quietly expired. Ten minutes before her death she had been talking quietly with her son-in-law.

A post-mortem examination was made next day by Dr. Brazier in the presence of Mr. Cooper, my consultant in the case.

Cadaveric rigidity extremely marked; considerable amount of subcutaneous fat; large quantity of fat in anterior mediastinum and over pericardium.

On slitting open the pericardium, it was found to be filled with black blood, partly liquid, and partly, but not firmly, coagulated (of the consistency of black-currant jelly), in a uniform layer round the heart. Pericardium healthy, and normally transparent.

Heart small, very soft, and flabby. This softness contrasted with the rigor mortis of the body. On removing the heart, black liquid blood was seen to ooze out of a *rent in the anterior wall of the left ventricle*, about midway between the apex and base, and close to the inter-ventricular septum. The rent measured about a quarter of an inch in length, and was merely linear. The wall of the organ at that part felt softer and thinner than elsewhere, over an area of the size of a shilling. There was a good deal of yellow fat deposited on the heart. The coronary arteries were not atheromatous or calcified.

On laying open the left ventricle, the inner aperture of the rent was

found to be partly covered over by a pretty adherent fibrinous clot, but it was not occluded. Two or three columnæ carneæ were lacerated, and the thin portion of the wall, already mentioned, was stained of a dusky red colour from imbibition. The rest of the organ was, on the contrary, paler than usual, and the consistence of its texture was so diminished that it tore easily under the least pressure. The mitral valve had lost its transparency, but was neither puckered nor rough: the left auriculo-ventricular orifice seemed natural.

The right ventricle was completely collapsed, and did not contain a single drop of blood; its walls were remarkably thin; they were soft also, but less so than those of the left chamber. The pulmonary artery and valves were healthy; the tricuspid valve was normal. The semilunar valves of the aorta felt hard, almost cartilaginous, along their attached border, but were normal in their unattached or free portion. Small patches of commencing atheroma could be seen all round the circumference of the aorta at its origin. The artery higher up was healthy. Dr. J. S. Ramskill, *5th of December*, 1865.

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5. *Dissecting aneurysm originating in rupture of the coats of the aorta at the descending portion of the arch.*

The specimen, which was sent to Dr. Peacock by Mr. Hacon, of Hackney, was removed from a man, æt. 45, a wine-cooper, but who had not been accustomed to active exertion. On the 31st of January, he went out into the country with a party of pleasure, and while there he was seized with violent pain in the epigastrium and severe dyspnœa. The attack subsided, but he had several recurrences, and died suddenly in one, on the 7th of February. After death, a very large accumulation of coagulated blood (several pounds) was found in the posterior mediastinum and behind the left costal pleura. It had separated the pleura from its attachments, and compressed the lung, but there was no blood in the pleural cavity or in the sac of the pericardium; a small coagulum existed also in the anterior mediastinum. On further examination, the blood was found to have escaped from a rupture of the aorta at its upper surface, situated immediately behind the origin of the left subclavian artery. The coats of the aorta were torn through by a transverse slit extending around about one-third of the circumference of the vessel, and partly separating the subclavian artery from that vessel. This laceration had allowed the blood to pass between the fibres of the

middle coat, to separate the middle from the external coat, and to penetrate to the cellular tissue outside the aorta, so as to produce the extensive effusion found in the posterior mediastinum and behind the left pleura. From the transverse rupture, a second rupture, following a longitudinal direction, extended for a short distance towards the arteria innominata, and involved the origin of the left carotid artery; but this only partially penetrated the coats. From it the blood had passed between the layers of the middle coat of the carotid, separating them and forming a passage extending upwards of an inch from the origin of the vessel. The ascending portion of the arch of the aorta was somewhat dilated, and its coats were in places atheromatous and thickened. The heart and its valves were stated by Mr. Hacon not to have been diseased. Dr. Peacock remarked that the case was interesting in several respects.

First.—The seat of the rupture at the descending portion of the arch was unusual. Of the cases collected by Dr. Peacock, and of which an analysis was published in a previous volume of the *Transactions* (xiv.), eighty in number, in eight only were the internal ruptures in this situation, and of the five others subsequently referred to (vol. xv.), none had the same position.

Secondly.—The escape of blood into the posterior mediastinum, and behind the left pleura, while the pleural and pericardiac cavities were free, was almost unique. Of the cases previously collected, in which the rupture had the same situation as in this instance, none terminated in the same way, and of those in which the internal ruptures were seated in the ascending portion of the aorta one only resulted in rupture into the mediastinum—in that case the anterior mediastinum.

Thirdly.—The prolongation of life for seven days and the very large extravasation of blood which was found after death, were also remarkable; though generally when the rupture is more distant from the heart, life is more prolonged than in the cases where the injury occurs at the origin of the aorta. It is not clear from the specimen whether the blood had commenced to escape into the mediastinum at the time at which the injury first occurred, or whether, on the contrary, the rupture was then partial, and became entire only shortly before death; but it seems probable, from the very large amount of blood which was effused and its firmly coagulated state, that the former had been the case. Dr. Peacock, *5th of December*, 1865.

6. *Dissecting aneurysm of the arch of the aorta.*

H. B., a widow, æt. 57, a housekeeper in a gentleman's family, of thin spare habit, and pale unhealthy aspect, but a person of great energy and activity, and capable of enduring great fatigue, had recovered from advanced phthisis, and for some years had enjoyed good health.

On the morning of the 28th of November, 1865, she was seized, while going down stairs, with sudden anguish in the region of the heart, accompanied by a sense of suffocation, and numbness in the left arm. When first seen at ten A.M., an hour-and-a-half after the commencement of the attack, she was pale, anxious and restless, and complained of pain extending from the epigastrium to the right shoulder-blade; numbness of the left arm, and numbness and loss of the power in right lower extremity. Her body and feet were warm. Pulse 60, full, regular, and natural; tongue clean. The sounds of the heart were natural. The breathing was slow and irregular. She had vomited food since the attack (the remains of an unwholesome supper); but she had slept well through the night, and had felt no uneasiness or symptom of indigestion. She continued through the day much in the same condition, and at half-past eight P.M. was observed to breathe quickly for a few minutes, and then to fall back dead.

Post-mortem examination fourteen hours after death.—Body thin, pale, and badly nourished. The lungs were congested.

Right pleura adherent at apex, otherwise healthy. Cicatrix of old cavity at apex of right lung, and a few cretaceous tubercles.

Left pleura adherent at apex to a much greater extent than the right. Large cicatrix at apex of left lung, and a larger number of cretaceous tubercles.

Pericardium filled with bloody serum, and coagula, perhaps three-quarters of a pound. No appearance of inflammation. A slit, three-eighths of an inch long, was observed below the reflection of the pericardium from the aorta.

Dr. Dickinson kindly examined the heart after its removal, and reported as follows:—

The aorta was scarcely narrowed in calibre. The lining membrane was studded with considerable atheromatous deposits, and there were several little triangular pits in its interior, formed by the puckerings of the lining membrane. About half-an-inch above the valves, on the posterior aspect of the vessel, was a T shaped rent, of which the

longitudinal limb was about three-quarters of an inch in length, the transverse half-an-inch.

The separation of the coats of the vessel extended from the valves to the origin of the innominate artery, and for a short distance along that vessel. In the ascending portion the separation was on the posterior and right aspects of the vessel, and in the transverse portion on the superior and posterior. The external opening into the pericardium was about an inch above the opening in the lining membrane. The separation appeared to be between the middle and external coats, but adhering to the latter were seen fragments of the middle coat.

Dr. Peacock remarked that the separation also extended between the external coat and the pericardium.

Mr. Leggat, *5th of December*, 1865.

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7. *Three cases of angina pectoris, depending upon occlusion of the mouths of the coronary arteries.*

Case I.—The first case was that of a gentleman, 45 years of age, a patient of Dr. Dudfield of Kensington. Dr. Dickinson was asked to assist at his *post-mortem* examination. The patient, a tall muscular man, had had symptoms of disease of the heart for eight years, for the last three of which he had had well-marked fits of angina. In an attack within a day or two of his death, Dr. Dudfield described him as presenting a ghastly appearance, with a pale face, glazed eyes, and upraised arms. He complained of a horrible sense of constriction in the chest, with pain, numbness and coldness in the left arm. He died at last rather suddenly. At the examination of the body, the stomach was found to be dilated, but there was nothing else worth mentioning, excepting the state of the heart. This organ was increased in size and weight. The ventricles were both contracted. The muscular substance was generally slightly fatty, but was not more altered in this respect than most hearts are found to be. The root of the aorta and the aortic valves were much altered by atheromatous deposit. This was soft, and lay under the lining membrane of the vessel, especially about the origin of the coronary arteries. By the encroachment of this material the left coronary artery had become completely closed, so that its position could only be found by tracing up the vessel from the outside. The right artery was much narrowed, but still remained pervious. The coats of these vessels were free from atheroma. The

left artery had become much shrunk, while the right retained its full proportions.

Case II.—A spare, muscular man, 42 years of age, by occupation a game-keeper, became a patient at St. George's Hospital, under Dr. Fuller, October 4th, 1865. He had for more than a year had pain after food, about the epigastrium. Latterly he had had attacks, described as angina, during which he stood still, with the elbows raised from the sides and the face expressive of anxiety. These attacks, were, like the epigastric pain, prone to attack him after food. While in the Hospital he did not keep his bed, the general health being pretty good. Treatment was chiefly directed to the dyspepsia. On the afternoon of the fifth day of his stay in the Hospital, while in conversation with his physician, he had a sudden attack of the sort described, with epigastric pain. In a few seconds his face became blue, and he had a short but distinct epileptiform convulsion. After this, though galvanism and other means were promply employed, he gave no further signs of life.

At the *post-mortem* examination, a few points of extravasated blood were found upon the surface of the heart, possibly the result of the artificial respiration which had been employed. The left ventricle was quite uncontracted, and contained fluid blood. The valves were natural. There was a good deal of cushion-like soft atheroma on the aorta, under the lining membrane. Some of this material had encroached upon the mouths of the coronary arteries and narrowed them so that neither could admit the head of a common probe, without some pressure. The heart was rather increased in size—thirteen ounces and a-half. The muscular substance was of natural colour and texture. Under the microscope a trifling amount of diffuse fatty dotting was seen, but not such as to indicate any morbid change. The brain was natural; the lining membrane of the stomach was congested.

Case III.—The third case is that of a soldier, 35 years of age, who had been discharged from the army in consequence of some cardiac affection. He was brought into St. George's Hospital dead, in the evening of the 28th of April, 1864. An agitated young woman came with the body, and from her account it appeared that the two had been passing some time together in the park, after having had supper. While in her company, as she said sitting down, he fell dead. From the fact that the glans penis was found to be covered with spermatozoa, it was presumed that either at the time of death, or very shortly before, he

had been indulging in sexual intercourse. Possibly he may have died in the act, the excitement having produced a paroxysm of the disease, from which he had before suffered.

Post-mortem examination.—The heart, as in the preceding cases, was slightly enlarged,—fourteen ounces. The left ventricle was quite uncontracted; the right, partly so. Both contained fluid blood. The arch of the aorta was covered with soft atheroma, which was under the lining membrane. By the encroachment of this deposit, the opening of the right coronary artery was completely closed, so that not a trace of it remained. Its position could not be found, except by following up the artery from the outside to its origin. The lining membrane of the aorta appeared to be continued over the mouth of the vessel. The opening of the left coronary artery was narrowed so as to be nearly gauged by the head of a probe. The coronary arteries in their course were natural. The muscular fibres of the heart were slightly dotted with oil. The valves were all effective; the aortic were thickened to a very trifling extent.

The stomach was distended with gas, and with undigested, almost unmasticated, food, comprising a considerable quantity of potatoes and pickles. All the organs were examined, but nothing further could be found, excepting that the lungs were slightly emphysematous, and that there was a little muco-purulent secretion in the bronchial tubes.

Remarks.—Ever since Heberden drew attention to a "disorder of the breast," in the year 1772, morbid anatomists have been busy in endeavouring to connect the symptoms with some constant alteration of structure. It does not appear that much progress has been made in this direction. Reference to any modern treatise on diseases of the heart will show that there are few, if any, morbid conditions of the heart which have not been assigned as causes of angina. Atheroma of the aorta and of the coronary arteries has been frequently observed. In the first *post-mortem* examination recorded, of a victim to this disease—it was made by John Hunter, and is recorded in Vol. III. of the *Transactions of the College of Physicians*—there is a careful description of an extreme state of atheroma of the beginning of the aorta, and of the semilunar valves. Indeed, of all the changes which have been associated with the symptoms, atheroma of the aorta appears to have been that most often observed. Atheroma, or "ossification," as it used to be called, of the coronary arteries, has been regarded as a cause of the complaint, but Laennec shewed that this state is of less

frequent occurrence in connection with the symptoms than is atheroma of the aorta. Often as this change of the arch has been noticed, it does not appear that the state of the coronary openings has attracted observation; an omission, which seems strange, considering that the coronary arteries, in their course, were frequently made the subject of dissection.

The closure of the mouths of these vessels by soft atheroma, spreading under the lining membrane of the aorta may, as these cases show, be a not infrequent cause of the disease, and a cause which is exceedingly liable to be overlooked. One of the coronary openings may appear to be wanting; the lining membrane of the aorta looks as if smoothly continued over it; and if the mouth of the vessel is not especially looked for, its absence is not detected. The atheroma is soft and cushion-like, and is less conspicuous than the rough bony variety.

In the Museum of St. George's Hospital is a drawing by Mr. Perry, which was made many years ago. It represents the aorta of a patient of Dr. Seymour's, who had a paroxysm of acute pain in the chest, with orthopnœa every evening, for some time preceding his death. The aorta is covered with the smooth atheroma, described. The orifices of all the vessels leading from it are narrowed; those of the coronary arteries are invisible, and appear to have been occluded. No notice appeared to have been taken of this peculiarity. The accuracy of Mr. Perry, as an artist, is sufficient warrant for the truth of the representation.

Whether considered as spasm of the heart—a view inconsistent with the frequent absence of contraction in the ventricles after death—or as a neuralgic affection—there can be no doubt that the nervous structures of the organ are radically concerned in the production of the symptoms. In connection with this we cannot but observe the relation of the coronary arteries to the nerves which cover the ventricles. The vessels lie just beneath the pericardium, and are closely entwined by the nerves, and, judging by their obvious arrangement and situation, would seem to have more to do with the nerves than with the muscular fibre. They are, of course, too large to be needed by the nerves alone; but it may be presumed that they supply the nerves, and the more superficial part of the organ. In the cases recorded, though they were in great part closed, and from the chronic nature of the cases, must have been so for some time, there was no atrophy of the muscular substance. Indeed, the closure of the coronary vessels does not prevent considerable hypertrophy of the heart, when

there is any valvular disease to set it up. Probably the muscle of the heart is nourished in great part by imbibition from its cavities, in the same manner as are the walls of the great vessels.

Dr. Dickinson, *5th of December*, 1865.

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8. *Aneurysm of right middle cerebral artery.*

The patient, a woman, æt. 59, who had previously been subject to slight attacks of vertigo, but had otherwise been in good health, while in a butcher's shop on Saturday evening, December 3rd, became giddy, went out, and fell down. She was picked up by the police, and brought to St. Mary's Hospital in an insensible condition; the face pale; the surface cool; the limbs motionless and relaxed. Pulse 70; right pupil of moderate size; left, contracted. She remained in this condition, and died next day. The right arm was withdrawn on the application of a hot bottle; but this was the only evidence of sensation manifested.

When the vault of the cranium was removed, blood was seen to be abundantly effused beneath the arachnoid at various points on the anterior aspect of both anterior lobes, especially the right. There was laceration in both Sylvian fissures, and the blood had passed outwards between the convolutions to the lateral aspect of the right hemisphere. Much blood also was found in the inter-peduncular space, hiding the optic commissure, the perforated spaces, the nerves, the crura cerebri and cerebelli, and almost the pons. Another focus of extravasation was met with between the cerebellum and medulla, and again in the velum interpositum. The appearances were such as might be produced by great hæmorrhage into the ventricles, bursting out through various points. The floor of the third ventricle was found to be torn.

On slicing down the hemispheres, the brain-substance was found to be firm and healthy. In both lateral ventricles there was a little dark bloody serum, which was found in greater abundance in the cornua. Similar fluid was present also in the third and fourth ventricles, and in the *iter* connecting them. The ventricular aspect of the thalami and corpora striata was healthy, and no point could be found at which blood had been extravasated.

Further investigation about the base of the brain showed the right Sylvian fissure to have been the chief seat of hæmorrhage, and when it

was opened out a considerable extent of softening of brain-substance was discovered, involving the anterior part of the corpus striatum and adjacent convolutions, and, to a less degree, the convolutions in front of the fissure. In seeking for the ruptured vessel, a small aneurysm of the middle cerebral artery was met with near the inner part of the fissure, embedded in the substance of the anterior lobe. It was about half-an-inch from the division of the carotid; it was sessile upon the artery, not involving its entire circumference, and at its larger distal end there was a small aperture.

No other source of hæmorrhage could be made out after diligent search, and it seems probable that the blood travelled outwards along the Sylvian fissure to the surface of the hemisphere—inwards by the descending cornu of the lateral ventricle, which was opened by softening into the ventricle, thence into the opposite ventricle, and into the third, from which it passed into the meshes of the velum interpositum, also that it passed through the fourth ventricle to the sub-arachnoid space around the medulla, and by bursting through the floor of the third ventricle, that it reached the inter-peduncular space.

Dr. W. H. Broadbent, *5th of December*, 1865.

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9. *Cases of pyæmia in which recent endocarditis was found after death.*

Case I.—S. M. A., æt. 33, a patient of Mr. Poland's, admitted into Guy's Hospital on the 11th of May, 1865, for a severe injury to the left forearm. Amputation was performed; but the patient died on the 3rd of June. Shivering had occurred on the 25th of May, so that the pyæmia was apparently of nine days' standing. On *post-mortem* examination, both lungs were found to contain pyæmic deposits, some in a state of suppuration, others in earlier stages. The pleura over the diseased spots in the lung was also covered with recent lymph. The liver contained a large collection of pus mixed with lymph; and the spleen presented, near its anterior border, one patch of solidification, at which suppuration was commencing. There was also recent lymph on the peritoneal surfaces of these organs.

On the auricular aspect of the mitral valve, near its edge, was a well-marked deposit of lymph in the form of beads, of a reddish colour, stained by the blood in the cavity of the auricle. These granules of lymph were quite soft, and, to all appearance, had been recently formed.

The medullary membrane of the part of the ulna which remained was thickened and infiltrated with pus. The cancellous tissue appeared to be healthy. No disease existed in any of the joints which were examined, among which was the elbow of the injured limb.

Case II.—H. P., æt. 18, a patient of Mr. Forster's, admitted on the 14th of August into Guy's Hospital, with a compound comminuted fracture into the knee-joint. There was a good deal of hæmorrhage from the wound. Amputation was performed. Hæmorrhage, however, occurred on the 21st of August, for which the femoral artery was tied. The patient went on favourably until the 31st of August, when rigors and vomiting occurred. The next day he complained of pain over the liver. Arterial hæmorrhage recurred on the 2nd of September. He died on the 8th of September.

The liver was found to be full of abscesses, containing fœtid pus. In the substance of the spleen were observed patches of a paler colour, indicating, apparently, the commencement of disease in that organ. There was recent pleurisy over the base of the left lung, and the base, as well as the posterior border of that lung, was also ecchymosed.

There was a well-marked deposit of granules on the mitral valve, just above its free edge, and on its auricular surface. The other valves were healthy.

Case III.—E. S., æt. 15, admitted into Guy's Hospital, on the 20th of January, 1864, under the care of Dr. Barlow, who has allowed me to make use of the case. When first taken into the Hospital this lad was supposed to be suffering from rheumatism, but it was afterwards found that his symptoms were rather those of pyæmia. The skin was hot and dry; the joints swollen and painful. There was some degree of swelling below the left knee, and a scratch on the foot. It was thought that this might have set up the disease. Subsequently, symptoms indicating that the chest was affected made their appearance; and of these the patient died.

The *post-mortem* examination was made by Dr. Wilks. There was a discharging abscess below the left knee; no diseased bone could be felt with a probe. The knee-joint itself contained pus.

Both lungs were in an early stage of general pneumonia.

There was acute pericarditis, of several days' standing. The heart was universally covered with a thick stratum of lymph, and was adherent to the parietal serous membrane; there was but a small quantity

of serum in the cavity of the pericardium. Pus exuded from the substance of the heart at one or two points along the auriculo-ventricular groove, and a probe could be passed through these opening into the muscular tissue, which was softened, and through this into a vegetation which lay on the auricle, just above the mitral valve. This valve was not itself diseased; but the large mass of lymph, above it, nearly closed the orifice into the ventricle.

No deposits of an embolic character were observed in any of the viscera. It is expressly stated that the kidneys were large, soft, and congested.

Remarks.—Of these cases, the third is an example not very uncommon, of a form of disease, in which pyæmia sets up a process of softening and suppuration in the substance of the heart, extending both towards its outer and inner surface. The point of interest is that, if it were doubtful whether a case should be regarded as of rheumatic or pyæmic origin, the discovery that the heart was affected might lead one to adopt the former opinion to the exclusion of the latter.

The cases numbered one and two, appear to show, however, that pyæmia may give rise to a deposit on the valves of the heart, independently of the existence of any disease of the muscular substance, or of the pericarduim. It is true that the affection, in these instances, was very slight, resembling very closely that generally observed in fatal cases of chorea. Still it appears to me that the recognition of the possibility of such an occurrence may fairly modify our views as to the nature of certain cases which have been regarded as rheumatic. Thus, in his well-known paper in the *Medico-Chirurgical Transactions* (1852, p. 213), the late Dr. Kirkes recorded a case which, as he stated, was almost exactly similar, both in its symptoms, and in the secondary appearances found after death, to one of phlebitis; but which he considered to be an instance of rheumatic affection of the heart, leading to poisoning of the blood. There was, however, no evidence of rheumatism, except the fact that the patient had had a pain in the right groin, for about ten days before shivering occurred and the other constitutional symptoms developed themselves. If we admit that pyæmia may set up endocarditis, it would clearly be more natural to explain such a case as this, by supposing the pyæmia to have been the primary affection. At the same time, it ought to mentioned that, in Dr. Kirkes' case, the valvular affection was more extensive than in those I have

observed; for the aortic valves were the seat of deposit, as well as the mitral, and were in part destroyed by ulceration.

Dr. C. Hilton Fagge, 19*th December*, 1865.

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10. *Rupture of the aorta at its origin.*

The patient, a man-cook, æt. 45, had been under Dr. Sutro's treatment at the German Hospital, for "Bright's disease," since August, 1865. According to the report of Dr. Baeumler, the Resident-Physician, he complained of violent headache on the 7th of January; about 11 P.M. of the same day he slipped out of bed with the head foremost, the head touching the ground while the legs were still in bed, the lower part of the back resting on the edge of the bed. He soon regained his consciousness, but early in the morning of the 8th, he had a kind of fit, suddenly becoming unconscious and turning blue in the face, without, however, having any convulsions. During the remainder of the day he was again conscious, but drowsy. On the 9th of January, he was as usual, when, while eating his dinner, he suddenly cried out and fell back, becoming first pale, and then red in the face. He died shortly afterwards.

The pericardium was filled with coagulated blood. The heart was hypertrophied (fourteen ounces), but especially, or only, the left ventricle; the muscular tissue and valves were sound. The commencement of the aorta was not dilated, and only slightly atheromatous; almost immediately above the valves was a transverse rent, about an inch long, part of which penetrated only the inner and a portion of the middle coat, while about half of it entirely penetrated the middle, and formed a smaller opening in the external, coat. There was some infiltration of blood between the middle and external coats, extending from the slit about an inch upwards, without, however, entirely separating the two coats. There was a considerable amount of serous effusion in both pleural cavities, and in the abdomen; the spleen was shrunken and hard. The kidneys were small and hard, the cortical substance being of a pale-yellow colour.

The specimen belonged to what Dr. Peacock, in his report on aneurysms (*Pathological Transactions*, vol. xiv), designated as "dissecting aneurysms in the earliest stage." The commencement of the rupture had most likely been caused by the fall two days before death; the external coat, and probably also some fibres of the middle coat having resisted until the

moment of death, which, in these cases, must be almost instantaneous, through compression of the heart by the effused blood. Rupture of the aorta, with almost healthy arterial coats, is of rare occurrence; it is in this case to be attributed to the combined action of the hypertrophy of the left ventricle, the fear of falling, and the position of the body in the moment of the fall. Dr. Hermann Weber, 16*th of January*, 1866.

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11. *Case of ruptured femoral artery from disease of its coats, ligature of the vessel.*

Henry D., a retired naval officer, æt. 75, was admitted into Guy's Hospital on the 3rd of October, 1865, under the care of Dr. Rees, with chronic bronchitis and heart-affection, his arterial system generally showing evidence of disease.

On the 31st of October, the patient first drew attention to a large swelling on the inner side of the right leg, a little above the knee; the tumour was hard and about the size of a cricket-ball; it was very painful. It had appeared suddenly on the morning of the 31st, but had been preceded for three or four days by pain shooting down the limb.

On the 3rd of November Mr. Bryant was asked to see it. The tumour was then very large, and was evidently fluid; it occupied the position of Hunter's canal and distinctly pulsated; an aneurysmal whirr could also be detected on the application of a stethoscope. The limb below the knee was very œdematous, and the patient was evidently in extreme pain. Under these circumstances it was determined to tie the femoral artery, and at five P.M. the operation was performed, Mr. Bryant placing a ligature round the vessel at the lower angle of Scarpa's triangle. It was noticed that the vessel was very large and extremely diseased, the coats of the artery perceptibly giving way when the knot was made. The patient was under the influence of chloroform. The leg was then well wrapped up in cotton-wool, and raised on a pillow; and a dose of morphia was ordered. The operation afforded the patient great relief, for the intense pain he had been enduring was at once removed; it was performed solely with this view, and to prevent death from hæmorrhage into the limb, but with no idea of adding materially to the period of the patient's life, for he was gradually sinking from the bronchitis and heart-disease. Under these circumstances the operation must be looked upon as a success, for, from the time of its performance to his death, the man suffered little or no pain from the wound, or from the effects of the

ruptured vessel. The œdema of the limb gradually subsided, and the aneurysmal tumour remained quiescent. At one time extensive gangrene of the limb was feared, but the symptoms disappeared, and when he died on the 23rd of November, twenty days after the operation, there was only gangrene of the four smaller toes. Death was evidently the result of chest mischief; the patient gradually dying out.

On examining the limb after death, and making a careful dissection of the femoral vessels, it was found that the artery had evidently given way in Hunter's canal, at least half the calibre of the vessel having ruptured; for it was observed that the extravasated blood had burrowed beneath the extensor muscles of the thigh, and that the walls of the cyst were formed by the muscles, the lower part of the femur constituting the lower boundary; the ragged and torn margins of the ruptured vessel were well marked, and the opening into the false aneurysmal sac very large. The femoral artery was much diseased; its coats were thickened and infiltrated with atheromatous deposit; both above and below the position at which the ligature was placed the artery was obstructed with a firm clot, this clot being in firm connection by adhesions with the lining membrane of the vessel. This point appeared to indicate that on the removal of the ligature a cure would have taken place, and that secondary hæmorrhage would have been prevented. The specimen shews well all these points, and is of interest to prove that a ligature may be applied to a very diseased vessel in an old man with a fair prospect of a successful result, and without the occurrence of secondary hæmorrhage. It must be added that the femoral vein was found to have been much inflamed; its walls were thickened, and on its inner coat masses of fibrinous exudation were firmly adherent. The thoracic viscera and kidneys were extensively diseased.

Mr. Bryant, *6th of February*, 1866.

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12. *Ruptured popliteal artery and vein.*

John T., æt., 40, was admitted on the 25th of November, 1865, at quarter to five P.M., into Job Ward, under the care of Mr. Poland. Shortly before admission, while carrying a heavy sack of wheat, he slipped, and fell with it upon his right thigh; he says he felt something give way at the time, and he was at once brought to the Hospital. On admission, the whole leg was very tense and shiny, with a hard diffused tumour in the popliteal region, extending upwards, without pulsation.

The anterior and posterior tibials could not be felt; the limb was numbed, and he could only feel the prick of a pin in certain parts, on a small space over the metacarpo-phalangeal joint of the great toe, and over the upper and outer part of the calf. Half-past nine, limb not so tense, but he has been suffering severe pain; temperature slightly increased. (The question of amputation was here considered, but looking at the very great mortality that occurs from primary amputation of the thigh, it was agreed to defer it for the present.) Ordered a grain of opium. The limb to be wrapped in cotton-wadding.

26*th.*—The temperature of the right leg is slightly higher than that of the left; suffers but little pain.

28*th.*—Toes are cold. 29*th.*—There is a somewhat dusky and marbled appearance over the lower and outer part of the limb; he has lost all sensation in the toes, which are cold; there is a good deal of ecchymosis appearing under the knee, but he still complains of little pain, and has passed a good night.

30*th.*—Rather more pain; a few vesicles have appeared about the ankle.

December 1*st.*—Amputation was proposed by Mr. Durham, but the patient would not consent to the operation. He complains of no pain, and says he is in excellent health.

5*th.*—The thigh was amputated by Mr. Poland with a long anterior and short posterior flap; the latter was infiltrated with blood.

8*th.*—A fœtid discharge of decomposing blood issues from the outer corner of the stump.

9*th.*—All strapping was removed, and carbolic and lotion applied. The man feels well. This treatment was continued until the 16th of December, when alarming hæmorrhage came on, necessitating tying the femoral artery. 18*th.*—Progressing favourably.

Examination of limb after amputation.—The knee-joint having been opened in front, the anterior crucial ligament was found completely torn across, and of the posterior crucial ligament only a small fasciculus remained.

The articular cartilages were roughened, and a fissure about half-an-inch in length existed in the external one.

The dissection was then continued on the posterior part of the limb, and the muscles of the calf were found infiltrated with blood; these were then carefully removed, and a probe was passed into the trunk of the popliteal artery above the knee-joint, and another into the posterior tibial in the lower part of the leg; these being made to meet, it was

found that the vessel was ruptured quite across, opposite the knee-joint, and the ends retracted to the extent of half-an-inch.

The popliteal vein also presented a ragged opening on its posterior aspect, on the same level as the arterial rupture.

The posterior ligament of the knee-joint was torn in an irregular manner, allowing blood to pass into the cavity of the joint.

The posterior tibial veins were greatly congested.

Mr. Bryant *for* Mr. Poland, *6th of February*, 1866.

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13. *Aneurysm of innominate artery (which burst externally) associated with fracture of right clavicle.*

Aneurysm of the innominate artery, from its comparatively rare occurrence, from its difficulty of exact diagnosis, and from its various modes of termination, always possesses a certain degree of interest. The *Transactions* of this Society, from its establishment to the present time, contain altogether the records of five instances of this affection, which, during this period, have been brought under its notice by Mr. Hacon,* Mr. Christopher Heath,† Dr. John Ogle,‡ and Mr. Holmes.§ In one of these cases, a spontaneous cure, from the formation of a firm, laminated coagulum, took place; in two others, the aneurysmal tumour destroyed life by bursting into the windpipe, and in one, by the escape of its contents among the muscular structures of the posterior triangle of the neck; while in one case, in which the aneurysm appears to have been a tubular dilatation of the innominate and right subclavian arteries as well as of the aorta, the exact mode in which death occurred could not be ascertained.

The following example of this lesion is worthy of record on several grounds; viz., first, because of its supposed traumatic origin, and its association with fracture of the collar-bone; second, because of the enormous size to which the tumour ultimately attained; third, because of the comparatively little suffering which the disease occasioned; fourth, because of the circumstance that its site was to some extent at least localized by means of the sphygmograph of M. Marey; and fifth, because of its termination by bursting externally through the skin.

An English sailor, æt. 43, while outward-bound to India, fell

* Vol. vi. p. 158. † Vol. ix. p. 95; et Vol. x. p. 106. ‡ Vol. ix. p. 167. § Vol. xiii. p. 50.

overboard on the 1st of October, 1864, striking himself against the ship's bowsprit in his fall, and so injuring his right arm as to be unable to use it. The only treatment had recourse to at the time was by the captain of the ship, who enveloped the whole shoulder and portion of chest adjoining in a pitch-plaster, on the removal of which, six weeks subsequently, by a surgeon at Aden, the right collar-bone was found to have been fractured (as it was stated) about two inches from the sternum. The fracture had not united, and a small pulsating tumour was at this time discovered near the sternal end of the clavicle, about two inches above this bone. On the ship's arrival at Bombay the patient was admitted into the Hospital, where he heard one of the surgeons pronounce the tumour to be an aneurysm of the innominate artery. The tumour steadily increased in size until his return to England, about a year after the accident, when he was admitted into King's College Hospital under care of Sir William Fergusson.

On admission (Oct. 1865), a large pulsating tumour was seen to bulge forth anteriorly from the upper part of the chest on the right side, the bony structures in the position of the right sterno-clavicular articulation having apparently disappeared. The pulsation extended, in the upward direction, to the parotid region; downwards, it reached the level of the third rib; internally, it extended to the sterno-clavicular joint of the opposite side, and externally, it seemed close upon the acromion process. The skin over the tumour generally was of a light-red tint, except at one spot (on the level of the clavicle, and about two inches to the right of the sternum), where it was of a dark purplish colour; and, at this point, the wall of the tumour felt decidedly thinner than at any other part. There was no œdema of the neck or face, no hoarseness or other alteration of voice, no difficulty of swallowing, and but little affection of breathing. Vision was unimpaired in both eyes; the pupils were equal; there was no arcus senilis; no giddiness; no noises in the ear, nor, indeed any affection of hearing. No bruit was audible over the cardiac region, and the heart's sounds were normal both at apex and base, but they could be distinctly heard over the tumour in the situation of the right sterno-clavicular joint, though somewhat later, as it were, than over the heart itself. The right forearm was a little œdematous, and the pulse at the right wrist was slighty smaller than at the left. In regard of the condition of the pulse it must be mentioned that this was carefully examined by Dr. F. E. Anstie by means of the sphygmograph of M. Marey, and so little difference was found between the pulse-wave at each wrist as to lead to the

inference that the subclavian artery could not be the seat of the aneurysm.

The tumour continued gradually increasing in size, and soon began to show a disposition to extend outwards and backwards towards the shoulder; and on the 17th of November, it was noticed that the skin over the spot above alluded to exhibited a tendency to ulcerate, and about six weeks later (January 2nd) the tumour burst at this point, but the resulting hæmorrhage was promptly stopped by the nurse placing her finger upon the opening, until the arrival of the House-Surgeon, who completed its arrest by the application of a graduated compress soaked in solution of perchloride of iron, without any marked aggravation of the symptoms. The patient lived three days longer, when a further hæmorrhage took place from beneath the compress; and although the House-Surgeon again succeeded in preventing any great loss of blood, death occurred about twenty minutes subsequently, the tumour appearing to subside under the pressure applied, so as to lead to the inference, on the part of those around the bed, that its contents had found their way into the pleural cavity. Subsequently to the rupture of the tumour, a second patch of discoloration made its appearance on the point of the right shoulder (about the outer angle of the supra spinous fossa), and led to apprehensions lest another opening should occur in this situation.

Upon examining the body after death (sixty-six hours), all appearance of swelling in the upper part of the right side of the chest had disappeared, the hollow, indeed, above the collar-bone being deeper than usual. About two inches to the right of the top of the sternum was an aperture in the skin, as large as a sixpence (from which the blood had escaped during life), and through this opening could be seen the inner end of the fractured clavicle lying immediately behind and in contact with it. On laying open the aneursymal sac (after the removal of the platysma, sterno-mastoid, and other structures above the clavicle), though in great measure empty, it was found to be of considerable size, and capable of holding, when full, between two and three pints of blood. Forming a portion of the anterior wall of the sac towards its lower part was the right collar-bone (the fracture being situated about five inches from its outer end), the fractured surface projecting somewhat on its posterior aspect into the aneurysm so as to be bathed by the blood-current passing over it. The right sterno-clavicular joint had entirely disappeared, and with it the inner portion of the broken collar-

bone. One or two spicula of bone, adherent to and embedded in the inner surface of the sac immediately over this situation, were the only remaining vestiges of these structures. The posterior surface of the upper end of the sternum was likewise much eroded, the roughened bone forming a part of the anterior wall of the aneurysm, and being also freely washed by the blood-current. The sac itself appeared in great part to be formed by a condensation of the surrounding structures (muscle, fascia, and areolar tissue), but it in part also consisted of firm layers of fibrinous material (more or less decolorised), evidently deposited from the blood which had passed through it. Towards its outer and posterior aspect, the condensation of surrounding tissues became less and less marked, and this in such a manner that the sac-walls gradually lost themselves in the neighbouring muscular structures (principally deltoid and trapezius), thus leading to the inference that latterly, at all events, no definite aneurysmal sac had existed in this direction, much blood, in the form of bulky coagula of pretty recent formation, having forced its way among and between the muscular structures of these parts. The outer end of the clavicle, indeed, was almost surrounded by these coagula, and in great measure, if not entirely, separated from the acromion process of the scapula. At its inner extremity and lower part, nearly opposite the eroded posterior surface of the upper end of the sternum, the aneurysmal sac communicated with the aorta through an opening of about the size of a sixpence (but more triangular in form), which was situate in the anterior wall of the innominate artery, somewhat above the point at which this vessel springs from the aortic arch, the upper margin of the aperture being about seven-eighths of an inch below the angle formed by the division of the innominate into subclavian and common carotid; a little below this opening, the anterior wall of the aorta was firmly adherent to the posterior surface of the sternum. The right common carotid lay behind the aneurysm and to its left side, the subclavian artery was situate behind and beneath it; the right pneumogastric nerve also passed down behind it, but its recurrent branch wound backwards beneath the subclavian, and appeared to have escaped material compression. The left brachio-cephalic vein crossed the aortic arch in front, and had probably been subjected to considerable pressure; but the superior vena cava and the right phrenic nerve, descending along its right side, did not seem to be much compressed.

The right and left chambers of the heart, and also the aorta, were

quite empty. The heart itself was normal in point of size, but the aortic arch was enormously dilated;—to such an extent, indeed, that the distance between a line drawn along the base of the heart, and the upper part of the arch, measured upwards of four and a-half inches, while the transverse measurement of the aorta, in front, exceeded three inches and a-half. On the extreme left, in front, the aorta was dilated into an aneurysmal pouch capable of containing a small walnut, and the walls of the artery were in this situation unusually thin; on the right side, on the contrary, the dilatation of the aorta was general. The aorta internally was somewhat puckered, and its surface was studded with numerous patches (greater or less in size) of atheromatous deposit. The cardiac valves on both sides were sound, except that those of the aorta, and likewise the mitral, were more opaque than natural, and slightly thickened. The thoracic aorta, and also the common carotid and the subclavian arteries were unusually large, and this was particularly the case in respect of the last-named vessels on the right side.

The lungs were pale, and contained very little blood, but were not collapsed. The upper lobe of the right lung, at its extreme apex, was adherent at the spot which corresponded to the under surface of the aneurysmal sac, over a space of the size of a crown-piece; these adhesions were of recent formation, and were readily broken down. No communication had taken place between the aneurysmal tumour and the pleural cavity. The liver, spleen, and other abdominal viscera were all somewhat congested, but in other respects apparently healthy.

The probable mode in which the aneurysm originated is a question of much interest in this case. As the subject of the disease appears to have been quite healthy up to the time of the accident, it may, on the one hand, be urged that the violence of the fall and the direction of the force by which the clavicle was fractured may have driven the broken end of this bone into the innominate artery, and thus have, in the first instance, given rise to the formation of the aneurysm; but, on the other hand, a consideration of the following circumstances, viz., the close proximity of the fracture to the breast-bone, the eroded condition of the end of the clavicle as well as of the posterior surface of the sternum, the enormous dilatation of the aorta itself, and particularly the existence of a thin aneurysmal pouch on the left side of the aortic arch, together with the well-known liability of sailors to this affection, tends rather to the conclusion that either the two conditions, aneurysm and fracture, were merely coincident, or, what is more

probable, that the aneurysm existed prior to the accident, and that the peculiar position of the fracture was in some measure dependent upon previous weakening of the bone, in this situation, from pressure exercised upon it by the aneurysmal tumour within the chest. In regard of the comparatively little suffering which was here associated with the existence of a lesion at once so formidable and so fatal, it is only necessary to remark that so soon as the tumour escaped, as it were, from within the more rigid boundaries of the chest, and tended to increase upwards and outwards in the direction of the shoulder, the compression exerted upon important neighbouring structures, such as the common carotid, superior vena cava, the cervical ganglia, the windpipe, œsophagus, and the pneumogastric, phrenic, and recurrent laryngeal nerves, more especially the last, would become comparatively immaterial, and thus the distressing symptoms so constantly resulting from pressure upon these parts would of necessity be absent.

Dr. Conway Evans, *6th of February*, 1866.

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14. *Rupture of the heart.*

This heart was removed from the body of a man who was brought dead into Guy's Hospital on the 17th of January last. The history was short. He had been seized with faintness whilst sitting in an omnibus; he tried to get to the door of the vehicle, but in doing so he fell dead on its floor. The state, upon inspection, of the other organs of the the body I may pass over. The pericardium was full of blood, pretty firmly coagulated. This had issued from the heart by a rent situated in the usual place of spontaneous rupture—that is, the anterior face of the left ventricle, rather more than one inch from the apex: this rent was near the septum, at right angles to it, and about three-quarters of an inch long. So far, the case was only a usual one of rupture of the heart; it was only on viewing the injury from within the cavity of the left ventricle, that the conditions were seen which I thought would be worthy of the attention of the Society. The left ventricle being opened down its hinder wall, there was seen a tear across the septum near its lower part, transverse in its direction, and irregularly continuous with the fatal tear in the outer wall. Above this, for nearly two inches, and below it for half-an-inch, was a patch of inflammatory granulations on the endocardium. On section into the substance of the septum beneath

these granulations, a pale cheese-coloured fibrinous mass was found embedded in the septum; this mass exactly resembled firm decolorised blood-clot. The interest concerning this appearance seems to me to turn on the relation it bears to certain specimens of so-called fibrinous deposit which have been at intervals shown to the Society. These deposits are nearly always in the septum—a part where laceration might be expected less frequently to reach the surfaces. The opinion which has occurred to me is, that these so-called fibrinous deposits are really none other than clots formed in the substance of the wall of the ventricle by injury to the vessels, in spontaneous ruptures which fail to reach either surface of the wall. Another view is of course possible: it may be supposed that my case is an instance of rupture of the wall of the heart, due to weakening of the wall from the presence of "fibrinous deposit," this being supposed to be the cause rather than the effect of the rupture. I, however, think this view not to be the correct one. The state of the left coronary artery, which is seen to be in a very advanced stage of atheromatous and calcareous degeneration, is sufficient cause of the rupture of the ventricle, and it is unnecessary to assume a further cause of rupture. Whichever view is received by the Society, I do not doubt that the fibrinous matter here present in the walls of the heart is of the same nature as those masses in the heart which have been formerly shown to the Society as fibrinous deposit.

Dr. Moxon, *20th of February*, 1866.

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15. *Case of extensive fibrinous concretions in the heart.*

This was the heart of a Negro, æt. 35, who died four days after having been suddenly seized with symptoms similar to those attending the passing of a renal calculus; there were great pain, and collapse; an absence of pulse was also noticed, and continued until death, which was sudden.

On *post-mortem* examination, the most extensive fibrinous concretions were found to exist both on the right and left side of the heart—extending into both cavities on either side, and respectively involving the aorta and pulmonary artery; the concretions also were here and there strongly attached to the structure of the heart.

Mr. Henry Smith, *20th of February*, 1866.

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16. *Aneurysm of thoracic aorta.*

The subject of this aneurysm entered the "Dreadnought," about three months ago, under the care of Dr. Ward. The most obvious symptoms, at the time of admission, were great general anasarca, with œdema of the legs and scrotum. This was correctly ascribed to cirrhosis of the liver, and these symptoms abated under the usual plan of treatment. A very great inequality in the radial pulses at once led to the suspicion of heart-disease, and, on auscultation, a loud double bruit was discovered, most marked at the heart's base, and in the direction of the ascending aorta. No bruit was heard posteriorly, and pulmonary congestion, though indicated by the stethoscope, did not appear to be superlatively great. The click of the aortic valves was continually heard with great distinctness. No tumour appeared externally, and, though the murmur appeared to have a more musical character, during the last week of life, no material change in the sounds occurred. The patient died slowly, and, as it was subsequently found, from congestion of the lungs.

Post-mortem examination forty-eight hours after death.—The aneurysm now exhibited is, even in our own large number of specimens, of unusual size, commencing from the root of the aorta, and extending throughout the entire length of its ascending portion, involving the arteria innominata. Very little displacement of viscera had occurred, and there were no adhesions to the sternum or ribs. The left ventricle is much hypertrophied; the aortic valves are the seat of some atheromatous deposit, and the mitral valve is thickened.

The inner coat of the aorta is encrusted with atheroma. The liver is much contracted, and presents, in a marked degree, the nutmeg appearance peculiar to cirrhosis.

As with most of the many cases of this class admitted into the "Dreadnought," a distinct history of injury was obtained, which we are justified in naming as the direct exciting cause, as atheromatous deposit was, undoubtedly, in this case (as in probably all cases) the predisposing cause of the disease.

Mr. Harry Leach, *6th of March*, 1866.

17. *Disease of the mitral valve and apoplexy, in a girl, aged thirteen.*

This specimen of disease of the mitral valve was taken from the body of M. A. P., æt. 13, who died of apoplexy under my care in the Infirmary of St. Margaret's Workhouse.

She had been an inmate of the workhouse about a year, at the time of her death, having previously led a wretched life in the streets of the Metropolis.

She was reputed to have had "a fit" at some period of her life: and I was informed that she had been wont to suffer from shortness of breath, and was often seen to turn pale suddenly. She also complained frequently of sore-throat.

On the morning of the 20th of January, 1866, she got up in her usual health, and subsequently, after running upstairs, fell headlong into an empty bath. She laughed at her mischance, but still appeared to be confused, and had a somewhat wild expression of countenance. About twenty minutes later she was found sitting in a chair in a state of semi-consciousness. She was able, however, to walk, with assistance, to her bed on the same floor.

There was slight paralysis of the right side. She vomited frequently, could not speak, but understood what was said to her, and could swallow well. The pupils were normal; the respiration loud, little hurried; the pulse was extremely irregular, though not at all accelerated. The face was flushed; the skin perspired freely; and there was a frequent hacking cough. She endeavoured to put out her tongue, when requested to do so, but the jaws were almost closed spasmodically, and she could not do so. An injection being given, the bowels acted well, and she passed water in bed. The sickness ceased in the afternoon, and did not return. She took beef-tea and milk freely.

There was no natural change in the symptoms during the day; nor, indeed, on the following day.

The irregularity of the heart's action continued, and, upon auscultation, I discovered a double bruit, apparently pericardial, but the respiration was so loud, with moist râles, that I could not be certain upon this point.

She still took food, and though the stupor continued unchanged, there was no difficulty in rousing her, and making her understand when spoken to. She moved her legs and drew them up in the bed, but the right arm was almost entirely useless. Without any noticeable altera-

tion in the symptoms, she died at mid-night—forty hours after the first attack.

Post-mortem examination made thirty-six hours after death.

The blood was everywhere fluid, and the lungs, kidneys, and spleen were intensely congested. The lining membrane of the laryngeal surface of the epiglottis was rough to the touch, and pimply in appearance. There was a large effusion of blood, principally fluid, in the left lateral ventricle, and the brain-substance around it was much broken down and diffluent. Lastly, the mitral valve presented the morbid appearance here seen,—nodular thickening at its free edge, with deposit of calcareous matter in its substance. One mass, of the same nature, hung into the left ventricle, presenting every appearance of a broken chorda tendinea, encrusted and altered in structure.

Remarks.—Although the short time at my command for making this examination did not enable me to verify the opinion, I think it is probable, that a similar mass to the one just described may have passed into and plugged the middle cerebral artery, and that the vessel may have given way, on the cardiac side of the obstruction, under the sudden excitement of the circulation caused by the poor girl running upstairs.

Dr. T. Orme Dudfield, *6th of March*, 1866.

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18. *Rupture of popliteal artery.*

The patient, æt. 25, was admitted into St. George's Hospital, with the history, that, on the 21st of December of last year, he was engaged in raising a heavy truck by means of a crow-bar, when the bar slipped and struck him a violent blow on the front of the right thigh. This was followed by a sudden and intense pain, in the back of the knee-joint, which lasted some minutes, and caused him to feel very faint. The pain then passed off, and he resumed his work, that of a navigator. He continued at work for a week in spite of pain and some slight swelling of the limb; and on the 27th of December he walked several miles, from Edgeware to Barnet. Whilst walking, the pain in the knee became very severe, and considerable swelling of the limb came on; so much so, in fact, that he was unable to get home again, and was obliged to be conveyed there. From this time he was confined to his bed, and was seen by a medical man, who states that the limb was then much swollen, but without discoloration, and that there was

pulsation in the tibial artery. He was ordered bran-poultices. The swelling continued to increase till the middle of January, after which it remained stationary. A day or two before admission into the Hospital, however, a soft fluctuating spot was felt in the ham; it was punctured and discharged some broken-down blood-clots. When admitted, on the 1st of February, he was in a state of extreme collapse, and delirious; so much so, indeed, that no history could be obtained from him. The pulse was 144, very weak, and he was covered with a cold clammy sweat. The left leg was enormously swollen to a short distance above the knee. The skin was quite cold, tense, and white; there was not the slightest appearance of discoloration about it, except on the heel, where there was a large bleb, filled with bloody serum. No pulsation could be felt in the tibial arteries; but this might have been due to the swelling. There was forcible pulsation of the femoral in the groin. In the popliteal space was a small opening, from which fluid blood was oozing. An incision was made into the leg, and it was found to be one mass of coagulated blood. The thigh was therefore amputated by the double flap method. On making an incision into the leg, after the operation, the whole of the back of it was found to be occupied by a mass of coagulated blood, weighing over two pounds; this was diffused throughout the tissues, and was in no way encysted or circumscribed. In the centre, the clot was broken down and commencing to suppurate. The blood was found to come from a rupture in the popliteal artery, opposite the knee-joint; the rupture was not quite complete, the two ends being still united by a small portion of the anterior wall of the vessel. The coats around the rupture were much thickened, and there was no plugging of the orifice. The popliteal vein was uninjured, but the walls of this vein, as well as those of the anterior and posterior tibial, were much thickened, and they contained clots adherent to the lining membrane. The tissues on the front of the leg were infiltrated with a gelatinous serum. The knee-joint was uninjured. After the operation the patient rallied for a time; symptoms of pyæmia then set in, and he died from this disease on the nineteenth day after the operation. The interest, in connection with this case, is the fact, that the lesion should have existed such a length of time—six weeks—without any appearance of gangrene; this, no doubt, was due to the fact, as has been shown by Mr. Poland, in the fourth volume of "Guy's Hospital Reports," that the rupture was not quite complete. In a case which occurred under the care of Mr. Cæsar Hawkins, in 1859, the rupture, though not complete, was followed by gangrene on

the fifth day. Another point of interest, in connection with the case, is to determine the exact time at which the rupture took place. It seems most probable, that at the time of the accident, the coats of the vessel were only injured, perhaps the internal and middle ruptured, and that the complete laceration and effusion of blood was the result of walking, with an injured vessel, so many miles on the 27th of December.

Mr. John T. Pick *for* Mr. Brodhurst, *6th of March*, 1866.

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19. *Pyæmic deposits in the valves of the heart.*

Case I.—A sawyer, of middle age and intemperate habits, was admitted into St. George's Hospital, under the care of Dr. Fuller, on the 30th of December, 1865. He was in a state of great prostration, and there was difficulty in learning the early progress of the case. It appeared that he had had cough and loss of appetite for some months. Three weeks before admission, he had had an attack of shivering, and another a fortnight later.

When admitted, he had an aspect of great depression; he was restless, and slightly delirious; the skin was dusky; there was partial ptosis on both sides. The globe of the right eye was swollen and prominent, some light-coloured effusion being visible in the interior. The breath was fœtid. The knees and wrists were somewhat swollen, and were the seat of pain. There was no history of any accident or injury, notwithstanding which, the case was regarded as one of pyæmia. The delirium increased, but there was no vomiting, convulsion, or pain, in the head. He sank when he had been three days in the Hospital.

Post-mortem examination.—The left leg was shortened in consequence of hip-disease of very old standing. There was no trace of any external injury. The right eye was prominent, and was found to contain a quantity of pus at the posterior part of the vitreous body.

There was a layer of pus in the arachnoid cavity, at the base of the brain, with some soft lymph; the lateral ventricles contained a little sero-purulent matter, and points of extravasated blood occurred on their lining membrane. The central parts of the brain were softened.

The right lung was in a state of complete hepatization; there was a little old cretaceous tubercle at the apex, underneath a cicatrix.

There was an old white patch on the anterior surface of the heart; The aortic valves were cribriform, but were free from thickening. There was a quantity of translucent, elastic fibrine, in the right side,

clinging to the tricuspid valve; on its removal, the flaps were found to be greatly thickened by a white purulent-looking swelling, which lay midway between the edge of the valve, which was natural, and its attachment. The centre was very soft, and had broken down into a ragged hole, which passed through the valve. There were no vegetations in connection with the diseased valve; the fibrine, which surrounded it, was evidently of the kind which collects during the process of death. The heart was natural in other particulars.

The blood was generally fluid.

The joints were examined in several situations; none contained pus. In the knee- and ankle-joints was a little serous fluid.

Case II.—A married woman, 37 years of age, was admitted into St. George's Hospital, under the care of Dr. Barclay, on the 31st of January, 1866.

Four months previously she had been delivered of a child, without medical attendance. This was said to have been followed by febrile symptoms, ulceration of the throat, and an abscess in the right thigh. She had pains resembling rheumatism, and rigors, which recurred with the regularity of quotidian ague.

When admitted, she was pale and cachectic. She complained of inability to walk, partly in consequence of debility, and partly from swelling and tenderness, with enlargement of the veins, about the lower part of the right leg. There was no vaginal discharge. She did not improve under treatment. Diarrhœa came on. She became more prostrate and emaciated. The right ankle, and also the right eye, became inflamed. The urine was found to be highly albuminous and smoky, while at the time of her admission it was natural. The rigors continued; she became delirious, and sank on the 14th of March.

Post-mortem examination.—The uterus was of large size; the cavity was open; the lining membrane injected, and covered with pus. The right iliac and femoral veins were discoloured, contracted, surrounded by adhesions, and contained a small quantity of purulent matter.

The left ventricle of the heart was contracted. The mitral valve had two circumscribed swellings upon its anterior flap. These were of an opaque white colour. They occupied the central part of the flap, leaving the edge thin and translucent, as in health. The central part of the larger tumefaction, which was very soft, was broken through, so as to form a small ragged perforation. Many loose fibrinous vegetations had collected upon the valve in the neighbourhood of the diseased portion.

Under the microscope, the interior of the thickened patch displayed many globules, like those of pus; but not having the compound nucleus. The other valves were perfectly natural.

Hard fibrinous blocks, such as are associated with disease of the heart, were found in the kidneys, and in the spleen. In the spleen was an abscess, containing "laudable" pus. This was in a situation exactly similar to those occupied by the blocks, and it resembled them in shape. It had a broad and somewhat polygonal base, coinciding with the surface of the organ. It was at first presumed that it had resulted from the softening of one of the blocks; but the microscope showed it to consist of typical pus, with characteristic globules, and compound nuclei. There were a few spots of red softening on the surface of the brain, such as often result from obstruction by fibrine of the minute vessels. The large arteries were all unobstructed.

In the first case, although it was not possible to trace the disease to an external cause, there could be no doubt that it was of the nature of pyæmia. Collections of pus were found in the arachnoid cavity, and in the vitreous body of the eye. One lung was in a state of advanced hepatization. Serous fluid had collected, and given rise to pain in several joints. The condition of the tricuspid valve was one which I had never before seen; the deposit in it was evidently of a purulent nature. At first it was conjectured that the suppuration in the valve was the source of the infection; but the occurrence of the second case shortly afterwards threw light upon the association.

With regard to the female, who is the subject of the second case, there could be no doubt, either as to the nature of the disease, or its cause. The mischief had originated in the uterus, after labour; the iliac veins, on the right side, still contained purulent matter at the time of death, though the disease had been comparatively chronic in its course. An abscess was found in the spleen, which, although resembling softened fibrine in many respects, appeared to be a genuine pyæmic deposit. In the present state of our knowledge we must confess to some uncertainty as to whether pus may be produced by the breaking down of fibrinous coagulum. But in this case the pus was so "laudable" and free from granular matter, that it must almost certainly have commenced primarily as an abscess.

The change in the mitral valve was evidently recent, much more recent than the affection of the tricuspid in the preceding case. It had come on comparatively late in the course of the disease, and it was not possible to regard it otherwise than as a pyæmic deposition. The

diseased valves had, in this case, become covered with loose vegetations, which had been carried into the circulation, and given rise to fibrinous blocks in the kidney and spleen. Hence the association, in the same organ, of a secondary abscess with fibrinous blocks.

Dr. Dickinson, 20*th of March*, 1866.

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20. *Varicose aneurysmal dilatation of two small branches of the pulmonary artery. Rupture of one of them. Death by sudden hæmoptysis, in a case of phthisis.*

The patient, from whom this specimen was taken, had been a stableman, and was thirty years of age. He was admitted into the Brompton Hospital, under the care of Dr. Quain. He was of a dark complexion, and had been a strong and well-built man; but when admitted into the Hospital he was considerably emaciated.

His family were free from phthisis, and he had been ill for nine months only. He had not expectorated blood prior to his admission, but he had had a troublesome cough for five months.

He died suddenly of hæmoptysis; though the quantity of blood expectorated amounted to two or three ounces only.

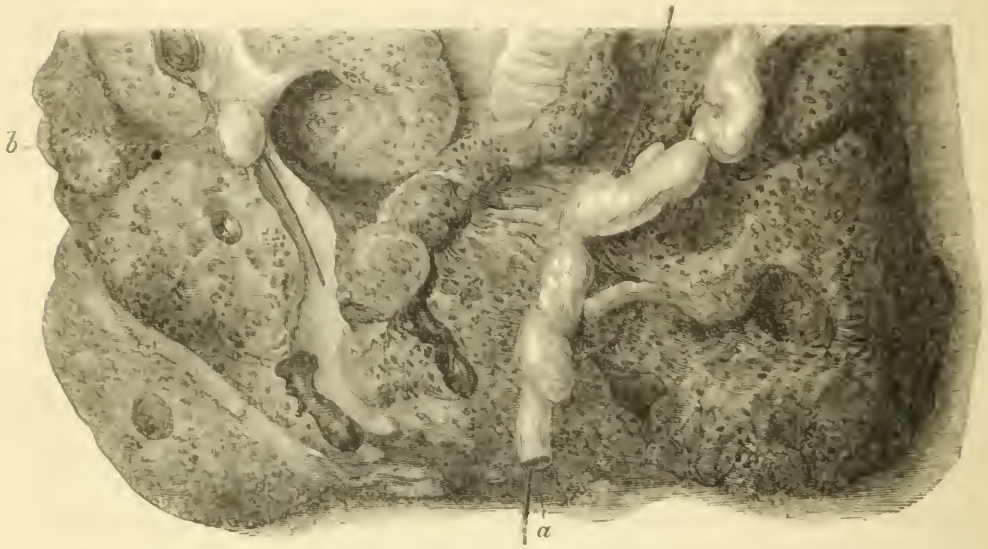
Post-mortem appearances.—The left lung was adherent to the chest-wall, except near the base; the pleura was greatly thickened.

On cutting into the lung, a large cavity was found, traversed by bands of greater or less size, and occupying nearly the whole of the upper lobe. The part of the lung below this was riddled with cavities of smaller size, yellow tubercular masses being scattered through the intervening tissue. The large cavity was full of dark blood mixed with débris. Near the lower part of this cavity, and close to that portion of lung which overlies the pericardium, was found a varicose dilatation of a vessel running nearly horizontally in the lateral diameter of the chest; the vessel itself was about the size of a crow-quill, and was dilated to the size of a goose-quill. This dilatation measured nearly two inches in length, and occupied the whole of the exposed surface of the vessel. The dilatation or aneurysm was supported on its posterior aspect by the wall of the cavity, the anterior surface being free. There were two or three constrictions in the course of the swelling, the most marked being about three-quarters of an inch from its inner extremity, the artery being scarcely, if at all, dilated at that point (see Fig. 5).

After washing away the loose coagula, a small, partially decolorised clot was observed to remain. This was adherent to the vessel at its

lower and posterior aspect, where it closed an opening in the wall of the vessel, which evidently had been the source of the fatal hæmorrhage.

Woodcut 5.



Section of lung shewing at *a* a large dilatation on a branch of the pulmonary artery. A bristle passes along the vessel and through the rupture in its wall. At *b* there is a smaller dilatation on another branch of the artery.

About one inch, or one inch and a-half lower down, was found another dilatation on a smaller branch. This was much like a small cowrie shell, both in shape and size. Its walls were thick and were not ruptured.

Dr. Quain *for* Mr. John Williams, 20*th of March*, 1866.

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21. *Aneurysm of the ascending aorta, rupturing into the left auricle.*

For this specimen, and the report of the case, I am indebted to my friend and pupil, Mr. G. T. Hawkins.

George P., æt. 45, in early life a seaman, latterly a gold-digger in Australia, not a drunkard, although accustomed to take spirits freely, returned to England from Australia, in September, 1865, and soon after his arrival, was attacked with cough and "cold."

After he had recovered from this, he was noticed occasionally to wake up in the night, complaining of pain or spasm at the chest. He had also been in the habit, for some time past, of vomiting in the

morning, especially when he had eaten anything in the least indigestible. His health was in other respects, perfect.

On the 19th of February, he ate a hearty breakfast and started from the house at ten A.M., feeling well, with the exception of a little fulness at the stomach, which he ascribed to wind.

At half-past three P.M., he returned home, having been at the docks to make inquiries about a vessel.

He was still complaining of the fulness at the stomach and did not feel inclined for dinner; he, however, ate a small quantity.

After dinner, he lay down on the sofa, and seemed unwilling to be disturbed. His manner led his wife to suppose that something had occurred to annoy or disappoint him in the morning. At six P.M., he took a light tea.

His wife now left the house, and returning at seven P.M., found her husband kneeling over a pail retching and vomiting violently, and complaining of severe pain at the pit of the stomach. She gave him a teacupful of brandy-and-water, which was immediately rejected. After a short time, some more was given and retained; the man now felt better, and, with the wife's assistance, was able to walk up and down the room a few times; but he soon became very faint, turning pale and breaking out into a cold sweat.

He then lay down on his bed and was very restless, tossing his arms about and turning from side to side; he seemed most easy when lying on his face.

At ten P.M., he died, retaining his consciousness to the last, although too exhausted to speak.

Medical assistance was not called in until two minutes before death.

Post-mortem examination forty hours after death.

Body was fat and muscular, the face and lips presented a life-like colour which had come on since death. Surface of chest had a mottled-red appearance.

Thorax.—Much fat in anterior mediastinum.

Pericardium containing about a teacupful of slightly red fluid. The pleura also contained some fluid. No signs of inflammation.

Heart slightly hypertrophied; left auricle filled with fluid blood.

Ascending aorta much dilated and diseased, presenting an opening just above the the valves, about the size of a shilling, into an aneurysm. The aneurysm formed a tumour about the size of a large walnut, projecting into the left auricle, and, its bursting by a large rent into that

cavity, had been the cause of death. Fibrine had coagulated to a considerable thickness on its interior.

Lungs, liver, and kidneys healthy, but congested. Stomach also healthy, containing about a teacupful of fluid; apparently broth and brandy.

Head not examined.

Remarks.—Much interest attaches to this case, from the great rarity of aneurysms bursting into the left auricle. I cannot find that such a specimen has been exhibited before at this Society, and the only one mentioned by Thurnham, in the list of the cases of varicose aneurysm, he had collected, is one in the possession of the Museum of the Faculty of Medicine at Paris, in which case, however, the aneurysm pressed chiefly into the septum auriculorum and pericardium.

The manner of the patient's death appears worthy of comment. The condition of his circulating system, after the bursting of the aneurysm, was equivalent to that of extreme mitral and aortic regurgitation. A back stream existed into the left auricle, and through it, very directly into the left ventricle; nevertheless, his symptoms were not of the congestive kind usual in these valvular imperfections, but were rather those which belong to hæmorrhage—faintness, cold sweat, great restlessness, pallor, exhaustion; no orthopnœa, or lividity.

The diversion of a large part of the aortic stream, and its return back upon the lungs, would cause a double series of effects: Firstly, the diminution of supply to the brain and other vital organs: Secondly, the accumulation of blood in the lungs, the right heart, and great veins. In the gradual progress of an ordinary case of valvular imperfection, the second series of results are those most evident; the first are apt to be overlooked, though many of the symptoms of a common case of cardiac disease may be traced to the first results in arterial and capillary anæmia, rather than to the second, in venous congestion.

In the case here related, the difficulty of blood supply appears to have been the immediate cause of death. The flow of blood from the aorta into the left auricle was virtually as much a hæmorrhage as if the flow had been into the stomach, the difference being in this, that the portion of blood which escaped from the artery, returned into it again, to be again thrown into the vessel. This process would be repeated until the accumulation of blood behind the aperture became so great, that the distended left heart no longer could send into the aorta blood in such quantity, that what succeeded in passing the hole in its

wall should be adequate to the maintenance of life in the vital organs of the system. The man accordingly died by hæmorrhage, and with its ordinary symptoms. Dr. Moxon, *3rd of April*, 1866.

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22. *Malformation of the heart.*

The specimen was obtained from the body of a boy who died at the age of three years and a-half. Cyanosis had existed from birth. The skin, lips, and mucous membranes were blue. The surface was generally cold; the pulse, feeble and intermittent. The child was torpid, drowsy, and dull. The head was large and the pupils dilated. While at breakfast one morning he suddenly became insensible, and, after remaining so for about twenty minutes, quietly expired.

Post-mortem examination.—When the body was opened, it was found that the positions of the heart and aorta were reversed laterally. The heart inclined to the right side, instead of to the left. The arch of the aorta curved from left to right, instead of the contrary way. The innominate artery accordingly rose from the left side of the arch, and gave off the left carotid and subclavian; while the right carotid and subclavian arose from the arch itself.

The ventricles were of very unequal size, and were separated by a septum which was so incomplete that it could scarcely be said to exist. The cavity on the left side was very capacious and had thick walls, while the other was of insignificant size and had much thinner walls. The large ventricle on the left side, which represented the right ventricle, gave rise both to the aorta and the pulmonary artery. The aorta passed out directly; the pulmonary artery made its exit through the intervention of a small recess which opened into the vessel on one side, and into the large cavity on the other.

The large ventricle opened into an auricle, through a large auriculo-ventricular valve, and communicated freely with the smaller ventricle through the imperfect septum.

The smaller ventricle beside this communication, opened into an auricle of slightly less size than the auricle attached to the larger ventricle. It was not possible to make out from the preparation what veins went into each auricle, but it appeared as if the smaller auricle received the blood from the lungs, which at once passed through the small ventricle into the large one, and then partly into the aorta and partly into the pulmonary artery. Similarly, the blood from the venæ cavæ passed into the

larger auricle, thence through the wide valvular opening into the larger ventricle, and from it was discharged, some into the aorta and some into the pulmonary artery.

Dr. Peacock, who kindly examined this specimen, gave it as his opinion that the smaller recess from which the pulmonary artery arises, represents the infundibular portion of the right ventricle, while the larger ventricular cavity, from which the aorta arises, stands for the sinus of the right ventricle; the two portions of this ventricle being thus separated from each other.

This case occurred in the practice of Dr. Pullin of Sidmouth, who kindly furnished the particulars observed during life. The specimen is preserved in St. George's Hospital Museum.

Dr. Dickinson, *3rd of April*, 1866.

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23. *Rupture of the arch of the aorta.*

A man, aged 59, was brought into St. George's Hospital dead on the the 23rd of March, 1866. He was a builder. It appeared that shortly before, he had been in his usual health. While standing upon a scaffolding, six feet from the ground, he was heard to call out, and he fell against a post, looking very white. He fell to the ground, carrying with him a workman, who attempted to stay his fall, and he never gave any sign of life afterwards. There was difficulty in obtaining reliable particulars of his history. It was sworn at an inquest, which was held, that he had always had good health. The man, however, had been insured against accidental death, and the friends were interested in making out that his decease was due solely to the accident.

Post-mortem examination.—The body was fat. All the organs were examined, but nothing was found to require notice but the state of the heart and aorta. The pericardium was thickened, and had a good deal of fat about its exterior. The cavity was full of clotted blood, on removing which, the inner aspect was seen to be coated with a rough (but not thick) layer of recent lymph, which could be easily scraped off. The heart was hypertrophied. The blood, which the pericardium contained, was found to have proceeded from a small hole in the ascending part of the arch.

The whole of the aorta was extensively altered by atheroma; the part near the heart more so than the rest. In many places, the inner coat was raised up into cushions by deposit underneath. An irregular

fissure extended for about three inches along the inner surface of the ascending part of the arch. This was longitudinal, irregular in shape, pointed at the ends, and about an inch across at its widest part. The edges of the fissure were formed by the torn inner coats, while the floor consisted of fibrous tissue belonging to the outer coat of the vessel. The edges of the rent were fixed to the surface behind them, and in some parts were rounded, as if the rupture had been of some standing. There was a small hole near the centre of the fissure, which passed into the pericardium, and had allowed the escape of blood. The arch was much dilated.

Throughout the course of the aorta, were small patches where the inner coat had become partially or wholly detached, so as to expose the deeper parts of the vessel. It appeared likely that some such process had given rise to the fissure described. Parts of the diseased inner coat had scaled off, probably in a very gradual manner. The remaining layers of the wall had stretched or torn according to their degree of distensibility, and the fissure, which has been described, was formed, possibly without any urgent symptoms. As the deeper parts became involved, pericarditis was set up in the part of the membrane covering the aorta, and very soon after the occurrence of the pericarditis—for the lymph was evidently of recent date—the laceration was completed by the small opening into the pericardium.

Dr. Dickinson, *3rd of April*, 1866.

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24. *Case of valvular disease of the heart terminating fatally by meningitis.*

History.—Anna F., aged 18, was admitted into the London Fever Hospital on June 30th, 1865, with no history, except that she had been ill a week. After admission, she appeared to be quite unconscious, and was constantly moaning loudly. She struggled and struck her arms about when in any way interfered with. Pulse 140, feeble; tongue moist; abdomen not distended. No eruption on skin, which was hot. Rhonchus and sibilus over both lungs, with slight dulness and tubular breathing at left base. Pupils equal. No paralysis. Carbonate of ammonia and stimulants were administered, &c. A blister was applied to the nape, but the patient rapidly sank, and died the same evening.

Post-mortem examination.—The sinuses and the vessels of the pia

mater were very full of blood. The base and both sides of the brain were coated with a thin layer of soft lymph beneath the arachnoid—most abundant in the neighbourhood of the medulla oblongata, but not extending up into the Sylvian fissures. No trace of tubercle could be discovered, and the lymph had nothing of a granular character. The lower half of lower lobe of left lung was in a state of red hepatization, and isolated lobules of pneumonia were scattered through the upper lobe. In the right lung there were also several small patches of lobular pneumonia, and also considerable engorgement of back part of lower lobe, and lower part of upper lobe. There was no tubercle in either lung. The left side of the heart was much hypertrophied; the right cavities were full of firm adherent clots. The edges of the aortic valves were thickened, rigid, and incompetent, but were free from loose fibrinous deposits. The mitral valves were also thickened, rigid, and narrow, scarcely admitting the point of the little finger. At the base of the posterior flap there was a calcareous mass about the size of a horse-bean, with disentegrating dirty-looking fibinous clots adherent to its surface. The kidneys and other abdominal organs were healthy.

Remarks.—The pathology of the meningitis is the point of interest in this case. Except as the result of injury or of disease of the bones, or of tubercular deposit, meningitis is an extremely rare malady. Here, neither the bones were at fault, nor could any trace of tubercle be discovered in the meninges, or even in the lungs. I am inclined to regard the case as similar to one that I recorded in the last volume of the *Transactions* (Vol. xvi., p. 121), where death occurred from meningitis, in connection with an ulcerated cavity on the inner surface of the heart. In the case now related there was no ulcerated cavity, but the vegetations adhering to the calcareous deposit at the mitral valve, were soft and almost puriform in character. In neither of the two cases, was anything observed like embolism, in the strict sense of the term; but in both, the meningitis was probably due to contamination of the blood with decomposing fibrinous matter. This view of the matter is corroborated by the co-existence, in one of the cases, of lobular pneumonia. Dr. Murchison, *3rd of April*, 1866.

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25. *Hernia-like protrusion on the mitral valve.*

This preparation was taken from the body of a woman, æt. 40, who

died in the Middlesex Hospital of cardiac dropsy, the result of repeated attacks of rheumatic fever.

The heart was considerably hypertrophied, and the left ventricle dilated. The aortic and mitral valves were much thickened, and studded with fibrinous vegetations, and the former allowed the regurgitation of water from the aorta. Projecting into the cavity of the ventricle from the middle of the anterior segment of the mitral valve, was a tumour the size of a large pea; its base was surrounded by a fibrous ring, and it appeared as if there was here a hole in the valve, through which the tumour had been pushed. On looking at the posterior aspect of the valve, it was seen that the tumour was formed by a hernia-like protrusion of the endocardium covering this surface through a circular opening in the fibrous structure of the valve, which was most thickened. The tumour could be, as it were, reduced by pushing it back through the circular opening and inverting it, and it then formed a baggy protuberance on the auricular aspect of the valve.

It seems doubtful whether there was here a congenital defect in the valve, or whether the fibrous substance had given way from the effects of inflammation. Dr. W. Cayley, *3rd of April*, 1866.

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26. *Case of lodgement of a needle in right bronchus, with perforation of heart. Death.*

A child, æt. 11 months, was brought to the Hospital for Sick Children, on account of vomiting after food and diarrhœa. The mother said that a month ago the child seemed out of health, was a little feverish, and cried frequently, especially when moved, and that there was slight redness with swelling on two or three of the larger joints, but that these symptoms soon passed off. The child was not weaned, and presented distinct evidences of rickets, though only to a slight degree. There was some cough, but on a physical examination of the chest nothing abnormal was discoverable; the cardiac sounds were healthy. The gastric disturbance was evidently due to the administration of improper food. Altogether, the child appeared to ail very little. The mother was instructed how to feed it, and dismissed.

Three days after this, the mother states that the child suddenly had a "fit" and struggled violently, being scarcely able to "get its breath;" the face and fingers became blue, and in three hours it died.

Post-mortem examination forty-eight hours after death.—A small abscess was found in the cellular tissue over the sternum. On opening the thorax, the two surfaces of the pericardium were found to be closely and universally adherent. On endeavouring to cut through the right bronchus, the knife was arrested by what was found to be a needle. This needle was two inches and three-eighths long; the point of it was found projecting, for about half-an-inch, into the right auricle through its posterior wall; there was a little pus round the needle where it perforated the auricle.

The mucous membrane of the right bronchus was red and thickened, but there was no ulceration. There was some thickening of the edges of the mitral valve, and the walls of both ventricles were rather thicker than natural.

All the other organs were perfectly healthy. No abscesses could be found in the liver or lungs.

The mother recognised the needle at once as one that she had lost a month previously, when, she says, that she left the child alone in the room where she had been darning, and that on her return the needle was missing.

Dr. Buchanan *for* Mr. Thomas H. Green, 17*th of April*, 1866.

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27. *Aneurysm of the sinuses of Valsalva, with rupture of one of the valves.*

H. S., æt. 47, a sugar-baker, was admitted into the German Hospital, under Dr. Sutro's care, on March 1st, with albuminuria, anasarca and old heart-disease. According to the report of Dr. Baeumler, the resident physician, there was no history of rheumatism, but the patient had been inclined to drink rather freely, and had twice suffered from lead-poisoning (slight paralysis of the extensors of the hand), about five years before death. A loud systolic murmur was heard all over the præcordial region, loudest near the apex, with an increased second pulmonary sound. Cardiac dulness enlarged to the left, and also slight dulness along the left margin of the sternum up to the clavicle. Marked pulsation of the jugular veins, two pulsations being observable for every single pulsation of the radial artery. On March 7th, whilst walking in the ward, he was suddenly seized with giddiness and vomiting, immediately after which he fell down and remained for a short time insensible. From this period the collapse increased, great dyspnœa came on, and hæmoptysis supervened on the 11th. The distress of the patient prevented the examination of the heart after the 10th, when

the same symptoms were found as before. The pulse remained regular and slow (76 to 84) up to a few hours before death, on the morning of the 12th of March.

Post-mortem examination.—Eccentric hypertrophy of both ventricles and auricles (seventeen ounces); advanced fatty degeneration (spotted) of the ventricular walls and septum; thickening of the endocardium; insufficiency of the mitral valves from contraction; considerable aneurysmal dilatation of the three sinuses of Valsalva, and of the semi-lunar valves themselves; recent rupture in the middle of one of the valves, permitting the entrance of a crow-quill from the sinus into the cavity of the left ventricle, apparently caused by the ulceration of an atheromatous patch, the whole of the aorta and valves being highly atheromatous. Extensive pneumonia of right lung. Atrophy of the cortical substance of the kidneys, with dilatation of the pelvis and calices. Nutmeg-liver, with increased development of connective tissue. Enlargement of spleen.

The aneurysmal dilatation of the sinuses of Valsalva acted, it may be surmised, as an impediment, producing a species of stenosis, which in most cases probably cannot be distinguished by its symptoms from other kinds of stenosis. The occurrence of the rupture of one of the aneurysmatic valves may give rise, however, to a bruit synchronous with, and obscuring, the second sound, which, in very rare instances, may lead to a correct diagnosis, especially if there are other symptoms of a sudden shock, pointing to the occurrence of the rupture, like the giddiness, vomiting and transitory loss of consciousness, described in the history of the present case (March 7th). In the present instance this bruit was not noticed, but it is to be taken into consideration, that the dyspnœa and the collapse of the patient were so great, that an accurate examination of the heart's-sounds was almost impossible.

In another case, observed by the reporter, in which disease of the aortic valves was combined with aneurysmal dilatation of two of the sinuses and valves, there had been always an aortic bruit with the *first* sound only; eight days before death, the patient was suddenly attacked with giddiness and greatly increased dyspnœa, and from that time up to death, a loud, rough bruit was heard, instead of the second sound over the middle of the sternum. The *post-mortem* examination exhibited a large fresh slit in one of the aneurysmatic semi-lunar valves, extending from the base almost to the free margin.

Dr. Hermann Weber, 17*th of April*, 1866.

28. *Mode of causation of arterial atheroma: illustrated by a case of atheromatous disease of the pulmonary artery, in association with extreme contraction (congenital) of the left auriculo-ventricular orifice and hypertrophy of the right ventricle.*

Atheromatous disease of the pulmonary artery is of rare occurrence. Among pathologists generally, a singular unanimity of opinion appears to obtain upon this point. Andral, in alluding to this condition, remarks: "The greater number of morbid secretions, which we have enumerated, have been found in the pulmonary artery, but much more rarely than in the aorta and its branches. . . . . Ossification of the pulmonary artery is a rare occurrence, but not an impossibility, as Bichat pronounced it to be."* Referring to the same subject, the late Mr. Herbert Mayo observes: "It is remarkable that, although so frequent in the aorta, it is extremely rare that the pulmonary artery or its valves exhibit this morbid appearance. Disease is seldom met with in the coats of the pulmonary artery, or in any part of the system situated on the right side of the heart."† In enumerating the order of liability to atheroma of the various arteries of the body, Lobstein assigns to the pulmonary artery the position of greatest freedom from this condition;‡ and Rokitansky, in connection with this point, remarks: "This disease is of very rare occurrence in the pulmonary artery and its branches; but if it be present here, it is always likewise considerably developed in the aortic system."§ It has, however, been shown by Dittrich that atheromatous disease of the *smaller* branches of the pulmonary artery is not so uncommon as is generally believed,‖ and this condition he assigns as the immediate cause of the pulmonary apoplexies which are so commonly met with in association with disease of the mitral orifice, bronchitis, and emphysema.

The following case is one of great pathological interest and importance, not merely as an example of a rare morbid condition, such as those with which the shelves of our museums are too frequently filled, but also as throwing light, in a pathological point of view, upon the mode of causation of a very common disease—atheroma, and this

* Andral's Pathological Anatomy. Translated by Dr. West. Vol. ii., p. 397.

† Outlines of Human Pathology. By Herbert Mayo, F.R.S., p. 450.

‡ Traité d' Anat. Path. Vol. ii. p. 558.

§ Rokitansky's Pathological Anatomy, Sydenham Society's Edition. Vol. iv., p. 270.

‖ Ueber den Laenneeschen Lungen-infarktus. Erlangen, 1850.

under circumstances so peculiar as to render the inferences fairly deducible from its consideration, comparatively speaking, free from error.

A printer's boy, æt. 14, was admitted in March, 1866, into King's College Hospital, under the care of Professor George Johnson, and died there three weeks afterwards. It appeared that for three or four years previously he had suffered a good deal from cough and shortness of breath, especially during the winter months, but this was attributed to successive colds. About a fortnight before admission his breathing got much worse, and coincidently with this his urine became high-coloured and scanty, and a few days subsequently his face and legs began to swell: he was able, however, to continue at his work until two days before he came into the Hospital. He never had rheumatic fever, nor, indeed, any serious illness. His father and several of his father's relatives died in early life; his mother was living, but was a weakly woman. He appeared, on admission, a fairly-nourished lad, with flushed cheeks and an anxious expression of countenance, breathing rapidly and with so much difficulty that he was obliged to be propped up in bed. The sternum was unusually prominent, and the chest-expansion generally somewhat diminished; the lungs were everywhere resonant on percussion, and the breathing was vesicular, but obscured by loud rhonchus and sibilus all over the chest. A well-marked bruit, best heard at the apex, accompanied the heart's systole; pulse 80, very small, but regular. The legs and scrotum were œdematous, pitting deeply on pressure, and there appeared to be fluid also in the peritoneal cavity; but the walls of the abdomen were so tender that he could scarcely bear to be touched, and the size and position of the liver, therefore, could not be determined. The urine was high-coloured and loaded with lithates, but it did not contain any albumen. The case was regarded by all who saw the patient as one of dropsy, associated with mitral disease, bronchitis, and emphysema. After admission, the patient gradually got worse, the breathing became more and more distressed, he suffered occasionally from vomiting, and he slept badly and only for short intervals, at times wandering a little, until his death, which took place three weeks after he came under observation. On one occasion, the urine, when examined, became slightly cloudy on the application of heat and nitric acid.

Upon examining the body (sixty-one hours) after death, the following were the appearances observed:—It was that of a dark-haired, tolerably well-nourished boy, swollen and puffy about the face and neck, and with considerable œdema of the lower extremities, and of

the penis and prepuce, but not of the scrotum. On opening the chest both pleural cavities were found to contain a large quantity of yellowish serum, but there were no pleuritic adhesions. A fringe of small, villi-like processes of lymphous exudation, floating in the fluid and apparently of some standing, skirted the lower margin of the base of the right lung in front. The right lung weighed seventeen ounces; it was somewhat emphysematous along its anterior border, and its upper lobe was crepitant throughout; the middle and lower lobes were much congested, condensed, and indurated, the latter being here and there marbled by circumscribed, damson-cheese-like patches of pulmonary apoplexy. The lung-tissue generally was unusually tough and difficult to cut, but it retained in every part, even when divided into little pieces, sufficient air to prevent its sinking on being thrown into water.* The left lung weighed ten ounces and a-half; it presented precisely similar appearances to those of the other lung, with the exception of its lower lobe being much less condensed and congested, and of its also being quite free from all indications of pulmonary apoplexy.

The pericardium contained about two ounces of clear straw-coloured fluid; there were no pericardial adhesions, but several large, irregularly shaped, white spots existed on the surface of the auricular appendages of both auricles, besides two or three smaller ones on each ventricle. Some of these were in the form of long, irregular stripes, which could be partially separated by the nail without apparent injury to the subjacent membrane. The heart was large, weighing (when empty) thirteen ounces; and its main increase, both in size and weight, appeared to be due to hypertrophy and dilatation of the right ventricle and of both auricles, the left ventricle being scarcely, if at all, thicker or larger than normal. The right chambers, and likewise the left auricle, were much dilated, so as to be each of them at least twice as capacious as the left ventricle. The pulmonary and tricuspid valves were healthy, the right auriculo-ventricular orifice being much enlarged. The pulmonary artery was greatly dilated, being fully three inches in circumference immediately above its valves, and its coats, as well as those of its subdivisions, were much hypertrophied, so as to be

* In regard of the state of the lungs, throughout which, in all probability, the atheromatous condition pervaded the smaller branches of the pulmonary artery, it should be stated that this point unfortunately was not ascertained in consequence of a stupid blunder on the part of the *post-mortem* porter, who removed both them and the body from the Hospital during my short temporary absence from the theatre.

decidedly thicker than those of the aorta, for which, indeed, this vessel, from its size and thickness, might, by a cursory observer, at first sight, be mistaken. Internally, the pulmonary artery and its subdivisions, were studded with numerous yellowish patches of atheroma. The aorta was of normal thickness, but of small capacity; close above the semilunar valves the circumference of this vessel was rather less than two inches, and immediately below the giving off of the left subclavian its diameter scarcely exceeded three-eights of an inch, being less than that of either of the subdivisions of the pulmonary artery. There were no traces of atheroma in the aorta or other large systemic arteries; the ductus arteriosus was closed. Each of the three aortic valves was shortened and thickened, so as somewhat to resemble an enlarged corpus Arantii, the delicate free margin between them being almost entirely absent; the alteration of structure in each of these valves was symmetrical, and apparently of congenital origin. The mitral orifice was contracted into a small oval slit, which measured one-third of an inch in length, and scarcely an eighth of an inch in width in its widest part. This contraction had not been brought about by any deposit within or upon these valves or neighbouring structures, from which, indeed, they were entirely free; but it appeared to have resulted from the congenital fusing together, as it were, of them and of the chordæ tendineæ, in such a manner as to form a kind of funnel, the lower part of which (*i.e.*, the ventricular aspect) presented the slit-like aperture, of which the dimensions have just been given. All the cardiac cavities, and also both superior and inferior venæ cavæ, contained large black, but no fibrinous, coagula. The liver, spleen, and kidneys were somewhat congested, but apparently healthy; the brain, also, was healthy.

That decided atheroma of the trunk and chief subdivisions of the pulmonary artery, without a similar affection of the aorta and large systemic arteries, is a condition very rarely met with in the *post-mortem* theatre, few, who have an extensive practical acquaintance with this subject, will deny. In the past *Transactions* of this Society, three cases only are detailed, in which atheromatous disease of the pulmonary artery is stated to have been observed. In one of these,* which was exhibited by Dr. Quain for Mr. W. E. Stewart, and in which the patient died of apoplexy in association with chronic renal disease, it is stated that "The heart, which was of very solid consistence, was much hypertrophied in its entire substance: the cavities were filled with

* Transactions of the Pathological Society of London. Vol. vi. p. 385.

large fibrinous clots. The valves were healthy, but atheroma was deposited near the semilunar valves in the pulmonary artery, but not elsewhere." In the second case, which was shown by Dr. Peacock,* and in which the ductus arteriosus was pervious, "The heart weighed twenty and a quarter ounces avoird. There was considerable hypertrophy with dilatation of the ventricles, and especially of the right. The pulmonic valves were somewhat thickened, and the artery was rather large, and gave origin to the ductus arteriosus (which was pervious) in the usual situation. . . . . The aorta was throughout its upper portion unusually small. . . . . The lungs were congested and sparingly crepitant, and the branches of the pulmonary artery were atheromatous." The condition of the aorta and systemic arteries, in respect of atheroma, is not mentioned in this case. In the third case, which was exhibited by Dr. Bristowe,† and which is one of much interest, "The heart was hypertrophied, weighing seventeen ounces and a-half; and the hypertrophy was almost, if not entirely, confined to the right side. . . . . The aortic and mitral valves were perfectly healthy. . . . The branches of the pulmonary artery were universally and remarkably thickened, atheromatous, and dilated. The thickening was general, and proportionately quite as great in the smaller as in the larger branches,—so great in fact, as to maintain them in a patent condition, and (in conjunction with the dilatation) to render them far more prominent objects on the sectional surface than the bronchial tubes themselves. . . . . The aorta and its larger branches presented very little atheromatous deposit, and were in point of fact in a fairly healthy condition."

In considering these cases, in connection with the one which has just been narrated, it can scarcely fail to be observed that, while many points of difference occur in each of them, there is one feature which is common to them all, viz., the coexistence of atheroma of the pulmonary artery with great and undue muscular development of the right side of the heart; and the question which at once arises is, whether these two conditions stand in any degree towards each other in the relation of cause to effect, or whether they are merely circumstances of accidental coincidence.

In attempting to determine this question, it will be perceived that there are points of complication in each of the three cases recorded in the *Transactions* of this Society, which, to some extent, may be held to

* Transactions of the Pathological Society of London. Vol. xiii. p. 38.

† *Ibid.* Vol. xi. p. 80.

embarrass, and perhaps indeed to throw doubt upon, any conclusions which may be deduced from their examination; but, in the case now narrated, the surrounding circumstances are so completely limited that almost all source of fallacy is removed. In this case, contraction of the left auriculo-ventricular orifice, evidently of congenital origin, offered an obstruction to the entrance of the blood into the left ventricle, and consequently impeded the passage of the circulating fluid through the lungs. As a result, it can scarcely be doubted, of this impediment, the right cardiac cavities became first dilated and then hypertrophied; and this increased power, which in early life was probably sufficient to reduce the mitral obstruction to a minimum, or almost a minimum, became incapable, under unfavourable circumstances, of effecting this result as the lad grew up and the requirements of his physical nutrition proportionately augmented. But, if the immediate influence of the hypertrophy of the right ventricle be carefully regarded, it is evident that before the increased muscular force of the heart could possibly have affected the blood-current through the contracted mitral orifice, it must have expended no trifling amount of its extra propelling power upon the pulmonary artery and its ramifications, which, by reason of the undue stretching to which they would thus be subjected, must either have become dilated, or, their walls undergoing hypertrophy, dilated and thickened; and, as a further result of this stretching and thickening of the arterial coats, certain changes of nutrition gradually occurred in them, in effect of which the peculiar morbid condition, denominated "atheroma," became developed. It is almost impossible to suppose that in this case the atheromatous disease could, in point of time, have preceded the hypertrophy of the right ventricle, for the sequence of events here clearly was first mitral contraction, then hypertrophy of the right ventricle, and lastly, arterial dilatation, thickening, and atheroma. The minute structure of atheromatous disease has been fully described by Virchow,* who does not, however, offer any satisfactory explanation of its mode of formation; though by Andral and Lobstein it is stated to be due to "a peculiar taint in the fluids, resembling the arthritic," while by Hasse † it is considered "at all events, not as a local disease, but as referrible to some constitutional cause."

* Cellular Pathology; by Rudolph Virchow. Translated by Dr. Chance, p. 360.

† Diseases of the Organs of Circulation and Respiration. By Charles Ewald Hasse, M.D., Sydenham Society's Translation, p. 82.

The pathological explanation of the mode of causation of arterial atheroma now enunciated, although entirely opposed to the views which are commonly accepted on this subject, was put forward upwards of fifteen years ago by Dittrich,* and was also about five years subsequently prominently brought under the notice of the profession in this country by the late Dr. Kirkes of St. Bartholomew's Hospital,† who examined this question with great ability in connection with the relation borne by it to apoplexy, hypertrophy of the left ventricle, and chronic renal disease. The arguments of both these observers, however, appear to have attracted far less attention than from their importance they deserve, and the case now recorded confirms in an almost conclusive manner the accuracy of the opinions entertained on this subject by these pathologists. It must not for a moment be imagined that certain changes of nutrition, associated with advancing life, and perhaps with a free indulgence in alcoholic drinks, may not lead to the morbid condition known as atheroma, nor indeed is it asserted that a diseased or rigid state of arterial wall may not, by reacting backwards upon the heart, induce hypertrophy of its muscular structure; but an unbiassed consideration of the principal facts disclosed by this case, which is purely and essentially one of congenital mitral obstruction, hypertrophied right heart, and atheroma of the pulmonary artery, occurring in a boy only fourteen years of age, tends strongly to the conclusion that atheromatous disease, both of the pulmonic and the systemic arteries, may be solely and entirely dependent on such undue stretching (and its consequences) of the arterial walls as result from cardiac hypertrophy. Dr. Conway Evans, 17*th of April*, 1866.

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29. *Aneurysm of the abdominal aorta which proved fatal by bursting into the peritoneal cavity.*

B. L., æt. 38, a stable-man, was admitted into St. George's Hospital, the 14th of September, 1864, with a pulsating tumour in the epigastric and left hypochondriac regions. He was a healthy, strong-looking man, with rather florid face. His history was as follows:— He had for many years been subject to attacks of vomiting at times, and, in April, 1864, he suffered much from pain and vomiting

* Op. citat.

† On Apoplexy in Relation to Chronic Renal Disease. By W. Senhouse Kirkes, M.D. *Medical Times and Gazette*, vol. xxxii. p. 517.

after taking food, and had much tenderness over the epigastric region; the pulse was good and appetite excellent. For the above symptoms Dr. Wollaston, of Shrivenham, prescribed bismuth and small doses of opium, from which much relief was obtained. Still there was great debility and the countenance had a marked appearance of depression. In the course of two weeks he was again not so well, and then a firm, deep-seated substance could be detected below the region of the stomach (between it and the navel), and he was suffering much, though not constant, pain, at the pit of the stomach. There was constipation and great restlessness, so that he seldom remained above a few hours in bed, and would walk about the room the remainder of the night. Pressure over the tumour gave no pain; in fact, the only position in which he felt at all easy was that of lying on his face, pressing his bowels against some firm object or other. At this early period Dr. Wollaston could distinctly hear a gurgling sound on pressing on the tumour, and perceived a sensation of crackling as of touching new leather; but no pulsation could be distinguished. Soon after this, however, pulsation was evident, and one month before he came to St. George's Hospital, on placing the hand over the abdomen something was perceived, as Dr. Wollaston said, "vibrating towards the left side of the epigastrium." The patient's own statement to Dr. Ogle was, that six months previously to his admission he began to complain of a "jogging" pain in the left side of the back, increased on lying down; and about six weeks before admission he began to have pain and throbbing in the epigastrium, keeping him awake at night. At that time the pain in the back was relieved. For about a week before admission he had complained of a sensation of "pins and needles" in the left hand and leg, but this had passed off. He had often complained of sickness after food, especially vegetables, and had latterly somewhat lost flesh. He said that for some time when he turned on his side he felt as if something were hanging in the abdomen. He had never had any hæmorrhage from any part of the body, nor jaundice, nor anasarca.

On admission, the tumour in the left hypochondriac and epigastric regions, before spoken of, appeared to be of about the size of a small orange, and it had a strong pulsation, especially at a part between the umbilicus and the left lower costal cartilages. A finger could be passed between the edges of these cartilages and the tumour, and towards the umbilicus the tumour was fairly definable. At each pulsation it could be seen to extend laterally as well as from behind forwards. On placing the hand over the tumour a thrill could be felt,

and over the whole region in which it was situated a loud bruit was audible. This bruit could be traced down both iliac arteries into the femorals; and in the left femoral artery the pulsation was much stronger than in the right one. The heart's sounds were healthy; but the cardiac dulness was more extended than natural. The pulse was a little feeble, but otherwise natural. No tenderness of the spine existed on pressure; but a gnawing pain about the first and second lumbar vertebræ on the right side was complained of. The bruit of the tumour was very audible in the back. The urine was free from albumen. Dr. Ogle put the patient on ordinary meat diet, free from vegetables, and gave him the citrate of quinine and iron.

The pulsation proved to be much worse whenever he strained or exerted himself. He had one or two bad nights, and a severe attack of pain in the abdomen, chest, and back, which was increased on inspiration; the tongue became furred, but the pulse remained regular. The pulsating swelling much increased, but the patient wished to go home. It was determined that the case was not one in which any mechanical treatment was advisable. After his return home Dr. Wollaston found that in two or three days the tumour much increased, and it continued to do so until it attained apparently the size of "an infant's head." During this time he suffered excruciating agony in the affected part, and he had to be kept constantly under the influence of morphia. One day, after his sufferings had been more than usually severe, vomiting came on, and he died on getting into bed, having been quite sensible to the last.

Dr. Wollaston made a *post-mortem* examination, at which Dr. Ogle was present, and it was found that the whole length of the aorta was more or less atheromatous, and that the aneurysm which communicated with the middle part of the abdominal aorta, by an aperture of about the size of a shilling, had burst by a small opening into the peritoneal cavity and the structures behind the peritoneum. The heart and its valves were healthy, as also the lungs and the various abdominal organs.*

Remarks.—This case appeared interesting by reason firstly of the unusual pain, amounting to agony, which attended the increase, and preceded the bursting, of the aneurysm; and secondly, from the doubt which, during the man's stay in the Hospital, existed as to the exact character of the pulsating tumour. To the minds of some it appeared

* The specimen is described in St. George's Hospital Pathological Catalogue (see Appendix to Series VI., No. 255).

by no means clear that it was an aneurysm, as they thought it more likely to prove a morbid growth, to which an impulse was communicated from below. Dr. Ogle was inclined, from its superficial nature and position while the patient was under his care, to look upon it as an aneurysm of one of the branches of the abdominal aorta. Others again considered it to be, as it proved, an aneurysm of the aorta itself.

Dr. JOHN W. OGLE, *1st of May*, 1866.

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30. *Cases of aneurysm of the thoracic aorta affecting the bronchial tubes.*

CASE I.—*Aneurysm of the descending part of the arch of the thoracic aorta, which greatly compressed, and eventually burst into, the left bronchus.*

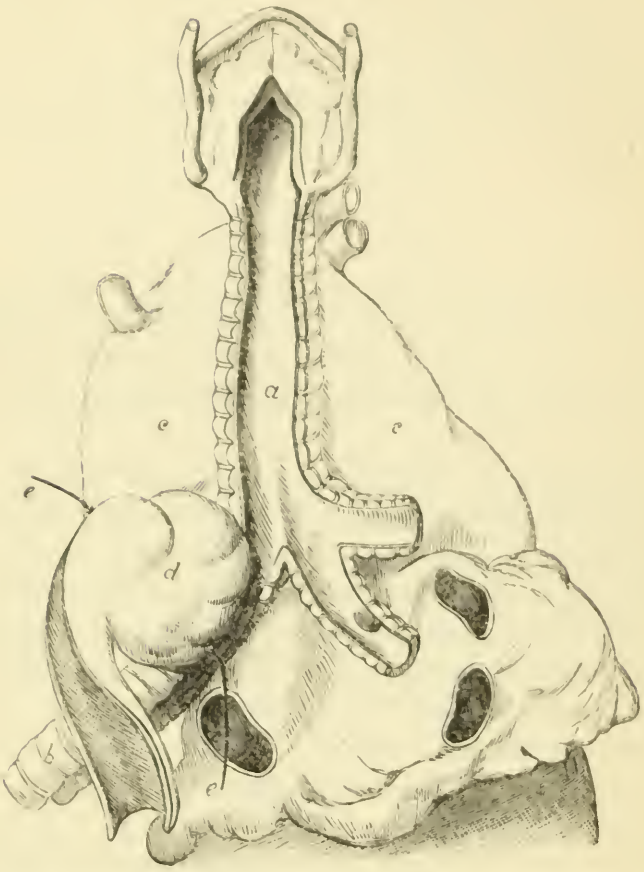
The patient, John T., æt. 40, was admitted into St. George's Hospital, stating that he had only been ill six weeks with pain in the chest, cough, and dyspnœa. On one occasion during that time he had expectorated some blood. When admitted, there was increased pulsation in the epigastrium, and the heart's sounds were muffled; but no valvular bruit existed. Symptoms of inflammation of the left lung became pronounced, and in eleven or twelve days the patient died, after bringing up a large amount of blood.

On *post-mortem* examination, the left pleural sac was found to contain a large quantity of fluid, and the left lung was, in one place, in a state of suppuration. The heart was in a natural condition, both as to its walls and valves; but the entire arch of the aorta, and especially its middle part, was exceedingly dilated, as was also the commencement of the innominate artery, which, with the arch of the aorta (see Fig. 6, *c*,) formed a conical cavity. Communicating with the posterior part of the tube of the aorta, at a point just above the junction of the descending part of the arch with the thoracic aorta, was an aneurysm of the size of a small hen's egg (Fig. 6, *d*,), compressing and greatly diminishing the calibre of the *left* bronchus (Fig. 6, *b*), into which it had opened by a small orifice, represented by a bent probe (*e*) in the illustration, which was passed through it from the aorta and the aneurysmal sac. The aperture of communication between the aneurysm and the arch of the aorta was somewhat larger than a six-penny-piece, and rather oval in shape, with tolerably rounded edges.*

* See Hospital Pathological Catalogue, Series VI., No. 102.

In connection with this case, Dr. Ogle related the following illus-

Woodcut 6.



Shews the posterior aspect of the trachea (*a*), the heart, and the diseased vessels.

trative cases of compression of the bronchi, all of which, excepting No. II., had occurred at St. George's Hospital.

Case II.—*Aneurysm of the concavity of the arch of the aorta pressing upon the pulmonary artery, the left recurrent nerve, the left side of the trachea and the left bronchus, into which it had burst.—Temporary relief from the operation of laryngotomy.*

The patient, a man, æt. 40, was admitted into the Radcliffe Infirmary, at Oxford, in the beginning of October, 1864,* having suffered for several months with pain in the chest and slight cough.

* For the details of this case Dr. Ogle had to thank Dr. Tuckwell, of Oxford.

His voice was whispering and there was very *feeble breathing* in the left lung. No cardiac murmur existed. After being in the Infirmary a few days he was seized with a violent attack of dyspnœa as if from spasm of the glottis, in which he became livid and bathed in perspiration. Similar attacks succeeded each other at short intervals, and in one of them laryngotomy was performed by the house-surgeon, which produced immediate relief. From this time there was no repetition of these attacks; but on the 8th of November he suddenly brought up about ten ounces of blood, and died.

On *post-mortem* examination the lungs were found to be emphysematous, so as completely to overlap the heart, which was natural as to its walls, valves, &c. Springing from the concavity of the arch of the aorta was an aneurysm of about the size of an orange, lying in contact with, and pressing upon, the pulmonary artery: the walls of this aneurysm were found to be very thick, and its interior surface very rough and "rocky," after the removal of contained coagula. The left subclavian artery took origin directly above or over the aneurysm. The sac of the aneurysm greatly encroached upon the left side of the trachea, just at the point of bifurcation, and upon the *left* bronchus, the calibre of which was almost obliterated by it. In two or three places the boundary wall between the bronchus and the aneurysm was so thin that it was only prevented from giving way by the coagula lining the sac; and at one spot perforation had actually occurred, the opening of communication being very small. The left recurrent laryngeal nerve must have been severely crushed between the aneurysm and the trachea, at the part where it winds round under the arch of the aorta, to run up the trachea to the larynx.*

Case III.—*Aneurysm of the descending part of the arch of the aorta, pressing upon the left bronchus and recurrent laryngeal nerve.*

The patient, John S., æt. 53, admitted into St. George's Hospital, May 12th, 1841, died June 28th, under Dr. Seymour's care. The only particulars I can find is, that he made a strange noise when walking, loudest during expiration, and that there was no pulse at the left wrist.†

On *post-mortem* examination the heart was found healthy, but the thoracic aorta, half-an-inch below the origin of the left subclavian artery,

* The preparation shewing the aneurysm *in sitû* exists in the Pathological Museum at Oxford as specimen 590.

† See Hospital Post-Mortem Book, 1841, fol. 119.

presented an aneurysm of the size of a large pear, the orifice of communication being the size of half-a-crown. The whole of the aorta was greatly dilated, and very atheromatous. The aneurysm pressed on the *left* bronchus and on the recurrent laryngeal nerve, which was, however, not altered in any appreciable degree, the left lung was gorged with serum and adherent to the walls of the chest and to the aneurysm, and the lining membrane of its bronchi was very inflamed. The bodies of the second, third, and fourth dorsal vertebræ were partially absorbed by pressure of the aneurysm, the intra-vertebral discs being unaffected. The left subclavian vein contained old-standing fibrine, and had, with the artery, been pressed upwards by the aneurysm.

CASE IV.—*Healed aneurysm of the ascending part of the thoracic aorta compressing and producing absorption of the left bronchus.*

Lydia C., æt. 60, having been ill two months, was admitted on the 1st of May, 1844, with severe pain in the left side of the chest, dyspnœa and cough, and expectoration of frothy mucus. Feverishness and palpitation of the heart existed. She improved, but again relapsed; the breathing became more impeded, and she sank and died on the 25th of June.

Post-mortem examination.—Abdomen.—The kidneys were granular and atrophied, and the abdominal aorta was very highly atheromatous.

Thorax.—The right lung was emphysematous and gorged with blood posteriorly. The left pleural cavity was quite obliterated by adhesions, and the lung was so compressed that any part sank in water. The lining membrane of the bronchial tubes, which were much flattened, was of a dark livid colour, and covered with a puriform fluid. The heart and pericardium, which were healthy, being adherent to the left lung, were drawn over to the left side. The root of the aorta was dilated and covered with patches of soft atheromatous deposit. An aneurysmal pouch, the size of a large egg, the cavity of which was quite *blocked up by firm fibrinous coagula*, was found connected with the first portion of the thoracic aorta corresponding to the *left* bronchus. The internal and middle coats of the aneurysm were destroyed. The left bronchus was flattened and its tissues corresponding to the aneurysm partially absorbed. The bodies of the third and fourth dorsal vertebræ were partly destroyed by the pressure of the aneurysm.*

* See Hospital Post-mortem Book, 1844, fol. 144.

CASE V.—*Aneurysm of the descending part of the arch of the aorta which burst into the left bronchus.*

Abraham K., æt. 56, was admitted on the 12th of November, 1845, with cough and dyspnœa, having had paroxysmal attacks of cough, and pain for which at one time he was bled, cupped, and blistered with relief. The cough had continued, though the pain abated, until two weeks previously, when all his symptoms greatly increased. He was bled, and had tartar emetic freely given. When admitted, the voice was husky; but no dysphagia and no pain on pressure about the larynx existed. There was no orthopnœa; but much dyspnœa and lividity of face, and "wheezing" and blood-stained expectoration. The cough and dyspnœa were increased by lying on the left side; the air could be heard entering both lungs completely, but at the anterior parts, and especially on the left side, it appeared as if it only reached the larger tubes, and was accompanied by loud sonorous râles. Chest everywhere resonant on percussion. Air entered the left lung throughout much less completely than the right one. Heart's action loud, and impulse rather increased; no cardiac murmur existed. Pulse equal at both wrists. There was, and had been, no dropsy; and the urine, which was scanty, contained no albumen. He became worse in spite of treatment. Suffocation came on, followed by convulsions, and he died on the 15th of November.

Post-mortem examination.—Thorax.—The pericardium was healthy. All the cavities of the heart were much dilated, but their walls not thickened. Excepting slight thickening of the aortic valves, all the valves were healthy. The aorta, from its commencement to within an inch of its passage through the diaphragm, was excessively dilated and studded with particles of atheroma and calcareous deposits, in many places projecting into the vessel, and the ascending part presented a large pouch. An aneurysm, of the dimensions of an orange, and with an orifice of the size of a crown-piece, was found in the descending part of the arch of the aorta, about one inch from the orifice of the subclavian artery. The aneurysm and the pouch were filled with solid fibrinous coagula of some standing. At the lower part of the aneurysmal pouch was a small and very irregular opening, partially covered by coagula, and leading into the *left* bronchus. The lower part of the trachea and the bronchi were much compressed by the dilated aorta and aneurysm, and their mucous membrane was very livid and congested. The lower parts of the lungs were congested and some of the dorsal vertebræ were eroded by the aneurysm.*

* See Post-mortem Book, 1845, fol. 263.

CASE VI.—*Aneurysm of the ascending part of the arch of the aorta which greatly pressed upon the left bronchus.*

Richard D., æt. 36, was admitted the 20th of May, 1846. For seven months he had suffered from pain in the left shoulder and left side of the chest, coldness in the left arm, and occasional tingling of the fingers of the left hand. The pain increased, and faintness, pain in the head, and palpitation came on upon exertion. Dimness of sight of the left eye and singing in the left ear subsequently supervened, and then expectoration of blood-stained fluid. These symptoms existed on admission. There was dulness on percussion and total want of breathing in the upper part of the chest on the left side, chiefly marked posteriorly. No cardiac enlarged dulness or bruit existed. No murmur was heard anywhere along the aorta on either the posterior or anterior surface of the chest, &c.; no pulsation in the left arm or in the left carotid; but the left arm was decidedly colder than the right, and was at times œdematous. Slight constriction on swallowing existed, and blood-stained sputum was expectorated. No permanent benefit was obtained. Ice applied gave relief to the pain in the shoulder, but only, as it appeared, to divert it to the other shoulder and the stomach. He suddenly threw himself up in bed, became livid and died, on the 1st of July.

Post-mortem examination.—The heart was flaccid, and its cavities dilated; its valves were healthy. An aneurysmal sac, of the size of an egg, and subdivided into two pouches, came from the left side of the aorta immediately above the aortic valves. The greater part of the aneurysm projected into the pericardium, and into this cavity it had burst, the pericardial sac being full of recently effused, soft, coagulated blood. One part of the pouch, however, had grown towards the left side where it *pressed upon and much* flattened the left bronchus. Another aneurysm of the arch of the aorta compressed the left common carotid artery and the subclavian, the latter being at its commencement completely obstructed by coagula. Both lungs were natural.

Abdomen and cranium.—Organs presented nothing remarkable.*

CASE VII.—*Aneurysm of the ascending part of the arch of the aorta which burst into the right bronchus.*

George R., æt. 30, was admitted on the 14th of April, 1847. He had been ill seven years with cough, at first attended by hæmoptysis. Palpitation came on and lasted a few months, five or six years before admis-

* See Post-mortem Book, 1846, fol. 148.

sion, but had not returned until about a year before when it was attended by pain in the heart. Dyspnœa, cough, and palpitation on exercise, and loss of blood were complained of. The sounds of the heart to the left of the sternum were both quite clear, but over and to the right of the sternum, at about the level of the fourth sterno-costal articulation, was a faint murmur with the first, and a loud murmur with the second sound of the heart. The diastolic murmur could be heard to the top of the sternum. A distant thrill could be felt in the subclavians and carotids. The pulse was quick, large, and rather jerky, but equal on both sides. Dulness on percussion existed to the right of the sternum from about a level with the fourth rib, extending up to the clavicle and about two inches to the right of the sternum. He recovered so far as to be an out-patient, but got worse and became very hoarse, with much palpitation, cough and spitting; a pulsation also made its appearance attended by much pain immediately to the right of the sternum, between the third and fourth ribs. A loud blowing murmur over the pulsation, close to the sixth rib, and almost up to the clavicle, existed. The heart's sounds were natural; but on exertion a diastolic bruit was audible from the level of the third sterno-costal cartilage on the left side, up to the clavicle. Evidence, also, of consolidation of the left lung at the upper part came on. He sweated much at night, and at times had dysphagia, but not always. He gradually sank and died on the 11th of July.

Post-mortem examination.—The liver was granular and spleen large.

Thorax.—Much serum and some adhesions existed on the left side of the chest, and the entire left lung was infiltrated by tubercular matter, the lower parts being in a state of red hepatization. Much sero-purulent fluid was found in the right pleural sac, and tubercles and vomicæ in the right lung. All the cavities of the heart were very dilated, and the left ventricle hypertrophied. The aorta was dilated above the aortic valves, chiefly on the right and posterior parts, with an aneurysmal cavity of the size of a small orange. From the upper and right side of this dilatation another cavity had been formed by the giving way of the aorta; the walls of this small cavity were formed by the surrounding tissues. The latter aneurysm had burst into the *right* bronchus.*

CASE VIII.—*Aneurysm of the descending thoracic aorta, below the arch, which burst into the left bronchial tube.*

Elizabeth C., æt. 30, was admitted on the 21st of February, 1862.

* See Post-Mortem Book, 1847, fol. 152.

She had been attending some time as an out-patient, but had not obtained much relief from treatment. Whilst talking she coughed once or twice, and the blood suddenly burst from the nose and mouth in large quantities, and she died in less than two minutes.

Post-mortem examination.—*Abdomen.*—The various organs were healthy, excepting ulceration of the os uteri and a few small cysts in the ovaries.

Thorax.—Both pleural cavities, but especially the left, contained firmish, not recent, adhesions. The right lung did not crepitate quite so well as it ought, and on section it presented a singular spotted appearance, owing to the bronchial ramifications, containing blood. There was also bloody fluid within the large bronchi. The left lung was in a similar state excepting that in places, especially at the margins, portions entirely occupied by consolidated blood existed; and in one place a part was occupied by what appeared to be old-standing deposit of a faint yellowish-red colour, being either the remains of old pneumonia or of some previous extravasation of blood. The heart was healthy, but the pericardium contained yellow fluid and a mass of jelly-like fibrine. There was slight atheromatous deposit in the ascending aorta and the arch. The thoracic aorta, about one inch below the arch, was thickened as to its walls, and rigid, owing to atheromatous deposit, and it presented a small aneurysmal pouch, of the size of a walnut, completely filled with old decolorized fibrine. This aneurysm pressed on the *left* bronchus, the coats of which had ulcerated through, and at the part pressed upon had given way, so that its own coagula alone prevented it emptying itself into the bronchus.*

Remarks.—Of the eight cases of which I have just given the details, it will be seen that in all but three cases the aneurysm actually burst into the bronchi. Of these three, in one the wall of the bronchus was much absorbed, whilst in the other two, pressure only upon the bronchus (not absorption) is mentioned as having occurred.

Of the eight cases, in all instances save the 7th, the aneurysm burst into or affected the *left* bronchus. This result contrasts with the statement of Dr. Stokes, in his work on the *Diseases of the Heart and Aorta*, 1854, wherein (p. 557), he observes that in his opinion "the right bronchus is more often the seat of compression by aneurysm than the

* See Post-mortem Book, 1852, fol. 46.

left."* Of these eight cases, also it is to be noticed, that, excepting the eighth, which was of the thoracic aorta below the arch, all were aneurysms of the arch of the aorta, three being aneurysms of the ascending part of the arch, three of the descending part, and one of the convexity of the arch. The aneurysm affecting the right bronchus (No. 7), was one of the ascending portion of the arch.

On examining the *Transactions* of this Society, it appears that five cases only have been recorded in which ulceration of an aneurysm into a bronchus took place, and in each case it was into the *left* bronchus. In the first case described by Mr. Avery, Vol. I., p. 231, the patient, a man, æt. 42, had enjoyed good health up to the day of his death, when he brought up much blood, became insensible, and died suddenly. An aneurysm of the arch had opened into the *left* bronchus. The second case was mentioned incidentally by Dr. Peacock, in Vol. II., p. 201, as illustrative of the mode of origin of aneurysms of the aorta; in it, a small aneurysm of the upper part of the descending aorta burst into the *left* bronchus; no history is given. In the third, described by Dr. Fuller in Vol. III., p. 312, a small aneurysm of the descending thoracic aorta (one inch below the arch) opened into the *left* bronchus. In the fourth, described by Mr. Spencer Wells (Vol. X., p. 71), an aneurysm of the descending portion of the arch, one inch and three-quarters from the orifice of the subclavian, opened into the *left* bronchus: the patient having had dyspeptic symptoms and a peculiarly thrilling pulse, died quite suddenly after throwing up much blood. In the fifth case, described in Vol. XIV., p. 138, by Dr. Farquharson for Mr. Wyatt, an aneurysm of the descending part of the aorta, of the size of a large walnut, had pressed on the pulmonary artery, and opened into the *left* bronchus. The patient died suddenly having brought up much blood. In this case entire consolidation of the left lung also existed, which was supposed to have accounted for the slight evidence of any aneurysmal disease. In not one of the above cases, cited from our *Transactions*, did the symptoms or the results of stethoscopic examination lead to the suspicion that intra-thoracic aneurysm of any kind existed. Dr. John W. Ogle, *1st of May*, 1866.

* Of one hundred and forty-one cases of aneurysm of the ascending aorta, above the sinuses of Valsalva, collected by Dr. Sibson, the aneurysm made pressure upon the *right* bronchus in six, and burst into this bronchus in three; in one case only did it make pressure on the *left* bronchus. (*Aneurysms of the Aorta*, by F. Sibson, M.D., F.R.S., 1858.)—Ed.

31. *Aneurysm of the descending part of the arch of the aorta, which produced pressure on the left bronchus, causing collapse of the left lung, and which proved fatal by rupturing into the bronchus of left side.*

The man from whom the specimen was taken presented himself among the out-patients at the Queen's Hospital, at Birmingham, on the 24th of February. He stated that he was a striker by trade, æt. 28, and married; that he had been out of work for some time past, and had habitually indulged in alcohol. He knew of no particular cause for his present illness, which had come on during the past ten days, and annoyed him by pain in his left side below his heart, shortness of breath, slight cough, and inability to sleep on his right side. His appearance at once attracted attention by the anxious expression of his countenance, the bluish colour of his lips, and his somewhat hurried breathing.

On examination, there was found to be dulness over two-thirds of the left lung posteriorly, extending laterally to the cardiac region, so that externally all was dull below the third rib on the left side of the thorax.

On further examination, the dulness was found to be due to effusion. The respiratory sounds, however, were noticed to be rather fainter than usual even in the infra-clavicular region of the left side. On the right side the respiratory sounds were louder than normal. The heart's sounds were considered to be healthy. The man was advised strongly to enter the Hospital, and on the 26th he was admitted under my care.

Two days after his admission I saw him, and found that he had been ordered an expectorant mixture containing iodide of potassium, and a blister over the left side. The dulness had not diminished in extent; it had, if anything, increased, and the respiratory murmur was weaker in the infra-clavicular region, but on telling the patient to take a deep breath it could be heard much more distinctly. The percussion under the left clavicle, as all over the right lung, was good. On listening to the heart's sounds I was struck by something peculiar, which at first hearing seemed like a distant to-and-fro sound. On listening carefully, however, it appeared to resemble more a double murmur heard through the normal heart's sounds. It was less distinct in the erect than in the recumbent posture, and was most audible midway between the base and apex. The pulse-beats of the right and left radial arteries were found to be equal to the touch; but both seemed somewhat jerky. The *pupils were equal*, and the man's voice and cough betrayed no peculiarities. The

sphygmograph was applied to the right arm; but unfortunately the small spring of the instrument was broken in the application, and thus examination by this means prevented. As the patient seemed tired he was ordered to keep perfectly quiet in bed, and the further investigation of his case was deferred to my next visit. On my return to the ward two days afterwards, I learned that the man feeling better had got up to have his tea, and after being up some time he coughed, walked to his bed, blood in streams gushed from his mouth and nose, and he died.

When examined, the body was noticed to be ill-nourished; a chancre was found on the glans penis and a second one on the left side of the scrotum. The percussion of the left side the of chest was uniformly dull, and was particularly noticed to be so in the infra-clavicular region of the left side, which had been resonant during life. On opening the thorax a considerable quantity of clear serous fluid occupied the left pleura, and the lung, which was situated in the upper and anterior part of the cavity, was dark in colour and full of blood. There were no adhesions except a slight one at the left apex, and the pleura exhibited no traces of inflammation. The right lung was somewhat increased in bulk, but healthy.

The aorta shewed patches of atheroma, in various stages, and began to be dilated about half-an-inch below the origin of the left subclavian. About one inch and a-half below the origin of this vessel was found the sac of the aneurysm, of about the size of a peach, arising from the anterior surface of the vessel, and directed forwards. It pressed upon the *left* main bronchus and had opened into this tube by a very small aperture. The blood had been poured into the left lung (a little had passed into the right lung also) and thence rushed outwards through the mouth and nose. The valves of the heart were healthy.* The other viscera were normal.

Remarks.—The case is of interest chiefly on account of the early age of the patient, twenty eight years, a time of life when extensive atheroma of the great vessels and aneurysm are unusual, also on account of the effects produced by the pressure of the tumour on the left bronchus, the gradual collapse of the lung, and the compensatory effusion into the pleural cavity, and finally the rupture into the left bronchus. The sounds heard on auscultation were interesting, from their position, and also from the fact that they were scarcely audible (and I believe

* The specimen is described in the St. George's Hospital Pathological Catalogue (see Appendix to Series VI., No. 253).

at the first examination inaudible) in the erect posture, but heard distinctly in the recumbent position.

Dr. John W. Ogle *for* Dr. B. W. Foster, 1*st of May*, 1866.

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32. *Aneurysm of the aorta opening into the œsophagus.—Sudden death by hæmorrhage.*

The specimen was taken from the body of a gentleman, æt. 38. He was tall, well-proportioned, of active habits and great energy, had travelled much, and was distinguished in literary pursuits. He had suffered from boils, which commenced whilst travelling in the East, and he complained from time to time of rheumatism or neuralgic pains, for which he was accustomed to take Vichy water freely. In other respects his health was excellent; he lived generously, and was unconscious of having ever received an accident or injury which could explain the origin of the malady under which he was labouring. About two or three months before his death he complained of some flying pains about the walls of his chest on both sides. They were considered to be neuralgic; some simple remedies were prescribed; the pains got better, and I lost sight of him for several weeks. He called on me on the 14th of May, and when he spoke I was immediately struck by the stridulous character of his voice. The change, however, was so slight that he was scarcely conscious of it himself. He said that his "neuralgic pains" were worse again, and that he was becoming asthmatic. I examined his chest, and recognised an increase in the extent and clearness with which both sounds of the heart were heard over the apex of the left side of the chest, more especially towards the sternal end of the left clavicle. There was no cardiac or aortic murmur, no swelling, and no extended or increased impulse; and there was no perceptible dulness on percussion. At the apex of the left side of the chest posteriorly, the breath-sound assumed a marked tubular character, and there was no diffused inspiratory murmur audible, either in front or behind at this apex. The sounds towards the base of the lung were normal. I thought the pulse at the left wrist was smaller or feebler than that of the right. There was no tenderness on pressure anywhere—at least, he said so—and he assured me that he could lie in any position with equal ease, though his pains were worse at night, and that swallowing liquids or solids gave him no trouble. I came with much regret to the

conclusion that my friend was suffering from aortic aneurysm. I impressed on him the necessity for caution; I prescribed for him accordingly, and promised to see him in two days. He felt so little ill, however, that he could scarcely recognise the necessity for care, and on the following day he joined a party at the Ascot Races, where, singular to observe, the excellence of his health was remarked on with friendly jealousy by a literary friend and colleague. On the day but one following, I saw him again. He looked to me now sallow and ill; his breathing was more difficult, and he admitted that "the stairs bullied" him a little. In other respects he was much the same. I examined his chest again with no other result than to confirm my previous observations, and the conclusion which I had formed—and this conclusion I communicated to some mutual friends who could scarcely appreciate my anxiety, seeing how little ill he seemed to be. The following night he passed rather more quietly than had lately been usual. He got up to dress on the following morning in excellent spirits, and whilst engaged in washing himself, a sudden gush of blood came from his mouth, and he died almost immediately.

The *post-mortem* examination was made, at my request, by Mr. Douglas Powell, assisted by Mr. Appleby, my clinical-assistant, and he has been so good as to give me the following description of the morbid appearances:—

The aneurysm has its origin in the descending portion of the arch of the aorta, about three-quarters of an inch from the commencement of the left subclavian artery. It projects from the aorta posteriorly, and to the right, and is connected intimately with the œsophagus for about two inches. It is of a round shape, and of the size of a small orange.

The opening from the artery into the sac is about the size of a florin; it is well-defined, its margin being considerably thickened. In the interior of the aneurysmal sac are some fibrinous laminæ; but the lamination has only proceeded to a slight extent.

A little above the centre of the adhesion, between the aneurysm and the œsophagus (and in position a little above the level of the bifurcation of the trachea), there is an aperture by which the two communicate.

The opening in the œsophagus is circular and about the size of a sixpence; it presents a very sharply cut, "punched out" appearance. there being no thickening or induration of tissue, nor any appearance of inflammation around, the mucous membrane being of a slightly darker tint only immediately around the opening.

The aorta above the aneurysm is somewhat dilated, and presents

throughout many patches of atheromatous deposit, and unequal thickenings.

The heart was large, and rather flabby in texture; the valves were healthy; the lungs were healthy. The pleura of both lungs presented firm and more or less extensive adhesions, especially at the apex of the left lung. The bodies of the third and fourth dorsal vertebræ were exposed, and somewhat eroded. The examination did not extend beyond the cavity of the chest.

Remarks.—The case seemed worthy of the notice of the Society as a good illustration of aneurysm opening into the œsophagus, of which some few examples would be found already recorded in the *Transactions* of the Society. It was, however, still more interesting as an instance of the importance of seeking to recognise such cases in their early stages, for had this sudden death occurred so soon after the visit and examination of the physician, he would scarcely have escaped censure, however undeserved, had he failed to point out the existence of the latent danger. Dr. Quain, *15th of May*, 1866.

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33. *Aneurysm of the (?common) iliac artery which proved fatal by bursting within the abdomen.*

The sac was of about the size of a cricket-ball, and full of laminated, firm blood-coagulum. It communicated with the common iliac artery by an opening of about the size of a florin, which was situated about two inches above the bifurcation of the vessel into its two sub-divisions.

The patient was a widow-woman, æt. 71, who was admitted into the Somerset Lunatic Asylum, on the 13th of May, 1850, suffering from chronic mania.* Excepting slight attacks of an asthmatic character she had enjoyed good general health; but about twelve months previously she had had a series of "fainting fits" which passed away under suitable treatment. On the evening of the 19th of May she suddenly fainted away and died at 10 P.M. Neither during this, nor in any previous attack, did she complain of any pain.

On *post-mortem* examination, it was found that death had been caused

* Dr. Ogle had to thank Dr. Boyd, of the Lunatic Asylum, for the opportunity of bringing the specimen before the Society.

by hæmorrhage resulting from rupture of the aneurysm, above described, into the general peritoneal cavity.*

Remarks.—This kind of aneurysm is evidently far from being of common occurrence, as in the whole of the Society's *Transactions* only two cases are mentioned (both of the *right* common iliac), one related in Vol. II., p. 201, by Dr. Peacock, but only incidentally, as illustrative of the mode of origin of aneurysms of the aorta, and the second in Vol. XIII., p. 33, by Dr. Wilks. Of these, the first was removed from a man, æt. 56, in whom the artery generally was dilated. The aneurysmal sac was very small and shallow, and its margin, on one side only, very imperfectly circumscribed. The latter specimen was from a man, a year older, æt. 57, who had been subject to excruciating pain in the abdomen, anasarca of the legs, &c., and in whom, a few hours before death, a soft large tumour extending from the umbilicus to the right iliac fossa was found. No bruit could be heard over it, and the femoral vessels below pulsated with their usual force. The aneurysm ruptured on its *posterior* aspect into the mesentery and sub-peritoneal cellular tissue and had not pressed on surrounding organs.

In the Table of collected aneurysms put together and published by Mr. Crisp, in his treatise on the *Blood-vessels*, p. 235, containing notice of five hundred and fifty-one so-called spontaneous aneurysms, description exists of *only two* cases of aneurysm of the *common* iliac artery; both occurred in males; one (the age of the patient not being given) was a fusiform aneurysm of the right iliac vessel, communicating with the vein (attended by Mr. Adams); in the other, also of the right iliac vessels, the age of the patient, a whale-fisher, being 33, the aorta was tied by Dr. Murray of the Cape of Good Hope, but death occurred twenty-three hours after the operation.

Dr. John W. Ogle, *15th of May*, 1866.

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34. *Specimen of a heart with four pulmonary valves.*

This was taken from the body of a man, æt. 31 years, who died from hæmorrhagic apoplexy.

On examining the heart, it was found that four distinct semilunar

* The preparation is described in St. George's Hospital Pathological Catalogue (see Appendix to Series VI.).

valves were situated at the origin of the pulmonary artery. The adventitious valve was somewhat smaller than its fellows, and communicated with one of them at its insertion by an aperture large enough to admit a crow-quill. There was no *corpus Arantii* in it. The other valves were normal and did not intercommunicate. The aortic valves were natural. Some slight atheroma was present in the arch of the aorta. In all other respects the heart was healthy.

The point to be considered in these cases is whether this arrangement is congenital, or only so inasmuch as it is the result of intra-uterine endocarditis. We know that the right side of the heart is more apt to be inflamed before birth than the left, and it appears to be more common to meet with excess of valves in the pulmonary artery than in the aorta.

The presence, or not, of a distinct *corpus Arantii* might assist in the decision of the question, whether or not the valve is strictly adventitious. If this body is present, we may presume that the excessive structure has not been formed by any process from another valve; neither can we regard it as the result of an arrest of development on the view advanced by Dr. Peacock, as to the formation of each sigmoid from a double valvular arrangement in early fœtal life.*

Looking to the facts that the supernumerary valve in this specimen was smaller than the others, that it possessed no *corpus Arantii*, that it communicated freely with one of its fellows, which one indeed appeared somewhat smaller than the other two valves, and, moreover, that there existed no signs of disease on the right side of the heart, it is most probable that this was a case in which there had been an arrest of development in early fœtal life.

Dr. Duckworth, *15th of May*, 1866.

IV.—DISEASES, ETC., OF THE ORGANS OF DIGESTION.

A. TONGUE AND DIGESTIVE CANAL.

1. *Black vomit from a case of yellow fever.*

The woman, æt. 35, who vomited this specimen, was one of the sufferers in the outbreak of yellow fever at Swansea, at the end of

* *Vide* "Dr. Peacock's Report on Valvular Malformations" in vol. iii. of the Society's *Transactions*, p. 291; also his works on "Malformations of the Heart," 1858, and "Valvular Diseases of the Heart," Croonian Lectures, 1865.

September. She had, like the rest of the people attacked, resided within a short distance of an infected ship that was in dock at Swansea from September 9th to September 28th. She fell ill on the 29th September with well-marked symptoms of yellow fever.

On October 1st the following was noted :—Vomited this morning for the first time, four times between three and five A.M.; everything vomited was black; light brown stool last night. Seen at two P.M. Face pale; lips bluish; peculiar frown; no wandering or coma. Says "she feels better." Skin cool and sweating; feet cold; temperature in axilla 98·4°; trace of yellowness in conjunctivæ; no œdema of feet; pulse 94, very small and soft; tongue dryish black; frequent efforts to vomit; vomited matters copious and black, like a black powder suspended in a somewhat glairy-looking liquid; no tympanitis; epigastrium very tender; two stools to-day; one seen is semi-solid, mixed black and grey, mottled. No urine passed to-day, unless a teaspoonful of pale fluid with the stool be urine.

The black vomit was strongly acid, and when microscopically examined was found to consist (*A*) of blood-corpuscles, (*a*) unchanged, red and white, (*b*) small and shrunken, (*c*) disintegrated, (*d*) massed into large yellow irregular lumps, in which separate shrunken corpuscles were sometimes recognisable, (*B*) of epithelium, (*a*) squamous, (*b*) columnar, (*c*) spheroidal, (*d*) free nuclei. The vomit, when filtered, yields a liquid almost colourless, and having none of the reactions of bile.

On the same day, October 1, at five P.M., delirium began, and when seen at six P.M. she was insensible, with trismus and general rigidity of the muscles. Skin cold, but not blue; frequent vomiting of same black fluid; pulseless at wrist; no urine. Died at 6·50, P.M., in same state. When her body was seen next day, it was very yellow, with streaks of blue in the face, and the hands and finger-nails were blue. Her husband would not permit an autopsy.

Dr. Buchanan, 17*th of October*, 1865.

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2. *Parts from a fatal case of strangulated inguinal hernia.*

The parts exhibited were brought to Mr. Barwell by Mr. Chaldecott, of Dorking, who gave this account :—

The patient came under his care, suffering from constipation, vomiting, and prostration, with abdominal pain. A tumour, as large as a hen's-egg, was found in the right groin. The man affirmed that the tumour

had been there seven years at least, and that till three days ago he had been able to get it all back. All attempts at reduction having failed, Mr. Chaldecott proposed operation, which was refused. On the following day, stercoraceous vomiting and other of the worst symptoms of strangulation having set in, the man begged that the operation might be performed. Mr. Chaldecott cut down to a knuckle of intestine and found the abdominal ring but very slightly contracted; this constriction was relieved, and the intestine returned. There still remained, however, on the inner side of the ring and attached to its inner column, a hard compact lump, apparently solid, and consisting of indurated omentum. This could not be reduced, neither did it appear wise to cut away so large a tumour; it was, therefore, left, and the wound closed. The symptoms, however, did not abate, and on the third day the man died. A *post-mortem* examination was instituted and the parts removed which are now laid before the Society; they consist of a portion of the abdominal wall surrounding the ring, the portion of intestine involved, and the tumour *in sitû*.

On first opening the abdomen, it was remarked that the small intestines lay quite bare, uncovered by omentum, and that the pyloric end of the stomach was very low. An examination of the parts involved in the hernia shewed a rounded tumour, about two inches in diameter, consisting of a membranous material, disposed in folds, as though wrapped round and round itself, and containing lobules of hard granular fat; it consisted evidently of indurated thickened omentum. The tumour, however, was not solid, but was hollowed by a cavity that contained a knuckle of intestine, dark, and all but sphacelated. The intestine found its way into the cavity thus: The tumour was attached to the inner column of the ring in such wise as to cover its inner angle, and opposite that inner angle was an opening into the tumour and its cavity, which formed, as it were, a prolongation of the inguinal canal. The margin of the opening into the lump was contracted so as to constrict the intestine very considerably; indeed, here was the true seat of stricture.

From this examination, it was evident that the course of the case was as follows:—The man was wrong in stating that he could return the hernia; for the lump above described must have been for years irreducible; it consisted of omentum much thickened, rolled upon itself and round a cavity which always or nearly always contained a knuckle of intestine. In the usual condition of things a coil of gut could descend along the inguinal canal, and pass straight into this tumour;

but a few days before the man came under care, a portion of intestine escaped from the outer angle of the ring and became placed on the outer side and below the tumour. This condition produced irritation, and when symptoms of strangulation called for operative measures, Mr. Chaldecott readily found this last-named piece of intestine and returned it; but it was barely possible that he should find that small portion, which, in passing from the canal into the tumour, was covered by the new hernial sac. But since the strangulation was placed at the neck of this tumour, it, of course, went unrelieved.

Mr. Barwell was the more readily able to explain the conditions of this case, since a very similar one occurred to him at the Charing Cross Hospital, in the middle of September. A very fat woman was sent to him by Mr. Langston of Westminster with symptoms of strangulation from umbilical hernia. The tumour, as large as a doubled fist, consisted of two parts, a hard one on the left, a softer one on the right of the umbilicus. In operating, Mr. Barwell found but very little stricture at the ring, and returned all the visible portion of intestine; in examining the tumour it was found attached to all the left half of the umbilical margin, and it overlapped very much of the enlarged opening; in examining further it appeared hollow, and on still closer attention a piece of intestine was seen to pass into it; a careful dissection was then made, the cavity opened, and the intestine liberated and returned into the abdomen. The tumour itself was then detached from the margin of the ring and removed. It consisted of membranous material much intertwined, and containing hard nodules of granular fat, evidently omental. The mode in which such an omental sac is formed at the umbilicus is obvious, but the formation of a secondary hernia outside the original omental bag is not so plain, since when such a cavity is once formed the small intestine could hardly get to the umbilicus while the omentum was entire and in its place, unless we suppose that the lump or tumour was, some time previous to the secondary protrusion, attached to the whole circumference of the ring, and that it broke away from one side allowing intestine to pass.

The woman had a large natural motion on the following day. She went on so well that I began to think her out of danger, when, on the fourth day, she fell into sudden collapse, and died in a few hours. She was addicted to drink, but at the *post-mortem* no cause of death could be discovered. Mr. Barwell, 21*st of November*, 1865.

Report on the above specimen.—On examining the specimen of strangu-

lated hernia, brought before the Society at the meeting on November 21st, there does not seem any reason to doubt the account of the case as given by Mr. Chaldecott of Dorking, and reported to the society by Mr. Barwell. The tumour consists certainly of omentum, and in a small cavity in its posterior part, *i.e.*, in the portion lying close to, and partially covering, the external ring, some intestine was engaged and strangulated.

The account which Mr. Barwell gives of his own case helps to elucidate the somewhat unusual appearance of this tumour forming a nomental sac.

Mr. R. Barwell,
Mr. J. W. Hulke,
Mr. T. Holmes, 19*th of December*, 1865.

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3. *Case of excision of the tongue.*

The specimen is the entire tongue removed on the 2nd of this month from a man, æt. 35, by a submental opening. He never had a bad symptom, and is now quite well.

The disease, which had existed sixteen or eighteen months, became worse two months before the operation, and from the pain and difficulty of speaking, the impossibility of mastication, and the difficulty of deglutition, was fast wearing the patient out. He has already recovered strength and flesh—indeed, he says that he is as well as ever he was. He talks with great distinctness and swallows with facility.

Mr. Nunneley, 21*st of November*, 1865.

Report on the above specimen.—This specimen consists of the greater portion of a tongue separated from the adjacent structures at a line which extends from the junction of the posterior and middle thirds of the papillæ circumvallatæ on the upper surface, and thence obliquely forwards and downwards to the base of the organ, including the frœnum, but none of the extrinsic muscles.

A transverse fissure on the left side of the dorsal surface, half-an-inch from the tip, has resulted from a cut or rent; from this mark backwards the left side of the tongue is elevated and thickened, the central line being displaced towards the right.

There are no evidences of ulceration on the surface of the organ, with the exception of the two openings subsequently referred to.

A section carried obliquely through the substance of the tongue from

side to side (and from the left backwards towards the right) the middle of the line of section being two inches from the extreme front, and one inch and a-quarter from the base of the specimen, shews a smooth, fibro-muscular mass, occupying the midst of which, but inclining towards the upper surface, is an irregular cavity to which a ragged opening leads from the upper surface of the specimen. This cavity, becoming larger as it is traced backwards, conducts to a second, but smaller, opening, which passes to the surface of the tongue, one quarter of an inch from the posterior border of the preparation.

On the anterior surface of the section, the front end of the cavity is apparent; but in this direction there is no communication with the surface of the organ.

Under the microscope the tissues of the thickened portion of the tongue are seen to consist of dimly fibrillated masses lying between the muscular fibres, granular, and dotted with small, refracting, structureless globules (oil), and minute nuclei. On the addition of acetic acid the whole swells up and loses its fibrillated appearances, the small globules and nuclei, however, remaining visible, and seemingly unaltered.

A glass director is passed from the posterior opening into the interior of the cavity, which resembles that of an abscess.

Dr. J. Andrew.

Mr. George W. Callender, 16*th of January*, 1866.

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4. *Ulceration and stricture of œsophagus.*

The specimen was removed from a man, aged 55, a smith of intemperate habits, who died in St. Thomas's Hospital, under Dr. Peacock's care. He had œdema of the lower extremities, and chronic bronchitis, and when first admitted, the urine was slightly albuminous, but, though several times examined, no albumen was subsequently detected. He died with symptoms of effusion on the brain. After death it was ascertained that about twelve months before, he had been suddenly seized with vomiting, and brought up blood, and ever afterwards he had had difficulty and pain in swallowing, so that he was not able to eat any solid substance.

On laying open the œsophagus with blunt-pointed scissors, some resistance was felt just below the middle of the canal, and a cicatrix was torn through. There were remains of superficial ulceration about the

cicatrix, with redness and thickening of the surrounding mucous membrane and some effusion of lymph. The appearance, when recent, was not unlike that of a burn in which some of the mucous membrane had been destroyed, with the surrounding portion in a state of inflammation. There were no adhesions of the œsophagus to the adjacent parts.

Dr. Peacock *and* Dr. J. Wale Hicks, *5th of December*, 1865.

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5. *Colloid disease of the lower end of the colon, producing obstruction, which was relieved by colotomy in the left loin.*

A lady, æt. 68, had suffered for six months from occasional pains in the abdomen and hips, which gradually increased in frequency and severity. These pains were particularly felt before an action of the bowels, and were always severe after taken aperient medicine. She had also experienced increasing difficulty in obtaining evacuations from the bowels, and injections into the rectum returned. I saw her with Dr. West, October 28th, 1865, and on examination we found a hard nodulated tumour, the size of a walnut, between the front wall of the rectum and upper part of the vagina, so close to the uterus that it became a question whether the growth was connected with that organ. I was unable to reach any disease or stricture high up in the rectum. There had been no discharges of blood or mucus from the bowels. The abdomen was a good deal distended, and there was a very perceptible tumour on the right side below the level of the umbilicus. The abdominal pains rapidly became more frequent and distressing. The difficulty in obtaining relief from the bowels increased until obstruction ensued.

November 11th.—I made a persevering effort to pass a long tube into the colon in order to throw up an injection; but the tube curled back at a distance of between six and eight inches, and the injections returned. The abdomen became more swollen. Her pulse was getting quicker and more feeble, and her strength evidently giving way. As her sufferings appeared to arise from the efforts to overcome obstruction in the lower end of the colon, and as her powers were failing so much that she was unlikely to survive many days unless she obtained relief, we suggested the operation of opening the lumbar colon, and Mr. Paget, who saw her with us in consultation, joined in the recommendation. We suspected that the tumour felt in the rectum was a carcino-

matous gland, and that the cause of obstruction was disease of that character. The operation was performed on November 14th, at which time her condition had become very urgent. It was done under chloroform, and the bowel was reached and opened without difficulty. She rallied well after the operation, and took abundance of food. After the bowels had been fully relieved through the wound, she entirely lost all pain, and the swelling of the abdomen subsided, with the exception of the tumour on the right side. She went on well until the eighth day, when her powers began to give way, and she gradually got weaker until she died on the 25th, having survived the operation eleven days without suffering.

Post-mortem examination thirty hours after death.—No marks of peritonitis. The terminal portion of the colon was affected to the extent of three inches with colloid infiltration of its walls, producing great thickening and diminution of the cavity of the bowel. The tumour between the rectum and vagina consisted of colloid disease. On the right side there was an ovarian cyst the size of a cocoa-nut, containing dark grumous fluid, its walls being largely occupied with colloid deposits. There were minute deposits of similar character in various parts of the peritoneum. The abdomen only was examined.

This is the oldest patient upon whom I have performed lumbar colotomy. It was done without much hope of obtaining any long continuance of life, but with a confident expectation of relieving the severe suffering arising from obstruction. This end was fully attained, and considering her exhausted condition at the time, the operation may be fairly said to have also protracted life, though only for a short period. The absence of discharges of blood and mucus must be noted, as they constantly occur in carcinomatous disease of the lower part of the colon when ulceration ensues, but I believe they are much less liable to result from colloid disease.

Mr. T. B. Curling, *5th of December*, 1865.

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6. *Typhoid ulceration and perforation of intestine, in a case presenting no symptoms of typhoid fever during life.*

A. H., æt. 40, was admitted into St. Thomas' Hospital for cardiac disease with general dropsy, on the 7th of November, 1865. The following is a brief history of of his case. Ten years ago he had rheumatic fever, and was laid aside for seven months. In the beginning of this year he

suffered from a febrile attack. For two months past he has been attended as an out-patient of the Hospital for cardiac disease, accompanied by profuse hæmoptysis and albuminuria. When admitted into the Hospital he was the subject of general dropsy, extreme dyspnœa and distress, and intense pulmonary congestion, but great pallor of face. His tongue was clean, but rather dry. Pulse 96, small and irregular; bowels confined; urine scanty, its specific gravity 1·012, and almost solid from the amount of albumen when tested by heat and acid. Purging, counter-irritation to the chest, muriated tincture of iron and diuretics, and a certain amount of stimulus relieved him considerably. His appetite became not only good, but voracious, and he was allowed meat and a liberal diet, which he continued to take till the 21st. His bowels, however, required the frequent use of compound jalap powder, castor-oil and, &c. The tongue was moist anæmic. Careful examination before the pupils revealed no eruption or other evidence of fever. On the 21st, the bowels became loose. On the 23rd, his appetite completely failed, and he was in much general distress, complaining of some abdominal tenderness, clearly peritoneal in character, and which was attributed to inflammation of the serous membrane resulting from his renal affection. On the 24th he died suddenly, having had, for some hours before death, smart diarrhœa, with severe abdominal pain.

A *post-mortem* examination was made on the 25th of November. There were the usual evidences of general dropsy, including considerable compression of the lungs from pleuritic effusion. The heart was enlarged, weighing nineteen ounces and a-half; the left ventricle hypertrophied, rounded at the apex and dilated. The aortic valves were thickened, but apparently competent; the mitral valve appeared healthy. The pericardium was coated with some recent lymph, and contained much turbid serum. The abdomen contained a quantity of turbid, fœtid fluid; the surface of the small intestines was minutely congested, and the adjacent coils of the ileum were glued together by recent lymph. There was a small rounded perforation in the ileum, about eight inches from the ileo-cæcal valve, the spot being covered by soft lymph. On examining the mucous surface of the ileum, the patches of Peyer were found distinct and whitish, but not perceptibly raised, nor for the most part were they at all congested, but several of them contained, each in some part of its area, a small circular ulcer. In the centre of one of these was the perforation already mentioned. There was another deep ulcer near the ileo-cæcal valve, but in process of healing, and a few others rather higher up in the ileum were also apparently nearly healed.

The highest of these ulcers, about three feet above the valve, was more recent, having its edges ragged, and a thick mass of slough hanging from one side. Lower down also, there was a small patch, apparently of typhoid deposit, which had not ulcerated. The mucous membrane of the stomach, œsophagus and intestines presented numerous small ecchymoses. The liver was healthy, but the spleen was a little enlarged. The right kidney weighed only one ounce and a-half, and presented an extreme degree of contraction, and atrophy of the cortical substance; the left was also extensively diseased, though not to the same degree. Dr. James Risdon Bennett, *2nd of January*, 1866.

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7. *Intestines from a case of diphtheria, with infiltration of Peyer's patches.*

The intestines in this case are remarkable from the strong resemblance they bear to the condition seen in the early stage of typhoid fever.

The mucous membrane of the lower half of the ileum is somewhat injected and reddened; the injection is most marked round the solitary glands and Peyer's patches.

The solitary glands are swollen. Peyer's patches enlarged, raised considerably above the level of the surrounding mucous membrane, their surface uneven from the enlargement of the individual glands; colour, reddish-grey. On section, they appeared of soft consistence and very juicy. These changes were most conspicuous in the lower part of the ileum. The mesenteric glands were also swollen, but there was no enlargement of the spleen.

From merely seeing the intestines it would have been impossible to have distinguished them from typhoid fever. The case was that of a girl, aged 4 years, who died in the Middlesex Hospital on the 5th of January, of diphtheria, after five days' illness. The larynx and trachea were lined by a thick layer of yellowish-white false membrane; the glands in the neck were enlarged, and there was pus in the tonsils. Tracheotomy was performed a few hours before death.

Dr. W. Cayley, *16th of January*, 1866.

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8. *Thickened intestine, from an old hernial sac.*

This specimen of enormously thickened and adherent intestine was

removed, *post-mortem*, from a patient in the Westminster Hospital, a middle-aged woman, who had been the subject of hernia for several years. She had worn a truss producing sufficient pressure to have caused ulceration of the skin, as manifested by the existence of old cicatrices. She stated that the hernia had always been reducible until the day before her admission; a statement which it subsequently appeared, must have been entirely erroneous.

On admission, she had stercoraceous vomiting and other symptoms of strangulation, and the taxis had been freely, and perhaps severely, applied, and an injection administered. Ice was applied to the tumour for a few hours, but as no relief of the symptoms resulted, the operation was proceeded with. The sac was considerably distended with fluid, and when punctured, a gush of offensive colourless fluid with globules of oil floating in it, escaped. On laying open the sac, a loop of intestine, and a mass of firm consistence (supposed at the time to be a lump of thickened and indurated omentum) come into view, both firmly adherent to the neck and posterior wall of the sac by old and perfectly organized adhesions. As, therefore, the return of the intestine was impracticable, all the fibres constricting the adjacent intestine were freely divided, and the adherent portions left *in sitû*. As the symptoms were not relieved by this operation, and stercoraceous vomiting continued, in spite of ice, &c., the next day the wound was re-opened, with the object of making an artificial anus. With this view, and under the possibility of a knuckle of intestine being concealed behind the supposed omentum, it was cautiously cut into. After cutting through solid tissue very nearly three-quarters of an inch thick at the most prominent part, a cavity was reached, but there was no knuckle of intestine within. On introducing the finger, it became apparent that the cavity of a greatly thickened loop of intestine was reached, in the walls of which a very unusual development of muscular fibre had taken place, for the peristaltic grasp of the intestine on the finger was quite as strong as that frequently experienced from the sphincter, when the finger is introduced into the rectum. The second, or evident loop, was also opened, and the edges of both secured, by sutures, to the edges of the external wound. A considerable amount of fæcal matter subsequently escaped from the wound, but the patient sank, and died in about thirty-six hours after the second operation.

On examination, it was found that the hypertrophied loop was continuous with the upper portion of the ileum, and the other adherent loop with the lower portion, not more than four or five inches from

the ileo-cæcal valve. Between these two loops the intestine had given way at two irregular openings. From these the fæcal fluid had probably escaped into the sac; and it is a question whether that oily fluid was not a part of the last injection administered, which must, in that case have regurgitated past the ileo-cæcal valve. As a truss had been worn continuously, and the thickened loop was immediately under the external cicatrices, it is evident that the hypertrophy of muscular tissue had been a compensatory effort of nature to overcome the pressure of the spring of the truss. Mr. Brooke, *6th of February*, 1866.

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9. *Fibrous tumours in the ileum, causing partial obstruction of the bowel below, and dilatation above.*

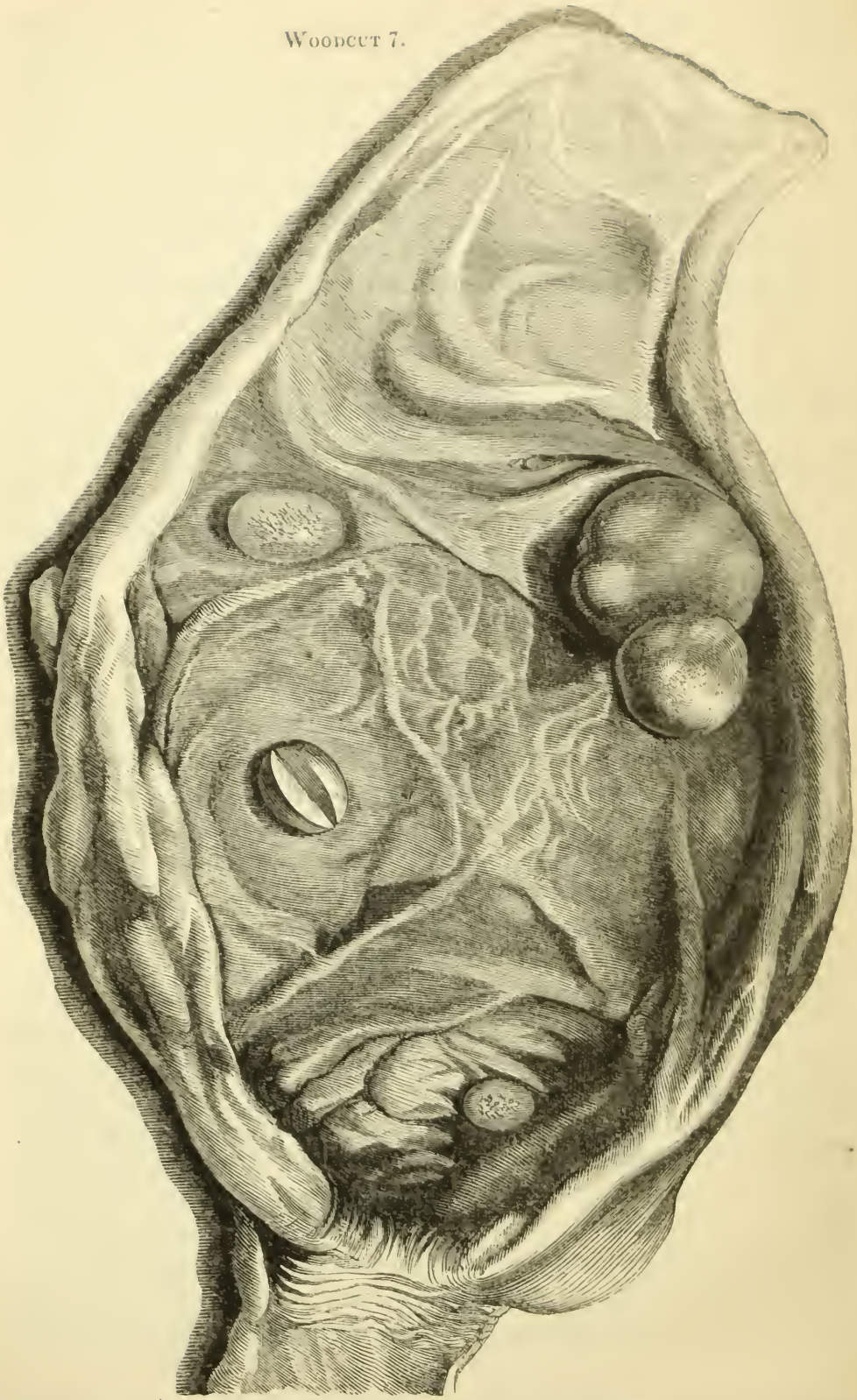
This specimen was taken from the body of a woman, æt. 43, who was a patient under my care at the Royal General Dispensary. She had been for some years, at intervals, under the care of my colleague, Dr. Schulhof, suffering from hysteria.

After fourteen days' illness, she died with well-marked symptoms of pyæmia.

On examining the abdomen, a portion of the ileum was seen to be greatly distended. Immediately below the distended part, the bowel was contracted. On removing the intestines, several whitish masses were seen under the serous coat of the distended portion, firm to the touch. On opening the bowel, four tumours, one the size of a large walnut, and three the size of horse-beans, were found (Woodcut 7, p. 126). The mucous membrane passed over them, and the "shaven beard appearance" was well marked on three of them.

The largest was moderately elastic, and presented a mark of constriction about its centre. The distended portion of intestine was suddenly limited by a sort of pyloric band of muscular fibres at about seven inches below the largest of the tumours, and it seemed certain that this mass had been grasped about its middle by the bowel, at the commencement of the contracted portion. Thus a partial obstruction had occurred, leading to extreme dilatation of the bowel above (the part in which the tumours were situate), the formation of a thickened band of muscular fibres at the point of constriction, and the subsequent contraction of the gut below. The solitary and agminate glands were natural throughout the intestines. On microscopical examination of one of the smaller tumours, it was found to present all the characters of fibrous tissue.

Woodcut 7.



Illustrates Dr. Duckworth's case of fibrous tumours in a dilated portion of the ileum.

These growths had evidently arisen in the submucous tissue of the ileum. There were no symptoms during life referrible to them.

Rokitansky does not mention the occurrence of fibrous tumours in this part of the intestinal canal, and I can find no mention of a similar case in the *Transactions* of this Society.

Dr. Duckworth, *6th of February*, 1866.

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10. *Specimens of perforation of the bowel in enteric fever.*

Each of the following cases presents certain peculiarities worthy of notice :—

Case I.—*Enteric fever.—Profuse hæmorrhage from the bowels.—Perforation of the appendix vermiformis.*

Mary Ann B., æt .13, was admitted into the London Fever Hospital, on September 11th, 1865. She was confused, and could not say how long she had been ill. Her skin was hot, and there were some rose-coloured spots on the abdomen. The pulse was 120, small and feeble ; the tongue moist and brownish in the centre ; the bowels loose ; the abdomen tender and tympanitic. Until September 16th, fresh spots were noted daily ; but from that date they faded. For five days after September 14th, she obstinately refused to take drinks, and was chiefly supported by injections of beef-tea and brandy. The tongue soon became dry and rough ; the abdomen continued tense and tender, and the pulse ranged from 120 to 144. After the 16th of September, she was troubled with cough, and occasional râles were heard over the chest. The diarrhœa was controlled by astringents and opiates, and when she could not drink, by opiate suppositories, and by the addition of seven or eight drops of laudanum to each of the nutritious enemata. The motions were of a light ochrey colour, and were free from blood till the night of September 23rd, when she had four copious stools, containing a large quantity of dark clotted blood ; the last two consisted almost entirely of blood. The patient was ordered a grain of opium at once, and a draught every four hours containing ten grains of gallic acid, and ten minims of tincture of opium. The bowels did not act again till the following morning, when there was a small quantity of blood in the motion. For some days before the hæmorrhage, the patient's condition improved, and hopes were entertained of her recovery ; but she did not rally from the prostration following the hæmorrhage, and on September 25th she died.

Post-mortem examination.—There were some patches of recent lymph scattered over the surface of the intestines, especially in the neighbourhood of the cæcum. In the interior of the vermiform appendix were four ulcers, in one of which, about three-quarters of an inch from its distal end, two small perforations were observed. The contents of the intestines had not escaped into the peritoneal cavity. Extensive ulcerations were found in the ileum, from which most of the sloughs had separated, and which were commencing to heal. A few ulcerations were found in the large intestine near the valve. There was pneumonia at the upper part of the lower lobes of both lungs, especially the right; at the apex of the right lung also there was a deposit of old tubercle, and a small vomica.

Case II.—*Enteric fever.—Three perforations of the large intestine.—Symptoms of peritonitis a fortnight before death.*

John S., æt. 19, was admitted into the London Fever Hospital on August 23rd, 1865. He had been ill for fourteen days at least, and on admission had all the symptoms of severe enteric fever with peritonitis. The skin was hot and moist, and there were numerous rose-coloured spots scattered over the trunk. The pulse was 120, small and feeble. The tongue was dry, cracked, and covered with sordes. The abdomen was enormously distended, tympanitic and tender; and the motions were frequent and watery. The breathing was entirely thoracic. There was a sloughing bed-sore over the sacrum. The patient was ordered stimulants, opium, and astringents, with turpentine stupes to the abdomen.

The lenticular spots were not seen after August 25th. The greatly distended and tympanitic state of the abdomen continued throughout; and on the 31st an uneven, nodulated appearance was noticed, which continued till his death, and seemed as if the intestines adhered to the abdominal parietes. On the same day there was retention of urine, requiring the catheter. In spite of all treatment, the diarrhœa continued profuse; but no blood was passed, except small quantities in the motions of August 29th, and September 2nd and 3rd. His mind was heavy and confused from the first; but he was always ready to take drinks, and he could answer questions till the day he died. The pulse varied from 100 to 140, but was generally about 120, and always very small and feeble. The bed-sores extended and caused him much pain. After September 1st, his evacuations were passed involuntarily. He died on September 7th.

Post-mortem examination.—The whole surface of the peritoneum was coated with a thin layer of lymph, which could be stripped off with the knife. There were numerous small ulcers in the large intestine, three of which had proceeded to perforation, one about three inches and a-half from the ileo-colic valve, and two in the sigmoid flexure. The contents of the bowel had not escaped in any quantity into the peritoneal cavity. Extensive atonic ulcers were found in the ileum; their margins were formed by loose fringes of mucous membrane; but in none was there any perforation. There was lobular pneumonia of the bases of both lungs, especially of the right.

CASE III.—*Enteric fever.—Perforation of the bowel, after apparent convalescence.*

John B., aged 43, a labourer, was admitted into the London Fever Hospital, on October 20th, 1865, with all the symptoms of acute peritonitis. He was confused and unable to give any account of his illness, except that he had been suddenly seized, while at work, four days before, with acute pain in the abdomen, and that his bowels had been confined for four days. He was extremely prostrate. The surface of his body was generally warm, but his extremities were cold. There was no rash on the skin. The lower part of the abdomen was much distended, tympanitic and tender. A distinct thrill, as from a thin film of fluid, was perceived on gently tapping this region. Pulse 120, counted with difficulty; respirations 48, thoracic. The urine contained a decided cloud of albumen. He died a few hours after admission, death being preceded by urgent vomiting.

Post-mortem examination.—There were extensive typhoid ulcerations found in the ileum, with a perforation, two lines in diameter, situated three inches above the valve. There was extensive peritonitis; and the peritoneum contained about three-quarters of a pint of purulent fluid, confined to the lower half of the cavity by adhesions of the great omentum.

After the patient's death, it was ascertained by inquiry from his his friends that he had been ill with "fever" for three or four weeks; and that, four days before admission, having already for several days been permitted to eat meat, he was told by his medical attendant that he was well enough to return to his employment as a labourer. He had been working for a few hours, when he was suddenly seized with the acute pain above referred to, and was obliged to return home.

The case illustrates the extreme caution necessary during convalescence from enteric fever.

Case IV.—*Enteric fever. Death from perforation and peritonitis on the forty-second day, after apparent convalescence. The occurrence of perforation preceded by constipation. Solid fæces in the perforated bowel.*

William S., aged 14, was admitted into the London Fever Hospital on the 4th of July, 1864, ill ten days, and in bed four days. His symptoms were those of general fever, diarrhœa, dry, brown tongue, sordes, lenticular rose spots, delirium and subsultus. On the 21st of July (twenty-seventh day) he appeared to be convalescent, and from this date he continued to gain strength and was able to walk about; but on the 2nd of August (thirty-ninth day) he had pain in the stomach relieved by pressure, and on the following day the pulse rose to 124, the belly became very distended and tender, the features were pinched, the breathing thoracic, and there was general collapse. It is worthy of notice that the bowels had been constipated for several days, and that on this day a solid motion was passed. On the 4th of August the pulse was 132, and the patient suffered from retching. On the following morning he died.

Post-mortem examination.—The peritoneum contained several pints of opaque ochrey fluid. The intestines were glued together by recent lymph, and the peritonitis extended over the upper surface of the liver. In the ileum, immediately above the valve, there were extensive ulcers almost cicatrized: but at a distance of two feet and a-half above the valve was an ulcer, measuring a quarter by an eighth of an inch, in the centre of which was a circular perforation one line and a-half in diameter. The surrounding peritoneum was plastered with recent lymph. Solid fæces were found in the ileum. The mesenteric glands seemed scarcely at all enlarged. The spleen weighed only four ounces and had a healthy appearance.

Dr. Murchison, *20th of February*, 1866.

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11. *Specimens shewing sloughing of the entire coats of the bowel in enteric fever, without perforation.*

Perforation of the bowel in enteric fever takes place in three ways—1. By rupture of the attenuated coats. 2. By a continuance of the ulcerative action leading to a pin-hole perforation, and 3. By sloughing of

the entire thickness of the bowel, and the dropping out of the sloughs. In the two following cases, death took place when there was extensive sloughing of the entire coats, but before the separation of the sloughs, and consequently before the occurrence of any perforation. In one case there was peritonitis; in the other, none.

CASE I.—*Enteric fever of about five weeks' duration. Sloughing through the entire coats of bowel. No peritonitis.*

Thomas W., aged 32, was admitted into the London Fever Hospital on August 27th, 1864, having been ill for about a month. His symptoms were quick, feeble pulse, successive crops of lenticular spots, dry tongue, diarrhœa, low delirium, and rapidly increasing prostration until death on September 7th.

Post-mortem examination.—The body was extremely emaciated. There was no trace of peritonitis. There were numerous ulcers in the ileum, for about three feet above the valve. Most of the ulcers were clean, with no adherent sloughs, and with margins formed by loose fringes of mucous membrane, and their bases exhibiting the denuded transverse muscular fibres. About two-and-a-half feet above the valve, the bases of the ulcers had sloughed through to the peritoneal surface. The sloughs came away in washing the bowel, leaving two large oval holes, about the size of a vegetable-marrow seed. The absence of any peritonitis shewed that no detachment had taken place during life.

CASE II.—*Enteric fever, fatal on the 22nd day from peritonitis. Sloughing of all the coats of the intestine, but no perforation.*

Elizabeth L., aged 21, was admitted into the London Fever Hospital on July 18th, 1864, having been ill eight days. Her symptoms were general fever, diarrhœa, a copious eruption of lenticular rose spots, and great nervous prostration.

On July 27th, or the eighteenth day, she became much worse. There was a great increase of the prostration, and the abdomen was much distended. There was also vomiting, but no pain or tenderness of abdomen. Pulse 120. Turpentine stupes were applied to the abdomen, and opium was administered in large and repeated doses, with stimulants.

On July 28th, the pulse was 140; the patient had occasional vomiting, and was delirious, and evidently worse. She continued to sink, and died on August 1st.

Post-mortem examination.—The intestines were much injected, and coated with recent lymph, especially over the lower part of the ileum. There was extensive ulceration of this portion of the bowel. Some of the sloughs had been detached, but most were still adherent. One large slough, two or three inches in diameter, and partially separated, was situated immediately above the valve. The bases of the ulcers were formed by the denuded transverse muscular fibres. In five or six of Peyer's patches in the lower eighteen inches of the bowel, the sloughs had extended through the peritoneal coat, but were still adherent at their margins, so that the contents of the bowel had not escaped. Dr. Murchison, 20*th of February*, 1866.

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12. *Epithelial cancer of the œsophagus.*

Thomas W., æt. 56, was admitted into the Hospital for Diseases of the Throat, July 5th, 1865, under the care of Dr. Morell Mackenzie, suffering from dysphagia. The symptoms had been coming on for eleven months. Liquids could be taken with difficulty; solids, not at all. No bougie could be passed. The patient sank in a few days from a sudden attack of pneumonia, the dysphagia having become much less marked during the few days preceding death. At the *post-mortem* examination irregular cancerous ulceration was found extending four inches down the œsophagus from a level with the sixth ring of the trachea. There was thickening, though not to any considerable extent, of the walls of the œsophagus throughout its entire circumference. Several melanotic deposits, each about half-an-inch in diameter, were seen at different parts of the ulcerated surface. Just above the bifurcation of the trachea, the cancer had burst into its walls, diffused itself a little way along them, and at some points reached the mucous surface, where its characteristic cells could be found. Dr. Andrew Clark, after a careful examination of this specimen, observed that "it was worthy of note, that in passing down the œsophagus, the cancer does not go along the mucous membrane, but behind it."

Dr. Morell Mackenzie, 20*th of February*, 1866.

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13. *Case of strangulated obturator hernia.*

Mrs. M., æt. 76, a widow, of spare habit, was attacked by symptoms of strangulated hernia on or about the 23rd of December, 1865.

The principal symptoms were vomiting, at first of an ordinary kind, but afterwards stercoraceous, severe abdominal pain, and constipation.

A large inguinal hernia of the left side was easily reducible, and was not at all tender or painful; when reduced, several fingers could be passed through the abdominal aperture.

There was a slight tendency to hernia in the linea alba near the umbilicus, but no actual protrusion there.

No tenderness on pressure was discoverable in any part of the abdomen, but a fulness existed in the upper part of Scarpa's triangle of the right side, where there were some enlarged glands, and this region was slightly tender on pressure, so much so, as to arouse suspicion of hernia in that position, without giving any certainty of its existence. The general symptoms clearly pointed to a strangulated hernia, but the patient was in such an exhausted state, when first seen by the medical attendant, that it was thought advisable not to undertake any surgical proceeding for the relief of the symptoms, especially as it was in the last degree uncertain where the seat of strangulation was to be looked for.

Palliative treatment, therefore, was adopted. An enema of castor-oil, which was given, brought away some fæcal matter but without any relief of the symptoms. The woman died on the 27th of December, or about a week from the commencement of the symptoms.

Post-mortem examination shewed a strangulated portion of intestine in the right obturator foramen. Pressure made over the upper part of the thigh produced a slight gurgling sound. The bowel came away from the hernial opening without much trouble, slipping into the abdominal cavity, in fact, while the surrounding intestines were being manipulated. The centre of the herniated knuckle was, when recent, of the size of a florin, of a greyish-yellow colour, as if ready to slough, and was surrounded by a dark purple tint. On opening the gut I found that this appearance was due to an ulceration of the mucous membrane, which had left the peritoneal coat exposed, but *not* in a sloughing condition. There were signs of some peritoneal injection in the portions of intestine immediately adjacent to the hernia; but no lymph nor pus in the peritoneal cavity.

The large hernia, on the left side, was easily reducible after death, and the abdominal opening would admit four or five fingers. Mr. Watson remarked, that there was *no* pain referred to the inside of the thigh or knee, as has often been observed in hernia in the obturator canal.

Possibly the small size of the strangulated portion of gut may be sufficient to account for the absence of this symptom.

Mr. Spencer Watson, *6th of March*, 1866.

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14. *Two cases of ulceration of the large intestine as a consequence of chronic and scorbutic dysentery.*

Case I.—The subject of this specimen arrived in England from Calcutta in January last, having there suffered from dysentery during the previous six months. The parts exhibited shew ulcers in almost every stage of progress, and it may fairly be said that a square inch of healthy intestine could not be found throughout the whole course of the colon and rectum, the structure of which was thoroughly rotten; no actual perforation had taken place, though it will be observed that at several places the outer coat alone remains. All the other viscera were healthy, with the exception of a few slight pleuritic adhesions.

Case II.—The subject of this specimen arrived in England from China in January last, having suffered from scurvy and dysentery for two months. This case was eminently one of scorbutic dysentery, and I think that we are justified in presuming that this man would probably have lived and done well, had not bad diet and want of attention produced the complication of scurvy. It will be seen that the disease in this case had by no means greatly advanced, inasmuch as the actual number of ulcers is not very large. The spleen was friable, inclining to that state of rottenness commonly found in patients who have died from scurvy. The other viscera were healthy, with the exception of a cirrhotic liver. This latter condition can hardly be deemed abnormal in the sailor, it being founded in the great majority of *post-mortem* examinations made in this ship. Mr. Harry Leach, *6th of March*, 1866.

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15. *A salivary calculus from the duct of the submaxillary gland, which had attained considerable dimensions.*

The patient from whom it was removed, had noticed its existence fourteen years previously, but had not suffered much inconvenience from its presence. It was removed by simple incision through the mucous membrane.

It measures three-quarters, by one quarter, of an inch, and weighs eleven grains and a-half: its surface is irregularly nodulated, as is usual in these bodies. It is found to contain animal matter, phosphates of lime and magnesia, a trace of sulphate, but *no* carbonate, which is somewhat unusual.

Mr. Alexander Bruce, *20th of March*, 1866.

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16. *Colloid cancer of the peritoneum.*

E. J. W., æt. 37, a labouring-man, was admitted into St. Thomas's Hospital, under my care, on the 5th of December, 1865. He stated that he had been in the habit of drinking gin; and that some years since he had had rheumatic fever; but that his present illness dated only five months back. His symptoms were, he said, in the beginning, nervousness, weakness, pain in the sides, diarrhœa, loss of appetite and sickness. He gradually became weak and emaciated; about two months ago the abdomen began to enlarge, and jaundice appeared two weeks ago. For the last two months his bowels have been constipated.

On admission he was very thin, and deeply jaundiced; the abdomen was large, tense, evidently full of fluid, presented no resonance and no clear evidence of the presence of any tumour. There was slight œdema of the ankles. Tongue clean; thirst, bad appetite, sickness; urine deeply bile-stained, otherwise healthy; pulse 72, heart's sounds normal; no indication of pulmonary disease.

On the 9th, twenty-one pints of fluid were removed from the belly, with a good deal of temporary relief to some of his symptoms. The belly, however, continued tumid. Careful examination shewed now that the liver was certainly not enlarged; but it revealed the presence of a tumour in the upper part and on the left side. This, which was situated at a short distance beneath the walls, extended horizontally from under the ribs on the left side to a little distance beyond the linea alba, as nearly as possible along the boundary line separating the uppermost from the middle series of abdominal regions; it was somewhat irregular, measured (roughly speaking) about an inch from above downwards, and was, within narrow limits, freely moveable in the same direction.

There was no material change in his symptoms; the abdomen gradually and slowly filled, but did not fill sufficiently to call for a repetition of paracentesis; loss of appetite, nausea and constipation, together with

jaundice, continued; he became weaker and weaker, and more and more emaciated, until at length, on the 7th of January, he died.

The treatment was merely palliative, and need not be detailed.

The *post-mortem* examination was made the day after death. The abdominal cavity contained about a gallon and a-half of fluid. The peritoneal surface was covered everywhere with out-growths of colloid cancer. These were mostly soft, translucent, and jelly-like, but some were hard and fibrous-looking. All, however, on section, shewed an alveolar structure, of which the alveoli were occupied by jelly-like material. The great omentum, infiltrated with colloid material, was contracted and thickened, and aggregated along the greater curvature of the stomach, where it formed a horizontal tumour, in shape and bulk somewhat resembling the pancreas. The microscopic structure of the colloid growth, was of the same nature as that usually met with in this disease.

The stomach was contracted, and lined internally with very thick tenacious mucus, on removing which the mucous surface was seen to be superficially ulcerated at many points. The points of ulceration corresponded to points in which the colloid disease, extending from the peritoneal surface, had invaded the whole thickness of the walls of the stomach. Intestines healthy internally. The liver was small, and compressed by the adventitious growth which had formed around it; and its duct was compressed, and, to a considerable extent obstructed by an accumulation of the same material in the substance of the lesser omentum. Spleen and pancreas healthy. Kidneys and urinary system healthy.

The lower part of both pleuræ (including both the visceral and parietal portions) presented a considerable number of tubercles of colloid cancer, many of which had run together forming irregular patches. Some of them had invaded to a slight extent the subjacent lung-tissue. The lungs were in other respects healthy. A very small number of colloid spots were observed on the parietal pericardium. Heart healthy. Brain and its membranes healthy.

Dr. Bristowe observed that there was a point of practical interest on which he wished to remark: viz., the existence of a tumour distinguishable during life, extending along the greater curvature of the stomach, and produced by contraction and thickening of the great omentum. He believed that the formation of a tumour in this situation, by the infiltration of the great omentum with cancer, is of common occurrence in cases of scirrhous or colloid cancer affecting the peritoneum. The knowledge

of this fact had led him, as soon as he discovered the tumour, to diagnose the case as one of one or other of the above forms of disease.

Dr. J. S. Bristowe, *3rd of April*, 1866.

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17. *Stricture of sigmoid flexure of colon.*

The specimen was removed from the body of a female, 46 years of age, who was under Dr. Peacock's care at St. Thomas's Hospital. When first admitted, she had been suffering from constipation for five days. Calomel and opium were given with castor-oil, and injections with O'Bierne's tube, but without effect. Nine days after admission, stercoraceous vomiting came on, and she rapidly sank two days after. The obstruction was found to be situated lower down than had been expected, or at the lower end of the sigmoid flexure. It was so tight as only to admit of the passage of the tip of the little finger, and the opening was entirely closed by a dried raisin which was impacted in it. The intestine above was greatly distended, the mucous membrane in places inflamed and gangrenous, and the serous covering of the bowel intensely congested. The patient was seen by one of the surgeons of the Hospital, with reference to the performance of Amussat's operation, but she died more rapidly than was anticipated, so that the opportunity for operating was not afforded. The stricture was apparently due to the contraction of an old cicatrix; there was but little thickening of the intestinal coats in the situation, and no appearances of cancerous deposit. Dr. Peacock, *17th of April*, 1866.

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18. *Intestine, from a case of enteric fever, fatal at a very late period.*

The intestine was removed from a patient who died at a very advanced period of uncomplicated typhoid fever. The patient was a female, 21 years of age, who was admitted on the fifth day of illness. She had then the usual symptoms of typhoid fever threatening perforation, but the peritoneal symptoms readily subsided under the use of opium. The active febrile stage was never very intense, but it was of extremely long duration, the temperature continuing steadily above the usual standard till the fiftieth day. At the latter part of her illness, she had constant sickness and vomiting of everything which she took, and she was only supported by nutritive and stimulating injections. She died on the

eighty-first day from the commencement of the symptoms. After death, the lower portion of the ileum and the cæcum and ascending colon, displayed evidences of having been the seat of very extensive disease; but the ulcers were almost entirely healed, there being merely in their seats some superficial abrasion and thinning of the mucous membrane. The serous cavity did not display any appearances of inflammation; the mesenteric glands and spleen had resumed their natural condition; and except a small portion of pneumonic condensation in one lung, evidently quite of recent date, there were no other diseased appearances in the body. At the time this case was in progress, there was another in the Hospital, under the care of Dr. Bennett, very similar to it, there being almost constant vomiting. In that case, however, some food could always be retained by the stomach, and the patient ultimately recovered. Dr. Peacock, 17*th of April*, 1866.

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19. *Dilatation of œsophagus.*

This specimen was sent by Dr. Rootes of Ross, just as he had removed it from an old man who had died of pneumonia, and who had all his life suffered with difficulty in swallowing his food.

The œsophagus is enormous, being as large as an ordinary sized colon, but very different from this in other respects, its walls being of great thickness from the increased muscular development of its coats. Lying in the dish, in its undistended state, it measures six inches and a-half in circumference; it is of nearly uniform size throughout, although slightly bulging in two parts. Towards the stomach it suddenly contracts, and here the tube is as much below the natural size as in other parts it is above it. It is indeed here constricted to half its usual diameter. On placing the little finger inside the stomach it may just be squeezed through into the œsophagus, and at the same time no thickening and no trace of cicatrization as a result of disease can be discovered. It appears, however, as if some original narrowing had existed here, and in consequence the œsophagus above had become distended just as a bladder hypertrophies, in a case of stricture of the urethra. The stomach itself is healthy, and of natural size and form.

Dr. Rootes sent with the specimen the following note:—

"Mr. J. K., a farmer, died on the 4th of April, 1866, of pneumonia, being then in the 74th year of his age. He had always enjoyed good health, and came of a sound and long-lived family. He became a patient

of my father's in 1812, and I have known him professionally since 1831, when I first began practice. During the whole of this period he has never had a serious illness which confined him to his bed, but he might have been regarded as a ruminating animal. According to his own account he never remembers to have been free from this ruminating tendency, which I think, therefore, must have been congenital, although he used to say that he thinks he might have brought it on by straining at heavy weights when a boy. He never could take any meal without eating very slowly and masticating very carefully, and at the same time taking a draught of fluid to wash down every bolus of food as soon as it entered the gullet. To this end he found cider the most conducive, so that a pint of this liquor always formed a constitutent of his breakfast. He never partook of any meal of which he did not bring back some portion, and this he always persisted in saying was done by the act of coughing, and that, in fact, he never was sick, and never had been sick. About forty years ago my father took him to Sir Astley Cooper who passed a bougie, the only result of which was that he deposited a hearty breakfast he he had recently swallowed on the carpet of Sir Astley's consulting-room. I have often passed a bougie for him, and it has always been followed by his coughing up more or less of the solid or liquid food taken within the last few hours. I have told him many times that I believed he had a sacculated or pouched gullet, although this was a mere guess. You will not fail to notice the small cardiac orifice of the stomach; but a very careful examination of the diaphragm failed to reveal any trace of injury or disease around the stomach or elsewhere. The complaint produced no inanition, for the body contained a considerable amount of fat."

Dr. Samuel Wilks, 1*st of May*, 1866.

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20. *Patent vitilline duct.*

The subject of this malformation was a child, about four months old, sent to me at St. Mary's Hospital by Mr. Sherman. There was a red vascular projection from the umbilicus, about an inch in length, in the extremity of which was an aperture by which fæcal matter escaped from time to time, and through which a probe passed readily into the intestine. The child was syphilitic and much emaciated, and as it did not seem likely to live, and the discharge of fæcal matter could be prevented by pressue, no operation was resorted to.

After death a short tube was found to pass from the convexity of a coil of small intestine to the umbilicus, where it was continuous with the canal described. It could not be ascertained what relation the projection from the umbilicus had held to the cord, but it had probably been included in it, and been divided with it.

The ductus arteriosus was not quite closed; no other malformation was found. Dr. W. H. Broadbent, *1st of May*, 1866.

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21. *Cancerous stricture of transverse colon. Permanent obstruction of bowels.*

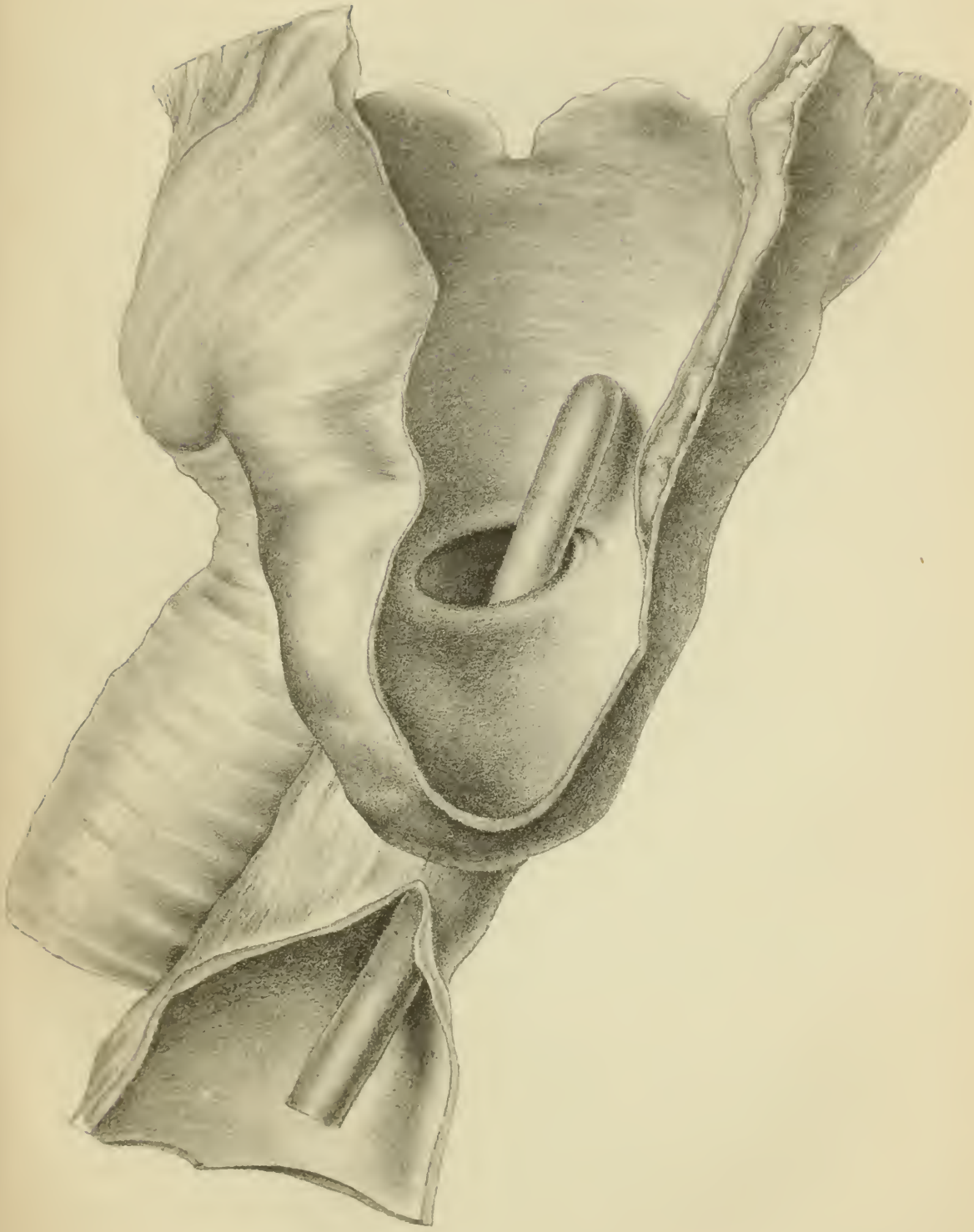
Edward M., æt. 57, a carpenter, had always enjoyed good health till about five months before his death, when he became liable to attacks of a severe stabbing and pinching pain about his navel; these would sometimes last for a day or two, and prevent his working. They were generally accompanied by constipation. He also fell away somewhat in flesh, and his strength declined. On April 7th he had a more than usually severe attack of pain, and from this date there was no discharge from his bowels.

When I saw him on April 14th, his bowels had been confined for a week; he complained of some pain about the navel, but said that it was much less severe than it had previously been. The belly was somewhat tense, and very tympanitic, and the outline of a distended coil of intestine was visible; close to the navel was a small nodule beneath the skin, and this point was very tender. The patient was emaciated; his pulse feeble; tongue dry, and he occasionally vomited; the matters ejected had a fæcal odour. He passed urine abundantly. During the next few days the vomiting abated. The presence of the nodule beneath the skin, and the falling away in flesh and strength before the occurrence of the constipation were sufficient to diagnose a cancerous stricture; and although it was almost certainly situated in the colon, it was not thought advisable to have recourse to any operation, to relieve a disease which must, in a short time, prove fatal. Large enemata of warm water were administered with a long tube. The patient had previously taken a variety of purgatives. He gradually sank, and died on April 17th, ten days after the symptoms of obstruction commenced.

On *post-mortem* examination there was found a stricture in the middle of the transverse colon, which would barely admit the tip of

DESCRIPTION OF PLATE V.

Illustrates Dr. J. W. Ogle's Case of Pouch-like Dilatation of the lower part of the Pharynx. A piece of catheter is introduced to shew the continuity of the œsophagus with the pharynx (p. 141).



the little finger. The walls of the intestine, for the space of about an inch, were much thickened, and implicated with cancer, and on the mucous surface was a deep ulcer extending nearly all round the bowel. The intestine above was enormously distended.

Dr. W. Cayley, 15*th of May*, 1866.

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22. *Pouch-like dilatation of the lower part of the pharynx. Symptoms in many respects resembling those of organic stricture.*

The patient was a man, æt. 63, of moderate size and spare habit, who had complained for many years of inability to swallow anything. When his meals were ended small portions of food were wont to return into his mouth, and this would continue more or less for several hours. For two or three years before death he was subject to attacks of inflammation of the larynx, from which he recovered. His death occurred during an attack of inflammation of the lungs. The dysphagia was always supposed to be owing to stricture of the œsophagus; but no operation for its relief was ever had recourse to.

On *post-mortem* examination, no stricture of the œsophagus was found. The upper part of the pharynx proved to be enlarged, and the pharyngeal muscles hypertrophied; and at the lower part of the pharynx, at a point, that is, corresponding to the lower border of the inferior constrictor muscle of the pharynx, was a pouch equal in size to that of a bantam's egg (see Plate V.). This pouch only involved the posterior and lateral walls of the pharynx, and projected downwards behind the upper part of the œsophagus.* It was apparently composed of a portion of the mucous membrane and sub-mucous tissue protruding through the muscular wall of the pharynx, and did not to the naked eye appear to contain any muscular fibres.

Microscopical examination shewed that the pouch was *not* composed of muscular fibres, but of mucous and sub-mucous structures, fibrous tissues, &c.

Dr. Ogle brought this case before the notice of the Society in connection with the case of more general dilatation of the œsophagus which Dr. Wilks exhibited at the previous meeting. He also alluded to the following interesting case of a somewhat similar nature which, about two years ago, occurred at St. George's Hospital. It was a case of unusual dilatation of the entire œsophagus with absence of any

* See Hospital Pathological Catalogue, Series ix., No. 14.

disease of the stomach, but with obstruction of the thoracic duct from pressure.

Eliza M., æt. 42, was admitted on the 3rd of February, 1864, in a pregnant state. She was much emaciated and suffering from orthopnœa. She had been vomiting for two months and had taken no solid food for four or five weeks. She had pain at the epigastrium and between the shoulders.

It was noticed that in the vomiting the food was often returned with but little effort, mixed with mucus. In spite of remedies orthopnœa came on, the breathing being scarcely perceptible, and she sank and died on the 9th of February.

On *post-mortem* examination, the œsophagus was found to be remarkably dilated from the termination of the larynx to the cardiac end of the stomach, being of about the calibre of the colon; its walls were no thicker than those of the stomach, which they much resembled, and its mucous membrane presented a number of circular openings as if from stretching. The stomach was natural. The thoracic duct was distended to the size of a goose-quill, in places being not smaller than a cedar pencil. This obstruction appeared, on careful inspection of all the parts by Dr. Dickinson, to be entirely the result of pressure upon it by the dilated œsophagus.* The lower portions of both lungs were in a consolidated state.

Nothing more of interest was found in the various organs.†

Dr. John W. Ogle, *15th of May*, 1866.

B. LIVER, ETC.

23. *Carcinoma (encephaloid form) of the lumbar glands, which were converted into a mass weighing between sixteen and seventeen pounds, containing numerous cysts; no other parts of the body affected by the disease.*

Benjamin H., æt. 40, was admitted into St. George's Hospital under my care, on the 23rd of August, 1865, having great enlargement of the abdomen, and a large unyielding tumour in the right hypogastric region.

* At a former meeting of the Society held this Session, March 20th, 1866 (p. 163), Dr. Cayley exhibited a specimen of obstruction of the thoracic duct, in a boy aged 19, who died of peritonitis, apparently caused by the rupture of the receptaculum Chyli.

† See Post-mortem Book, 1864. Fol. 50.

He had been sent to the Hospital from Windsor, where he had been a patient in the Royal Infirmary, and his previous medical history, as supplied by Mr. Brickwell, the House-Surgeon, was as follows:—

"The patient was admitted into the Windsor Infirmary, July 24th, 1865. He had been an out-patient since July 3rd, and came to this Infirmary complaining of swelling of the abdomen. He is a porter at Windsor Castle and has to clean the ormolu, has not to assume any particular posture at work, nor is pressure made on any special part of his body."

"He is a moderately healthy-looking man, with fresh complexion, ruddy cheeks, light brown hair, of a phlegmatic temperament, with light grey irides, and has always enjoyed pretty good health till five or six months ago. He first of all felt great pain, continual, and of a gnawing character, in the region of the kidneys; this continued up to the present period, though it is much worse at one time than another; to this succeeded a pain in the right hypogastric region. He kept falling away and becoming weakly. Has always been a temperate man, and has never had venereal disease; has never smoked much. One brother died of a low bilious fever at the age of 29; one sister died at 22. He has one brother and two sisters younger than himself; there are two older than him. His father used to drink a good deal of beer: his mother was temperate. He has two living children, and two died, when babies, of diarrhœa. Has been exposed to alternations of cold and heat. He had rigors round his loins when first taken ill, with great prostration of strength; has had bilious headache, and has lost appetite; no great thirst, no nausea or vomiting, no diarrhœa. Sleeps indifferently at night; mouth not disagreeable in the morning; skin moderately warm and soft; pulse small, soft, compressible, 94. He lies on either side, or on his back, indifferently; bowels open twice daily, motions dark, solid; urine free; percussion of chest natural; breath-sounds very feeble on the left side at the apex. Abdomen uniformly enlarged, the umbilicus being slightly prominent and flattened, and the epigastric veins slightly enlarged. Fluctuation perceptible. Measurement round the umbilicus thirty-six inches and three-quarters. Resistance to pressure unusually great in the right hypogastric region; abdomen soft, tolerant, and yielding on the left side, except at the lower part and towards the umbilicus, where it feels hard and knotty. The whole of the right side of the abdomen is occupied by a hard unyielding mass having apparently a uniform surface, which reaches up to the margin of the ribs and down to the pubes. He

has been taking iodide of potassium and cod-liver oil, and applying tincture of iodine externally."

July 31st.—"Looks somewhat better in the face, which is not so sunken or anxious-looking; says he feels better, and has been feeling better since he was last here. Has slept pretty well, but has had a good deal of sweating; appetite better than it was; has a slight pain in the side of his abdomen at times, and a good deal of pain in his back; urine turbid."

August 7th.—"Does not feel so well. Slept badly last night; countenance haggard and anxious; skin cool and soft; has had no shivering, and no sweating; tongue clean and moist, appetite better; bowels open two or three times a-day, the motions sometimes rather loose; urine free, 1020, containing no albumen. The circumference of the abdomen measures thirty-eight inches; it has evidently increased in size, and there is great œdema of the scrotum, which commenced four or five days ago, also considerable œdema of the legs and feet."

August 22nd.—"He says the swelling of the abdomen increases in size. Went to St. George's Hospital."

When admitted into St. George's the tumour in the right hypogastrium above-described was, though approaching very closely to the liver, evidently not attached to it; its boundaries were masked by fluid in the general peritoneal sac. There was no dyspnœa, and no cardiac bruit, but there was œdema of the legs. The urine was clear and free from albumen. In the third week in October he had sickness and vomiting, which was stopped by hydrocyanic acid, and on the 27th he was tapped by Mr. Tatum below the navel, but only about two ounces of clear gelatinous fluid escaped. Still fluctuation remained in the upper and left side of the abdomen; but at the lower and right part the hard mass was very prominent. He gradually emaciated; very distressing sickness returned, the bowels throughout acting naturally, and he died on the 6th of November, having been quite sensible to the last.*

Post-mortem examination.—Thorax.—The pleural cavities contained a few adhesions, and one lung an old scrofulous cicatrix. The mitral valve was slightly atheromatous; otherwise the heart was natural.

Abdomen.—On opening this cavity a large mass, very adherent to the parietes of the abdomen, containing numerous cysts, was met with,

* See Hospital Post-Mortem Book, 1865, fol. 305.

occupying nearly the entire part of the cavity. The cysts* were very large in size, had thin friable walls, and contained straw-coloured gelatinous fluid. Behind the cysts was a lobulated mass of soft encephaloid carcinoma, which appeared to have originated in the mesenteric glands; and some of these glands contained tumours of the same nature as the large mass. The entire mass, after the unavoidable emptying of some of the cysts, weighed sixteen pounds and a-half. The stomach, bowels and all other organs of the abdomen were quite natural. Dr. John W. Ogle, *5th of December*, 1865.

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24. *Two cases of abscess of the liver secondary to simple ulcer of the stomach.*

Case I.—John P., aged 51, was admitted into the London Fever Hospital, on October 6th, 1865. For six weeks he had been suffering from pain, tenderness, and flatulence in the abdomen after food, followed occasionally by vomiting. He had suffered from similar symptoms on former occasions but had always recovered. The hepatic dulness was four inches and a half in the right mammary line; no jaundice. Pulse 84. Bismuth and a milk diet were prescribed. Three days after admission it was noticed that the patient had a daily febrile accession about 1 P.M., and it was ascertained that twenty-two years before (but never since then) he had suffered from ague in Kent. Quinine was accordingly administered in large doses. It had no effect, however, on the paroxysms. On the contrary, they became more severe, came on at irregular intervals, and were followed by profuse perspirations and great prostration. The tongue also became dry and brown; the pain and tenderness at the epigastrium were greatly increased, and the bowels became very loose. On October 16th it was noted that he was much lower and greatly emaciated, and that the skin and conjunctivæ had a decidedly jaundiced tint, although the motions contained plenty of bile. Pulse 96. The symptoms above narrated became gradually aggravated; he still had irregular paroxysms of rigors followed by fever and sweating. On October 21st, the jaundice was noted as deep,

* Dr. Ogle observed on the fact that the presence of cysts in encephaloid cancerous masses was rare. He had, on a previous occasion (April 2nd, 1858), exhibited to the Society a specimen of encephaloid growth of the liver, in which a cyst containing fluid was met with. It is figured in a woodcut at p. 238 of vol. ix. of the *Transactions*.

although bile was still present in the motions. The mind was slightly confused, and he had occasional low delirium. He gradually sank and died on October 24th.

Post-mortem examination.—Near the pyloric end of the stomach, on its lower and posterior surface, was a circular ulcer the size of a crown-piece, with its edges slightly elevated and indurated, but containing none of the microscopic elements of cancer. From the base of this ulcer a small fistulous channel passed into an abscess, almost the size of a walnut, in the head of the pancreas. The posterior half of the right lobe of the liver was studded with minute abscesses, from the size of a pin's-head up to that of a pea, containing thick yellow pus. The intervening hepatic tissuse was very hyperæmic. There was no peritoneal inflammation over the surface of the liver. The spleen was large, dark and firm. The other organs were healthy.

Case II.—Martha H., aged 16, was admitted into the London Fever Hospital, December 21st, 1865, her chief complaint being pain in the right side, which had lasted about a week, although she had suffered occasionally before from pain in the stomach and vomiting after meals. The pain in the right side was increased by laughing or taking a long breath. Over the lower third of the right lung, posteriorly, there was dulness with an absence of vocal fremitus and of vesicular murmur. There was no friction or crepitus, however, and the upper margin of the dull space was not horizontal, but arched. Pulse 108. Tongue moist, with white fur. Bowels regular; no jaundice.

Iodine and poultices were applied to the side, and a nutritious, non-stimulating diet prescribed.

No improvement followed. The patient suffered greatly from dyspnœa, to relieve which she was propped up with pillows in bed, and also from pain over the back of the right shoulder. On January 7th, the abdomen was observed to be distended; there were distinct signs of ascites and œdema of the legs. The superficial veins over the right side of the abdomen were also noticed to be enlarged, and there was considerable tenderness on pressure over the liver, with a distinct smooth bulging of the lower right ribs, about midway between the spine and the sternum. The hepatic dulness, however, in the right mammary line was not increased. Pulse 108; respirations 48, thoracic. Skin not hot; no rigors or perspirations. Poultices were applied externally, and a grain of opium administered twice daily.

The patient experienced great, but only temporary, relief from the opium. She generally kept the semi-erect posture, or lay on her left

side. The dulness over the right lung gradually ascended to the level of the third rib; the pulse rose to 140, and there were occasional nocturnal perspirations. She was also harassed by an irritable cough with copious muco-purulent expectoration, and medium crepitation could be heard over the right lung. A small abscess formed over the right shoulder, which was opened on January 21st. The jaundice did not increase, and the stools always contained bile. She gradually sank, and died on February 6th.

Post-mortem examination.—There was no sign of effusion in the right pleural cavity. The lower lobe of the right lung was partly œdematous, and partly in a state of granular consolidation. The peritoneum contained about two pints of turbid fluid. The right lobe of the liver was very much enlarged and arched upwards. It adhered firmly to the diaphragm and to the abdominal parietes on the right side. Between the upper surface of the right lobe and the under surface of the diaphragm, there was a space containing several ounces of pus. The greater part of the right lobe of the liver, except the anterior margin, was one mass of small abscesses, some containing liquid yellow pus, others a concrete material of the consistence and appearance of clotted cream. There were no abscesses in the left lobe of the liver, or in any other organ. In the lesser curvature of the stomach, about five or six inches from the pylorus, there was a simple ulcer the size of a shilling; the mucous membrane round it was neither red nor thickened, and there was no suppuration in the coats of the stomach.

Remarks.—The two cases now narrated have several points of interest. In the first place, abscess of the liver is far from being a common sequel of simple ulcer of the stomach. Again, jaundice, rigors, and perspirations were prominent symptoms in one case, but were (excepting a very slight yellow tint of skin), absent in the other, which was chiefly distinguished by pain and dyspnœa. The chief point, however, to notice, is the character of the abscesses in the liver. In both cases, they were small and *multiple*, exactly like the abscesses so common in this country as the result of pyæmia, and very different from the abscesses of the liver met with in tropical climates, which are for the most part large and single. It is also worth noting that in one of the cases an abscess formed externally over the shoulder. So far as my experience goes, the hepatic abscesses which are found in connection with ulceration of the mucous membrane of the stomach, intestines, gall-bladder, or biliary passages, are always of this multiple or pyæmic character. I am inclined to think that the character of the abscesses,

in these cases, is a strong argument (in addition to many others that might be adduced) against the view that tropical hepatic abscesses are always the result of dysenteric ulceration of the mucous membrane of the intestine. Dr. Murchison, *2nd January*, 1866.

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25. *Case of biliary calculus.*

The following case came under my notice in the month of May, 1865.

The following extracts from a letter from my lamented friend Dr. Hodgkin, contains a record of the symptoms up to the time of my seeing it:—

"I regret not having preserved any memoranda of the case of our patient, J. G., but I think I can give thee the principal facts connected with it."

"J. G. is about 50 years of age, retired from business, but actively employed, both as a minister, and in attentions to his poorer neighbours, &c., &c.

"As a minister, he had made frequent journeys, visiting meetings, &c., and when engaged in this manner in Ireland, about two years ago, he felt, I believe for the first time, the epigastric pain, the continuance of which, together with sickness, with some intermissions, distressed him from that time; a considerable swelling was, some time after the commencement of the pain, perceptible in the right hypochondrium. The swelling and other symptoms progressively increased, and became the cause of great anxiety, both to the patient and to his friends, more especially, as various and doubtful opinions were entertained as to the nature of the case:—abscess, malignant tumours, and other disorders being diagnosticated.

"In this state of things, I was asked to see the patient by one warmly interested friend, for he himself was well satisfied with the attentions of his kind medical man.

"When I saw him, J. G. was somewhat reduced by his long illness, but his countenance was not unhealthy. The tumour in the epigastrium had greatly subsided, but where it had been most prominent, the skin had a blush of redness. From a small spontaneous opening a little fluid escaped in the dressing, but it was not tinged with bile. It was rather watery and sanguinolent; the diminution of the swelling was about contemporaneous with disturbance of the bowels, with increased nd loose discharges from them. Though the hypochondrium might be

still generally more resistant to pressure than is quite natural; the discoloured part was sensibly depressible over a space of about the size of a two-shilling-piece, in which was the small aperture. * *

"After a careful examination, and consideration of the various possible conditions, I came to the conclusion that a gall-stone was either lodged in the gall-bladder, or in a sac formed around it, after escape from it; —that it was, whichever was the case, cut off from communication with the liver, and that nature had attempted a passage both by the intestine and by an external opening, neither of which had, as yet, been effectual. A month passed away without my seeing him again; * * I therefore concluded to have the assistance of my friend, J. Gay, who, after the patient had been brought under the influence of chloroform, succeeded in detecting, and almost in removing, the gall-stone."

In the examination of the case, I found percussion of the utmost value. The sinus was situated just to the right of the gall-bladder. The ordinary director could not reach to the bottom of it. Drawing a line from the anterior superior spine of the ilium through the sinus, all external to it was dull on percussion, all towards the umbilicus, resonant, I determined, quite coinciding in Dr. Hodgkin's and Mr. Lynch's opinion, in freely enlarging the sinus, cutting upwards and outwards; and, after doing so, I found that the probe discovered a body which was moveable, at the depth of at least five inches from the surface. I happened to have no other than a pair of common dressing forceps with me; these were not nearly long enough; for, in the attempts to remove it, the calculus would pass out of reach, and only return to its wonted position after leaving it to itself for some minutes. After many ineffectual attempts, aided with every form of extemporized extractor that we could devise, we determined to leave it for spontaneous extrusion, in the belief that the obstacles to such a course had been removed by the free division of the sinus *throughout*. I should mention that the calculus evidently lay in a *tough* cyst; and that the smallness of the natural aperture in the cyst, would have alone prevented its coming away.*

The recital of a single case is of little comparative value. Some years since I removed a similar calculus from an abscess which had formed above and to the right of the umbilicus, in an old lady, a patient of the late Dr. Catherwood.

In the '*Transactions*' of the Society, and elsewhere, other cases are to be found, from the notes of which, many useful points regarding the

* The calculus approached the surface, and was, I believe, removed afterwards by Mr. Image.—J. G., *Aug.*, 1866.

origin of these calculi, the courses which they take for natural extrusion, and their effects on the gall-bladder, may be inferred.

They usually extrude by passing directly through the common duct into the bowel; or indirectly by a fistulous passage, either into an adjoining portion of bowel—most frequently the duodenum, or from the gall-bladder, by a more or less circuitous route, through the integuments on the right side of the abdomen, between the region of the liver and the umbilicus.

Mr. Simon, in the fifth vol. of the '*Transactions*,' thus describes the steps in the formation of such a sinus, viz.:—its 'passage from the gall-bladder by ulceration; its inclusion in an abscess-like cyst; the cohesion of this with the parietes; and the perforation of the integuments.'

In some instances, however, the tract differs in its course. Mr. Robinson, of Newcastle-upon-Tyne, records a case in which it led from the gall-bladder through a dilated hepatic duct, a portion of the liver, and the integuments; the upper surface of the liver, having become firmly adherent to the abdominal walls.—(*Med.-Chirurg. Trans.* Vol. xxxv.) The gall-stone in this case was lodged in, and obstructed, the common duct. Dr. Ogle narrates a case in which a part of the right lobe of the liver and the duodenum, which was adherent to it, formed the boundaries of an abscess which contained, with other matter, a number of biliary concretions. The cystic duct could be traced into the liver. The abscess communicated, by round and circular openings, with the interior of the common bile-duct and with the duodenum as well. (*Path. Trans.*, Vol. v.)

A biliary fistula appears to result from repeated or persistent over-distension of the gall-bladder, through obstruction of the common duct, made in most instances by the gall-stone itself.

Mr. Obré has recorded a case in which a large calculus almost filled a contracted and "much-thickened" gall-bladder. From symptoms during life it was obvious that the calculus occasionally obstructed the visceral termination of the duct, so that a fistulous passage was at length formed.—(*Path. Trans.*, Vol. i. p. 272.)

In all these cases, whatever be the course of the sinus, the gall-bladder ulcerates at the same point at which it gives way when rupture follows over-distension; viz., the fundus, as in a case of Dr. Leared's, in the '*Transactions*' (Vol. x., p. 177). Other cases confirmatory of this point have been recorded by Dr. Peacock in Vol. i., Dr. Vanderbyl in Vol. viii., and Dr. Baly in Vol. x. of the '*Transactions*.' The biliary fistula does not always include the gall-stone which

led to its formation; the stone has been found impacted elsewhere, either in the cystic or common duct, or in the gall-bladder; and it is only in cases in which the obstruction has taken place at the orifice of the cystic duct, on the side of the gall-bladder, that the stone is likely to find its way through the walls of that viscus.

One of the phenomena connected with gall-stones is the occasional shrivelling and degeneration, even to almost total disappearance, of the gall-bladder itself. Andral, in his *Précis d'Anat. Path.* mentions a case, referred to by Mr. Simon, in which several biliary concretions had been discharged through the walls of an acute abscess over the situation of the gall-bladder. Complete recovery followed; but after death the gall-bladder was found to have disappeared, and its place to have become occupied by dense areolar tissue. Dr. Gibb mentions a similar case in Vol. x. of the '*Pathological Transactions.*' The gall-bladder was shrivelled up, and contained pus and a calculus. The cystic duct terminated in a pouch, whilst the duodenal end of the common duct was surrounded, but not completely obstructed, by a mass of indurated glands. Mr. Wood relates another case of complete atrophy of the gall-bladder, from some transient cause of obstruction. The common and proper hepatic ducts were dilated to double their normal size, but still pervious (Vol. x., p. 176).*

But, going a step further, pathology shews us that, with ulceration of the gall-bladder, and the formation of an externally opening fistulous tract, the 'abscess-like cyst' which was observed in Mr. Simon's case might become a permanent cyst, shut off from the general biliary apparatus; and in such cysts masses of concrete cholesterine have been found. Mr. Simon refers to a specimen of this kind in the Museum of St. Thomas' Hospital, as well as to a second in which such a cyst exists and is observed to contain '*irregular masses of concrete biliary matter and small biliary calculi.*'

Regarding then, these *biliary* fistulæ, in the majority of instances, as strictly what their name denotes them to be, and not perhaps exclusively designed for the extrusion of calculi, it is not improbable that the concretions which are found in them are not unfrequently formed either there or in those cysts which, from their position, origin, and permanency might be regarded as supplemental gall-bladders, and especially so when related to gall-bladders that have disappeared by a process of degeneration. Mr. Gay, 16*th of January*, 1866.

* See also case by Dr. Murchison in *Path. Trans.*, Vol. xii., p. 86, and references to several other instances in Dr. M.'s "Memoir on Gastro-Colic Fistula," *Edin. Med. Journal, July*, 1857.

26. *Syphilitic disease in the liver, lungs, bronchial glands, dura mater, cranium and sternum.*

The history of the case is imperfect. C. F., æt. 28, carpenter in a merchant ship, was taken ill on the 14th of December 1865, with pain, supposed to be rheumatic, in the right hip, and in both knees, which continued when he was admitted into the German Hospital on the 21st of December; there was scarcely any swelling of the joints, and the fever was but moderate in comparison with the patient's appearance of suffering; the pulse rarely exceeded 100, and the temperature seldom 102° F., (not quite 39° cent). On the 29th of December he first complained of headache, but Dr. Baeumler, the resident physician, heard afterwards, from one of the patient's companions, that he had already previously suffered from it during his last voyage. The headache gradually increased; on the 7th of January he had a fit of unconsciousness and rigidity of all the muscles, lasting about twenty minutes, after which he remained in a semi-comatose state, out of which he could, however, be roused until the 9th, when complete coma supervened. Death took place on the 11th of January.

There had been no vomiting, except on the 9th of January, and no paralysis before the same day, when all the limbs became perfectly flaccid and motionless, and remained so up to death. There had been no jaundice, and the urine had been free from albumen, and not unusually tinged with bile.

Post-mortem examination.—The external surface of the cranium was normal, but there was a layer (about $\frac{1}{15}$ to $\frac{1}{20}$ inch thick) of very vascular exudation on the inner surface of the frontal, temporal, and parietal bones of the right side, with thickening of the corresponding firmly attached dura mater, which on its arachnoid surface exhibited a similar, slightly thicker layer ($\frac{1}{10}$ to $\frac{1}{15}$ inch in thickness) of exudation, abundantly supplied with blood-vessels, and containing many small hæmorrhagic spots. The pia mater and arachnoid covering the adjacent portion of the right hemisphere, and to which the dura mater was slightly adherent, were inflamed and slightly thickened within the circumference of a crown-piece, but they could be removed from the flattened gyri without tearing any brain-substance. The bone-substance evidently participated in the inflammatory process by actual increase, innumerable minute spikes and ridges extending from the internal surface of the cranium into the exudation-layer. An analogous, but much less advanced, condition of cranium and dura mater, was seen in the corresponding

region of the left side. The appearance of these changes much resembled the condition described by Virchow as "Pachymeningitis."* The microscopic examination demonstrated in both exudation-layers (viz., in that above, and in that below the dura mater), a preponderance of nuclei and large nucleated cells over fibres, many of the nuclei and cells being in a more or less advanced stage of fatty degeneration.

The whole brain was congested, especially the pons and the crura cerebri, in which were observed several minute fresh hæmorrhages. There was not much serous effusion either in the ventricles or on the surface of the hemispheres.

On the inner surface of the upper portion of the sternum was a fresh node, about one inch and a-half in length, and one inch in width, formed by swelling of the cartilage and perichondrium, and there was a layer of plastic exudation on the latter.

Both *lungs* were decidedly firmer and heavier than normal lung-tissue, and did not collapse so readily; every portion of them, however, floated on water; over the greater part of their surfaces, especially near their edges, the ramifications of the lymphatics were seen much distended, and filled with a creamy fluid (Plate VI., Fig. 1.); the sections of both lungs, exhibited everywhere numerous pale yellow, prominent spots, which, to superficial inspection, had an appearance somewhat resembling miliary tubercles, but, on closer examination, were seen to be caused by semi-coagulated lymph, squeezed out, by the act of cutting, from the enlarged lymphatics. There appeared to be also an increase of connective tissue round the lymphatics and small bronchial tubes, and between the lobules.

The creamy fluid taken from the lymphatics on the surface consisted principally of small fat-globules of different sizes, isolated as well as aggregated into irregularly-shaped heaps, with many granular corpuscles and a small proportion of large cells containing one or two large nuclei, most of which were more or less advanced in fatty degeneration. The semi-coagulated fluid, forming the white spots in the sections, had the same microscopical constituents, but with a greater proportion of cells.

The bronchial glands were much enlarged, some to the size of a pigeon's-egg, some only to that of hazel-nuts. From the greyish-white section of the larger glands, which were rather soft, a creamy fluid exuded, consisting of fat-globules, granular corpuscles, and an abundance of

* Das Hæmatom der Dura Mater, von Rud. Virchow. Verhandl. der phys. medic. Gesellschaft in Würzburg. Vol. vii., p. 134, 1857.

large cells, with one or two, very rarely three, nuclei; most of the cells were undergoing fatty degeneration. The cells were similar to those contained in the lymphatics of the lungs, but many of them were larger, and had more distinct nuclei, and their proportion to the other constituents was much greater. The less enlarged glands were harder, their sections offered a marbled appearance, large white patches, almost like bacon, being interspersed with greyish-red, very vascular tissue (Plate VI. Fig. 2). No juice exuded spontaneously, or could be squeezed from the section. Large nuclei and nucleated cells were the principal microscopic elements, with a very small proportion of fibres, thickly studded with nuclei. The less enlarged glands were, therefore, in the stage of increased cell-formation, "cellular hyperplasia," (Zellige Hyperplasie), as Virchow terms this condition, in his excellent paper on constitutional syphilis,* while the larger and softer glands were already in the stage of fatty metamorphosis. The lymphatics leading from the lungs to the enlarged glands, were, as pointed out to me by Mr. Hutchinson, perceptibly enlarged.

The heart and great vessels were normal.

The liver of average size and weight, had on its surface many roundish spots, some of them confluent, the majority, however, isolated, from the size of a pea to that of a silver threepenny-piece, greyish-red and depressed in the centre, with a slightly elevated margin, the inner portion of which was of increased redness, while the outer portion was paler, and gradually passed over into the surrounding normal liver-tissue (Plate VII., Fig. 1). Sections made in different parts and directions, shewed that these spots were dispersed all through the organ, and exhibited various stages of development (Plate VII., Fig. 2); some of them, especially the smaller, were in the centre slightly prominent, and of a deeper red colour than the normal tissue, and had a pale yellowish circumference; other spots, and especially the larger, were in the centre greyish-red, distinctly depressed, and surrounded by a slightly elevated wall, the inner zone of this wall being darker and deeper red than the normal tissue (like the centre of the smaller spots), the outer zone being pale yellow. To the touch of the finger, the consistency of these spots did not perceptibly differ from that of the surrounding substance, but in using Valentin's knife the spots always yielded slightly thicker, and much less translucent, sections. Under the microscope, the depressed centre showed an increase of fresh connective tissue, studded with

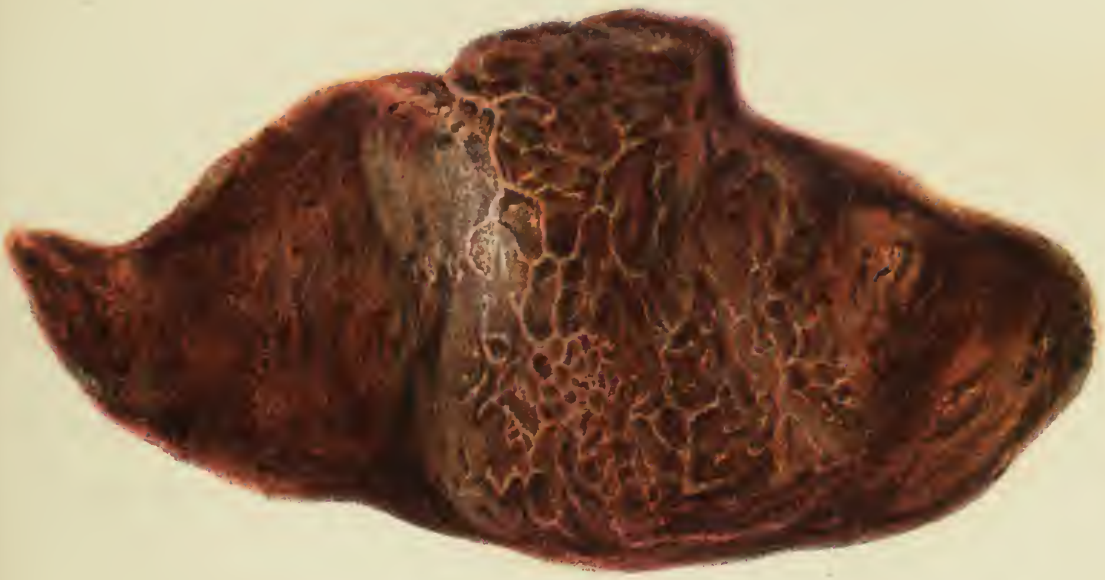
* Ueber die Natur der constitutionell-syphilitischen Affectionen. von. Rud. Virchow. Archiv. für patholog. Anatomie, Vol. xv., 1858, pp. 217, 336.

DESCRIPTION OF PLATE VI.

Illustrates Dr. Hermann Weber's case of Syphilitic Disease of the Liver, Lungs, Bronchial Glands, etc. (p. 152).

Fig. 1. A portion from the edge of the lower lobe of the right lung, shewing the appearance of the enlarged lymphatics on the surface.

Fig. 2. Section of one of the less enlarged lymphatic glands from near the bifurcation of the bronchi.



DESCRIPTION OF PLATE VII.

Illustrates Dr. Hermann Weber's case of Syphilitic Disease of the Liver, Lungs, Bronchial Glands, etc. (p. 152).

Fig. 1. Portion of the convex surface of the liver, with syphilitic deposits.

Fig. 2. Section of a portion of the right lobe of the same liver, shewing similar deposits in the interior.

Fig 1

Fig 2

E Burgess del T West. lith

W West Chromo lith

numerous nuclei, a few fusiform, and some large oval, nucleated cells, more or less advanced in fatty degeneration, while the normal liver-cells appeared reduced in quantity and size; the raised circumference exhibited augmented vascularity, numerous free nuclei and large cells, some granular corpuscles, and liver-cells gorged with fat-globules, together with an abundance of free oil-globules. The centre of the smaller spots, appeared, under the microscope, much like the raised wall of the larger ones.

The kidneys had several stellated cicatrices, but were otherwise normal.

The testicles had a healthy appearance.

There was a cicatrix on the penis near the frænum. The inguinal glands were slightly enlarged and hard. The lymphatic glands of both elbows, and of the neck, were considerably enlarged and hard; and the follicles of the root of the tongue were likewise much larger than is usual. There were hard cicatrices on both arches of the palate.

Remarks.—The coexistence of the various pathological alterations described in the dura mater and skull, on the sternum, in the bronchial glands, and lungs, and in the liver, together with the presence of cicatrices on the penis and on the fauces, and of the induration and enlargement of the cervical, orbital, and inguinal glands, points strongly to the syphilitic nature of these pathological changes. The general character of the alterations is the increased formation of cellular constituents, viz.: nuclei and nodulated cells of different, some of very large, sizes; in their further progess, they exhibit, in some parts, a tendency to fatty degeneration, in others, to cicatrization, by the development of connective tissue with atrophy of the normal tissue.

The alterations in the liver differ, it is true, from those communicated by Dittrich,* Gubler,† Virchow,‡ Wilks,‡ Bristowe,‖ E. Wagner,¶

* Der syphilitische Krankeit's-process der Leber. Prager Vierteljahrscrift, 1849, Vol. xxi. p. 1.

† Mémoire sur une nouvelle affection du foie, liée á la syphilis héréditaire, chez les enfans du premier age. Par le Docteur A. Gubler. *Gaz. Méd. de Paris*, 1852.

‡ Loc. cit., p. 266.

§ On the Syphilitic Affections of Internal Organs. By Samuel Wilks. *Guy's Hospital Reports*, Third Series, Vol. ix. p. 1, 1863; and *Transactions of the Pathological Society*, Vols. viii. and ix.

‖ Syphilitic Disease of the Brain and Liver. By Dr. Bristowe. *Transactions of the Pathological Society*, Vol. x., p. 21.

¶ Das Syphilom, oder die constitutionell-syphilitische Neubildung. By E. Wagner. Archiv. f. Heilkunde, 1864, p. 121.

Murchison,* and others, but this is probably owing entirely to the fact, that these pathologists describe changes of a later period, while the specimens from the present case belong to an earlier stage, at which death rarely procures the opportunity of an examination.† There were here no cicatrix-like formations, no knotty tumours surrounded by fibrous tissue, but there were numerous patches of an inflammatory alteration throughout the entire organ, without any kind of demarcation between the affected and the surrounding normal tissue; there was, in many patches, however, evidence of a tendency to cicatrization, from the centre towards the periphery. The result of this process, if the patient had lived long enough, would probably have been the formation of numerous cicatrices and a puckered appearance of the liver, as described by the authors mentioned, and also by Frerichs,‡ in his work on "Diseases of the Liver."

With regard to the alterations in the lungs and bronchial glands, I am unable to refer to any analogous observations on constitutional syphilis, for, although the condition of the glands was similar to that described by Virchow and other pathologists, yet none of them alludes to the remarkable engorgement of the lymphatics in both lungs, which was no doubt in intimate connection with the state of the glands. Three views offer themselves with regard to the nature of this connection, viz.:—

1. That the bronchial glands were originally affected by the syphilitic process, and caused the engorgement of the pulmonary lymphatics by stopping up the passage of the lymph.

2. That the disease originated in the periphery, *i.e.*, that there was an irritation, akin to an inflammatory process, in the tissue of the lungs, with an abnormal formation of lymph in the pulmonary tissue, leading to consecutive affection of the bronchial glands.

3. That the disease affected simultaneously the origin of the lymphatics and the bronchial glands.

Without altogether excluding the third view, I am inclined to adopt the second. As the mesenteric glands become enlarged, in irritative diseases of the mucous membrane of the intestines, and as the cervical

* Specimens of Syphilitic Disease of the Dura Mater, Liver and Diaphragm. By Dr. Murchison, *Transactions of the Pathological Society*, Vol. xiii., p. 250.

† See case recorded by Dr. Wilks, at p. 167.—Ed.

‡ A Clinical Treatise on Diseases of the Liver. By Dr. F. T. Frerichs. Translated by Dr. Murchison for the New Sydenham Society. Vol. ii., p. 154.

glands become affected in chronic eruptions on the scalp, so, I suppose, the affection of the bronchial glands, in this case, was secondary to an irritative process in the lung-tissue, a process which in its further development, might perhaps have led to a syphilitic cirrhosis, or fibrous degeneration of the lungs.

I will not increase the length of this report by remarks on the illustration which the case affords with regard to the pathology of the "syphilitic cachexia" or "lues," but I must not omit the confession, that no correct diagnosis had been made during life.*

Dr. HERMANN WEBER, 16*th of January*, 1866.

Report on the above specimen.—We have, in conjunction with Dr. Weber, very carefully examined the specimens referred to us. In all important points we agree with Dr. Weber's description of the morbid appearances, and it would, therefore, be useless for us to repeat his statements. As regards the cause of the distended state of the pulmonary lymphatics, we prefer to give no opinion, as the condition is one in illustration of which very few facts have as yet been collected.

We think that there can be no room for doubt as to the correctness

* Since this case was brought before the Pathological Society, I have observed a somewhat analogous one which may throw some light on the diagnosis of the "rheumatoid" affections of joints in constitutional syphilis. On March 22nd a sailor, æt. 45, was admitted into the German Hospital, who was supposed to suffer from rheumatism. He complained by day and night of pain in the knees, elbows, maxillary joints and forehead, and had at the same time a moderate degree of pyrexia. Dr. Burger, the resident medical officer, and myself, were at once struck by the fact, that he had the same expression of suffering, the same gloomy and depressed countenance which we had observed in the preceding case. On inquiry, we learnt that about eight months before admission he had contracted a chancre which had been followed by secondary symptoms, and had been treated by mercury. There was in this case nothing of the peculiar, rheumatic perspiration; there was scarcely any swelling of the joints; the latter were tender to the touch, but, on more accurate examination, it was found that the pain was not caused by pressure on the joints themselves, but on the epiphyses of the bones, as the tuberosities of the tibia, the condyles of the ulna, the head of the radius and the olecranon; the lymphatic glands of the groin, the elbows and the neck were enlarged. The diagnosis of constitutional syphilis was corroborated by the appearance of a syphilitic iritis, and by the curative effect of large doses of iodide of potassium. It will be interesting to ascertain whether the peculiarities of this case of syphilitic affection of joints are constant in these conditions; viz., absence or slightness of swelling with great tenderness, the seat of which is in the epiphyses of the adjoining bones, and the gloomy countenance of the patient. —H. W., *May*, 1866.

of Dr. Weber's belief, that the lesions described are all of syphilitic origin.

The coincidence of periostitis in the sternum, inflammation of the skull-bones, disease of the liver, and general enlargement of the lymphatic glands throughout the body, in a man who had a scar on the penis, and symmetrical scars in the throat, is quite sufficient, even in the absence of a life-history, to warrant a confident conclusion on this point.

Dr. James Andrew,
Mr. Jonathan Hutchinson, *20th of February*, 1866.

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27. *Specimen of gall-bladder with cystic duct obstructed by a calculus.*

This was removed from the body of a woman, æt. 43, whose case will be found at p. 125. It was found enlarged and full of transparent fluid. A large calculus could be felt within it. At the commencement of the cystic duct a gall-stone, the size of a musket-ball, was firmly impacted. It had apparently passed some way along the duct which was commencing to contract behind it. The common bile-duct was free. The fluid was found to consist of thick yellowish mucus with abundant flaky masses suspended in it. Plates of cholesterine and columnar epithelium were recognised in it on microscopical examination.

The calculus in the gall-bladder had four facets upon it, and was with its fellow in the duct composed mainly of cholesterine.

There was a distinct history of occasional attacks of the passage of gall-stones accompanied with jaundice.

Dr. Duckworth, *6th of February*, 1866.

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28. *Acute atrophy of the liver.*

Thomas N., æt. 20, warehouseman. Died in St. Bartholomew's Hospital, under the care of Dr. Farre, January 26th, 1866.

History.—Had always enjoyed good health up to about five months before his death, when he contracted syphilis. For the last five or six weeks he was observed to be very drowsy after his meals, and, although naturally good-tempered, to be very irritable when roused. His fellow-workmen also noticed that he seemed to be scarcely equal to his work. On January 14th, his father first saw that he was jaundiced, but he was

still able to get about, and attended at the Hospital as an out-patient. He became gradually worse, and on the night of January 23rd, he was wildly delirious, but the next morning he was again quiet, sensible, and able to move about the house. In the evening the delirium returned, and the next day he was admitted into Mark ward. Whilst being brought to the Hospital, he broke two teeth by the convulsive movements of his jaw. During the time he was under observation, he was comatose, and immediately before his death he was again convulsed.

Post-mortem examination thirty hours after death.—Body, fairly nourished, deeply jaundiced, faint reddish-brown, slightly scaly spots (syphilitic) scattered over the trunk. Considerable enlargement of inguinal glands on both sides. No scar or recent lesion detected on the genital organs. The liver weighed one pound fifteen ounces. Its form was natural, except that the left lobe appeared to be, proportionately, rather less than usual. The surface was congested, ecchymosed, and, where not discoloured, by contact with the intestines, of an orange-red colour. The capsule was not thickened or opaque, but was very lax, so that a gentle stream of water falling on it, threw it into large wave-like folds. The substance of the organ within it felt almost diffluent, but on section, it was found to be moderately firm and supple. The colour of a section was an orange-red, as on the surface, but somewhat brighter in hue, and scattered through it were patches of a redder and deeper tint. Under the microscope, only a few hepatic cells were here and there detected, presenting their normal character. The bulk of the organ was made up of granular matter and oil-globules, generally of small size. A few masses of leucine and more numerous crystals of tyrosine were also observed. The gall-bladder contained a little bile. The spleen weighed seven ounces; on section, it was dark red, and of beefy appearance.

The urinary bladder contained several ounces of deeply bile-tinted urine, in which leucine and tyrosine were present. The mucous membrane of the alimentary canal appeared to be natural throughout, but the upper part of the jejunum contained a large quantity of dark tarry blood. In the head, the dura mater was found to be firmly adherent to the bone, along the line of the longitudinal sinus, especially at the vertex, where there was a deposit of lymph between the bone and the membrane. Dr. Andrew, *20th of February*, 1866.

29. *Malformation of the liver.*

The specimen about to be described was obtained from the body of a man who died of phthisis, at the age of 32. Nothing was observed during life to draw attention to any peculiarity of the liver.

The liver was completely divided into two parts along the longitudinal fissure. One portion, which seemed to answer to the left lobe, was found lying about three inches from the other, and was attached by a sort of mesentery to the cardiac end of the stomach. It lay on the same level as the rest of the organ, a little distance in front of the spleen and nearer to the median line. The larger part, representing the right lobe, occupied the usual position of the liver. It was generally rounded in shape. The gall-bladder was attached to its under surface. The ducts were somewhat mutilated before the peculiarity was discovered, but, as far as could be ascertained, they were distinct, for the two parts. Besides the two large divisions of the organ, there were several isolated nodules of liver-substance, in the neighbourhood of each, which varied from the size of chestnuts to a much smaller bulk: they were connected by cellular tissue to the surface of the larger mass, and were embedded in the mesentery belonging to the smaller.

The preparation is in the Museum of St. George's Hospital.

Dr. Dickinson, *20th of March*, 1866.

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30. *Dilated bile-ducts opening into left pleural cavity. Partial yellow atrophy of liver.*

S. J., aged 63, a laundress, was admitted into the Middlesex Hospital, under the care of Dr. Thompson, on the 23rd of February. The patient's health had always been good; but she had lived for some time in tropical America. Eight days before her admission she was seized with rigors, burning pain in the epigastrium, and diarrhœa; she also had a slight cough. These symptoms were followed by jaundice.

On admission, she was deeply jaundiced; skin hot and dry; pulse 116, full and bounding. Tongue dry, raw, and fissured. The hepatic dulness extended two inches below the umbilicus, and upwards nearly to the mamma.

Moist râles were audible over the base of the left lung, and there was a systolic murmur over the dull space in the right hypochondrium. She complained of a sharp pain in the hepatic region and in the right

shoulder; her bowels were confined, but after the administration of purgatives she passed copious stools, pale, but still containing bile. The bowels now continued relaxed, and the motions throughout were biliary.

The patient gradually got weaker, hiccough set in, and she became very drowsy; the jaundice rather diminished in intensity. On the 29th, low muttering delirium came on, and it was noticed that the hepatic dulness had much diminished; on the 1st of March, the liver did not reach below the edge of the ribs, and the systolic murmur over the hepatic region was gone. The patient became comatose and died on the 2nd of March. The duration of the case from the commencement of the symptoms to death was thirteen days.

On *post-mortem* examination, the left pleural cavity was found to contain more than a pint of bile mixed with pus. The upper surface of the left half of the diaphragm was smeared with yellow lymph, and in itscentre was a perforation which would admit a No. 4 catheter; this led into an irregular cavity situated between the upper surface of the left lobe of the liver, the spleen and the diaphragm, and shut off from the general peritoneal space by recent adhesions. The liver was of rather small size; the left lobe was disproportionately smaller than the right. The edges were thin, the surface generally smooth and pale, the consistence doughy. Scattered over the surface of the liver were little elevations of a dark greenish colour, which, on section, were found to be formed by cysts filled with viscid, greenish bile, resembling that in the pleural cavity; one of these cysts on the upper surface of the left lobe was ruptured, allowing the contents to escape into the cavity which existed between the liver and diaphragm. These cysts were most numerous in the left lobe; they varied in size, for the most part, from a pin's-head to a hemp-seed. On section, the liver-substance was pale and yellow, the central parts of the lobules somewhat darker than the circumference, and numerous cysts, filled with dark biliary matter, resembling those on the surface, were visible. The common, cystic, and right and left hepatic ducts were enormously dilated. The common duct would allow the fore-finger to be introduced into it from the duodenum. This dilatation extended throughout the ducts in the substance of the liver. They were all empty, and their lining-membrane was not stained by bile.

The gall-bladder was contracted, and contained some viscid yellow mucus, but no true bile.

On microscopical examination of the contents of the cysts in the

liver, they were found to consist of large numbers of more or less disintegrated liver-cells, containing biliary colouring-matter, abundance of pus-cells, an immense number of crystals of hæmatoidin and many little bundles of circular crystals of tyrosine, but no leucine was visible. There was also much granular débris. On subjecting to examination thin sections of liver-tissue, the liver-cells were for the most part of normal appearance, but they contained much oily matter. In some places, however, especially round the cysts, there were tracts where the liver-cells had almost entirely disappeared, leaving a yellow, oily and granular débris. These tracts were not very extensive and could not be distinguished by the naked eye. The viscid contents of the gall-bladder were found to consist chiefly of columnar epithelium and pus-cells. On examining the head, a quantity of soft recent lymph was found effused beneath the arachnoid, both over the hemisphere and at the base of the brain. There were no tubercles present.

No gall-stone was present in the bile-ducts or the intestines, which contained some semi-fluid yellow fæcal matter.

This case presents very remarkable features. The symptoms during life were those of acute yellow atrophy of the liver, and this process had affected small portions of the liver-substance. The great dilatation of the bile-ducts, could hardly have been produced by anything but a gall-stone, which could only have remained impacted for a very short time, as nine days after the commencement of the symptoms bile was found in the motions. The cysts in the liver containing hæmatoidin crystals, pus, and broken-down liver-cells would indicate that a temporary obstruction to the duct had caused a rapid process of disintegration in the grandular substance, and, as the symptoms shew, a more or less complete arrest of its secreting functions. The apparent large increase in the size of the liver on the patient's admission, was doubtless, owing to the formation of the biliary abscess between the liver and diaphragm, by which that organ was forced down to below the level of the umbilicus, and the apparent sudden decrease to the bursting of the abscess into the pleura. The supervention of meningitis is a well-known complication of acute yellow atrophy, and though, in this case, only small portions of the liver had undergone that change, yet its secreting functions appeared almost entirely destroyed. Dr. W. Cayley, 20*th of March*, 1866.

31. *Obstructed thoracic duct. Rupture of receptaculum chyli. Peritonitis.*

Charles S., æt. 19, a shopman, was admitted into the Middlesex Hospital on the 19th of February. He had been suffering, for about a week before his admission, from constipation and loss of appetite, and had taken a good deal of purgative medicine. Two days before admission, he was attacked by severe abdominal pain and tenderness, with vomiting; these symptoms were much relieved by opium and enemata which caused the bowels to act. On admission, there was some abdominal pain and tenderness; the patient lay on his back with his legs drawn up, and during the night he was a little delirious. The next morning he was seized with vomiting, and brought up much yellowish matter of a somewhat purulent appearance, and then fell into a state of collapse and died in a few hours. The bowels had acted during the night.

On *post-mortem* examination, the peritoneal cavity was found to contain some turbid yellow fluid, and the surfaces were smeared with a little soft yellow lymph. The peritoneum in front of the spine was found to be bulged forwards; this appearance was produced by the effusion of a large quantity of milky-looking fluid behind it. The effusion extended as far as the brim of the pelvis. The thoracic duct throughout its course was found immensely dilated at its termination; it was about the calibre of the little finger; it was distended by a milky fluid resembling that extravasated behind the peritoneum. The receptaculum chyli was much dilated, and on its anterior surface was a small perforation about two inches in length. The lymphatic glands in the dorsal and lumbar regions, were much enlarged and soft, and appeared infiltrated with a milky fluid; this condition on the right side extended into the iliac region. At the junction of the thoracic duct with the subclavian vein, the former suddenly became much narrowed, and its coats thickened, and just at its mouth a fibrinous granular vegetation was attached to the lining membrane of the vein, which almost completely obstructed the opening of the duct. The narrowed part of the duct was completely blocked by a firm yellow cylindrical coagulum; on removing this a very fine probe could just be passed from the duct into the vein. The body was moderately well-nourished, and all the other organs were normal. On microscopical examination, the milky contents of the dilated duct were found to consist of lymph-corpuscles, and a large number of cells which could not be distinguished from pus.

It is evident that here the mouth of the thoracic duct was gradually narrowed by the fibrinous vegetation, and that then the opening became suddenly blocked by the formation of a clot, which at once caused the receptaculum chyli to burst, and the chyle to be extravasated behind and into the peritoneal cavity. Sir Astley Cooper tied the thoracic duct in a large number of dogs, and in every case but one, in which there was found a large branch of anastomosis with the right lymphatic duct, the receptaculum chyli burst, and the chyle was extravasated, and in consequence the dogs died, though he has not recorded whether peritonitis was set up; he afterwards found that if during digestion the thoracic duct were only compressed for a few minutes, the receptaculum chyli burst. From this case, it would seem that chyle is as irritating to the peritoneum as the other secretions, bile, urine, or gastric juice.

Many cases are on record in which the thoracic duct in the neck has been found obstructed by tumours, without producing any noticeable result, but in these cases the obstruction has taken place very gradually, and the collateral circulation through the right lymphatic duct has had time to become established; in the present case I was unable to find the right lymphatic duct. Dr. W. Cayley, 20*th of March*, 1866.

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32. *Diaphragmatic hernia. Displacement of liver into right pleura.*

History.—Alexander J., aged 55, was admitted into the London Fever Hospital, October 26th, 1865. He was in a state of extreme prostration, and could give no account of himself. Pulse 108, and feeble; profuse sweating; no eruption on the skin; tongue dry and brown; dulness, diminished vocal thrill, distant breathing, and friction over lower two-thirds of right lung; moist râles audible over both lungs. He died on November 3rd.

Post-mortem examination.—A circular opening, about six inches in diameter, was found in the right side of the diaphragm, through which almost the whole of the right lobe of the liver and the gall-bladder were protruded into the cavity of the right pleura. There was no sign of recent or old peritonitis, or of ecchymosis in the substance of the abdominal parietes. The margin of the opening in the diaphragm was well defined, and nowhere ragged, and corresponding to it was a deep depression on the surface of the liver separating the thoracic from the abdominal portion of the organ. The convex surface of the right lobe of the liver was marked by several extensive cicatrix-like depressions, with firm fibrous tissue extending into the substance of the organ.

The hepatic tissue was healthy. The lower lobes of both lungs were coated with patches of recent, soft lymph, and scattered through the right lung were several nodules of lobular pneumonia, one of which appeared to be undergoing disintegration into a pultaceous mass.

Remarks.—In the absence of any history, there were some doubts as to the duration of the diaphragmatic hernia in this case. The pleurisy and pneumonia, which appeared to be the immediate cause of death, pointed rather to a recent rupture of the diaphragm. On the other hand, the absence of any injury of the integuments, or of ecchymosis, the character of the opening itself, and still more the deep fissure in the liver corresponding to the edges of the diaphragmatic opening, and the distinct cicatrices on the convex surface of the right lobe, at the very place where the liver would be expected to rupture in consequence of an injury forcing it up through the diaphragm, rendered it more probable that the injury had been of old date.

Dr. Murchison, *4th of March*, 1866.

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33. *Tubercular enlargement and degeneration of the mesenteric glands, from an adult male.*

This specimen was from a man, aged 54, whom I had first seen, in consultation with Mr. Hulme, in December, 1865. He had been for some time under Mr. Hulme's observation on account of a very large double inguinal hernia; but when I saw him he was supposed to be dying from phthisis.

He was worn-looking, sallow, and emaciated. Pulse 120, small and feeble. Respirations varied from 24 to 32, breathlessness being excited by the slightest exertion. The bowels were relaxed, and the stools were said to be light-coloured and very offensive. He had frequent, rather violent cough; the sputa were copious, frothy, viscid, and colourless. He had never spat blood. The right side of the chest was immobile, and absolutely dull from the third intercostal space downwards in front, and below the spine of the scapula. The line of dulness did not vary with position; there was no bulging of the intercostal paces, and no vocal vibration. There were some medium mucous râles at the apex, and faint respiratory murmur was heard in the supra-spinous fossa, and lower in the inter-scapular region than towards the axilla; over the dull parts no sound whatever was audible; there was

no œgophony. On the left side, the percussion note was good; respiratory murmur coarse. Heart not displaced; sounds normal.

The liver could not be felt below the ribs; the abdomen was full and dull; manipulation was difficult on account of tenderness of the epigastric region.

He had been rather intemperate; had had winter cough for some years; all through the summer had been ailing and weak, and lately had lost flesh and strength rapidly. The bowels had been relaxed for a long time. There was no history of any attack of pain or shivering; no hereditary tendency to phthisis.

Some enlargement of the liver pressing the lung upwards was suspected, and he was given iodide of potassium, bark and nitro-muriatic acid, and similar medicines. For a while he improved considerably; the lung expanded till good respiratory murmur was audible as low as the fifth rib in front, and he gained flesh and strength: but he then again began to fail; the sputa assumed a peculiar yellow tinge; he had frequent sickness and became very emaciated; the abdomen remained rather large, dull all over, and rather tender on pressure. Respiratory murmur, on the right side, was good to the fourth intercostal space, a week before death; during the last week he lay constantly on the right side and complained much of pain in the right shoulder and arm. Death took place at the end of February, 1866.

Post-mortem examination.—The left lung was universally and closely adherent to the chest-walls; scattered through the apex were numerous small tubercles, and there were two or three cavities about the size of a pea. The right pleura contained a large quantity of serum; the lung was free from adhesion, excepting three or four long narrow bands, two and three inches in length, near the apex; scattered through the upper lobe were many small tubercular masses, and a few very small cavities like those in the left lung; there were also an old cicatrix at the extreme apex.

The abdominal cavity presented a very peculiar appearance; the peritoneum was most remarkably thickened and speckled all over with black pigment; the intestines were matted together and bound down to the back walls of the cavity; the great omentum was rolled up, forming with the colon a fixed band across the abdomen; the liver, very greatly enlarged, was firmly adherent to the diaphragm, and was prevented from descending into the abdomen by the condition of the peritoneal covering and the fixed state of the viscera. There was no fluid in the cavity, but the centre was occupied by a mass, as large as a cocoa-nut,

consisting of mesenteric glands in varying stages of tuberculous degeneration and varying in size from a small marble to a Bergamot orange. The liver was in a very advanced state of fatty degeneration. There was no tubercle in the spleen or the kidneys.

The patient's death had been caused by tubercular degeneration and deposit, but he had died from abdominal, not from pulmonary, phthisis —a result rare in adults, though common enough in childhood.

Dr. W. Cholmeley, *3rd of April*, 1866.

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34. *Syphilitic cirrhosis of liver from an infant.*

This specimen is an example of the disease first described by Gubler, as found in children who had died of congenital syphilis. It is probably not common; for no case has yet been before the Society; and having myself for many years been interested in the subject, this is the first good example that I have met with. Having dissected the bodies of several infants who have died of congenital syphilis, I have found fatty livers and an inflammation of the capsule, but in only two have I discovered adventitious products of a fibrous character. The present example, however, corresponds in every particular with the disease described by Gubler. It must be distinguished (at least as far as the naked-eye appearance reaches) from the syphilitic disease of adults, of which many specimens have been before the Society. In these the organ is cicatrized on the surface and contains distinct nodules of fibrous tissue; whilst in the disease of children, as in the present specimen, the whole organ is infiltrated by a new material, and it consequently becomes, as described by Gubler, hypertrophied, globular and hard, resistant to pressure, and even when torn by the fingers its surface receives no indentation from them; it is also elastic, and when cut creaks slightly under the scalpel. This was the form of disease in the present specimen. It came from a syphilitic child, a month old, in whom the liver could be felt enlarged during life, and when removed weighed a pound and a-half. It was smooth on the surface, and so hard that it resembled rather a fibrous tumour than a liver, and fortunately for the sake of comparison, a small edge of the left lobe remained unaffected and in its natural soft condition. The section shewed a uniform and smooth surface, in which all trace of liver-structure was gone, except the larger vessels, which gave out some pale watery blood. It was of a buff, or pale yellow colour, and could not be broken

by the fingers, except by using considerable force. The appearance suggested, what the microscope afterwards displayed, that the whole organ was infiltrated with a fibrous tissue. This was really the case, for it was found that a newly-formed connective-tissue enveloped and infiltrated the whole of the natural structure of the organ, but, what was remarkable, not to its destruction; for it seemed, although the outward appearance of the organ was so much altered, that the natural tissues were perfect. The secreting-cells presented an ordinary appearance, as well as the blood-vessels, and thus it appeared possible, if the new material could be picked out, that the organ would be left in its natural state.

The question I put to myself is whether this affection is peculiar to children who have died of congenital syphilis, or whether it may not be regarded as an example of what must frequently exist in adult age, as a result of acquired syphilis, and constituting the prior or active stage of the condition met with at that time. There is every reason to suppose that the form which is then usually met with must be preceded by some condition where the new material is more diffused, and in support of this view, it may be remembered, that all writers on syphilis have recognised liver complaints as occurring in the course of the disease and accompanied by enlargement of the organ; and, moreover, that these are curable by appropriate remedies. There being then every reason to suppose that, prior to the condition usually found in adults, some more active stage must have existed, the question may be fairly asked, does this affection found in infants correspond to this probable state? The objection on the other hand is, that no such instance has yet been described.*

I might allude to those cases, where cirrhosis and lardaceous disease have been found commingled in syphilitic patients, and in whom the former condition has been hitherto attributed to alcohol as the best known cause for its production. Dr. Samuel Wilks, 1*st of May*, 1866.

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35. *Hydatid of the liver, with exfoliation of the parent cyst after tapping; recovery.*

Margaret D., æt. 17, was admitted into Guy's Hospital on the 10th of January, 1866, under the care of Dr. Owen Rees, having been sent in by Mr. Francis Toulmin, of Hackney. She was a pale, but otherwise

* See case recorded by Dr. H. Weber, at p. 152.—Ed.

healthy girl, who had always enjoyed good health till she accidentally discovered a tumour at the pit of her stomach, one year previously. Since that date the swelling has gradually increased and has been attended by pain. On admission a tense, elastic tumour was readily observed in the upper part of the abdomen; it was apparently globular, and extended from the right hypochondriac region across the abdomen to the left side, and downwards as far as the umbilicus; it projected in a marked manner forwards and appeared to be fixed and to contain fluid. Hydatid of the liver was the diagnosis.

On the 15th of January, I was asked to see her, with the view of puncturing the cyst, and I made an attempt, at about the middle and a little to the right side of a line drawn from the umbilicus to the ensiform cartilage; a small trochar and canula were used. A difficulty, however, presented itself, which was very unusual, for the tissues were found to be so dense that the trochar failed to perforate them. A second attempt was made with but little better success, although about one teaspoonful of a clear non-albuminous fluid was drawn off. No peritonitis or other untoward symptom followed this operation, beyond some general uneasiness in the seat of the tumour; the punctured wounds readily healed; and the cyst gradually increased in size.

On the 25th of February, another attempt was made, midway between the umbilicus and ensiform cartilage, a special trochar and canula having been employed for the purpose, about the size of the ordinary No. 8 catheter, but somewhat longer. Twenty-six ounces of a turbid semi-purulent fluid were then drawn off, and in this floated a piece of membrane which was evidently hydatid.

The canula was left fixed in. For some days the discharge continued, and the patient's general condition was most satisfactory; the fluid was semi-purulent and occasionally stained with bile, but perfectly inoffensive. By the 20th of March, or on the twenty-third day, the canula was removed, all discharge having ceased for five days. The patient was then very comfortable, and a probe could only be made to pass one inch beyond the canula.

On the 30th of March, however, some pain in the part appeared, with constitutional disturbance; the cyst seemed to be refilling. On the 31st the wound again began to discharge, and the fluid for the first time became offensive.

On the 2nd of April, the external opening into the cyst became obstructed, having evidently become plugged with hydatid membrane, a portion of which was projecting externally. An attempt to remove

this plug was made, and much of the membrane drawn away, but it proved to be so rotten, and the attempt caused so much pain, that it was deemed prudent to leave the expulsion to nature's efforts, and at ten A.M. on the 3rd of April, the whole mass of hydatid membrane was expelled, accompanied with a rush of several pints of a dreadfully offensive purulent bile-stained fluid. The swelling of the abdomen at once disappeared, with all pain and constitutional disturbance. The hydatid membrane, which had been discharged, was evidently the wall of the parent cyst. A catheter was subsequently introduced daily through the wound into the cavity, which was carefully washed out, and, by the 3rd of May, the wound had completely healed. The discharge had gradually become less day by day, and it soon lost its offensive character. The girl's general health also rapidly improved.

On the 30th of May, she left the Hospital with no signs whatever of an abdominal tumour, not even an induration; the small cicatrix of the wound, which had been made by the trochar and canula, alone remained.

Remarks.—The chief point of interest in this case, rests in the exfoliation and expulsion of the parent cyst. In the treatment of the case it is to be notified, that no bandaging or strapping of the abdomen was employed, that the wound was left to discharge itself through the canula without interference, and that the washing out of the cyst cavity was only done when the discharge had become offensive.

Mr. THOMAS BRYANT, *1st of May*, 1866.

V.—DISEASES, ETC., OF THE GENITO-URINARY ORGANS.

A. KIDNEYS, BLADDER, ETC.

1. *Mulberry calculus removed from the female bladder by lithotrity.*

The calculus was from a lady, aged 32, who had suffered from symptoms of stone for some years, and two years since had undergone two operations of lithotrity, which relieved her of a small quantity of phosphatic matter. She was somewhat relieved for a time, but her sufferings soon became as great as before, and she had all the usual symptoms of calculus. Mr. Heath removed the calculus by five operations, and the patient has been perfectly well since.

The fragments of calculus weigh 245 grains, and consist of a large quantity of débris of triple phosphate, which formed the exterior of the calculus, and of several large fragments of oxalate of lime, which formed the nucleus. A careful chemical analysis failed to discover any trace of uric acid. The stone, when first grasped by the lithotrite, measured one inch and a-half in its long diameter; the mulberry nucleus measured three-quarters of an inch and was very difficult to fracture.

Mr. Heath brought the specimen forward on account of the great rarity of mulberry calculus in the female, coupled with the rare application of the operation of lithotrity to calculi consisting of oxalate of lime. Mr. Christopher Heath, 16*th of January*, 1866.

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2. *Kidney, in which the position of the ureter at the hilus was abnormal.*

This was a left kidney, in which the ureter lay in front of the renal artery and vein at the hilus, and not behind them. Although, strictly speaking, an anatomical specimen, it is of pathological interest, because it shews that we cannot, from the relative position of the ureter and the blood-vessels, determine with absolute certainty, whether a kidney removed from the body is a right or a left one. The other mark of distinction between the two surfaces of the organ—the flattening of the posterior surface—was also absent in this instance. The peculiarity of the kidney in question was observed by Mr. Airy in the dissecting-room of Guy's Hospital. I have not been able to find it mentioned in any work on anatomy that the ureter is liable to this change of position.

Dr. C. Hilton Fagge, 6*th of February*, 1866.

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3. *Kidneys of a patient who died of convulsions during an attack of typhus fever.*

Nearly three years ago, I exhibited before the Society the kidneys of a patient who died of typhus fever complicated with convulsions (*Transactions*, Vol. xv., p. 135), and I expressed the opinion that convulsions in typhus, as in scarlatina, have a uræmic origin, and are independent of any cerebral lesion. The urine is usually albuminous, often scanty, and sometimes even suppressed; not uncommonly it contains blood. The kidneys are always diseased. Sometimes there are

evident signs of disease of old standing; but often the disease is recent, and secondary to the fever. Even when the kidneys appear at first sight healthy, they are found, on closer examination, to be enlarged, while the uriniferous tubes are gorged with glandular epithelium and fine granular exudation. Whether the disease be old or recent, it acts by impeding the elimination of urea, which is formed in such abundance in the course of typhus. Three years additional experience, during which I have seen upwards of fifty cases of typhus (*typhus exanthematicus*) complicated with convulsions, has entirely confirmed the views formerly expressed. The case now to be related is remarkable for two reasons:—1. The enormous size and weight attained by the kidneys; and 2. That prior to the occurrence of convulsions, the symptoms were comparatively mild and convalescence appeared to have almost commenced.

John G., aged 17, was admitted into the London Fever Hospital, March 21st, 1866, on the fifth day of an attack of typhus. His previous health had been good, and he had never suffered from fits. The pulse was 120; skin hot, and covered with a copious typhus-eruption, and the patient had the suffused eyes and characteristic *facies* of typhus. The tongue, however, was moist, and the patient slept well, and was free from delirium. These symptoms continued without much change, except that for two days the tongue was dry and brown down the centre till March 26th, when there was considerable improvement. The pulse fell to 84; the temperature also had fallen; the rash was fading, the tongue was moist, and there was some appetite. The patient, however, felt very weak, and had slight tremors. He appeared to continue improving until about six P.M. on March 27th, when shortly after drinking some tea, he was seized with violent convulsions, which lasted almost till death, at one P.M. on the following morning. There was no trace of dropsy, but no information could be obtained respecting the urine.

Almost the only lesion found after death was the altered condition of the kidneys. Both organs were enormously enlarged, the two together weighing twenty-three and-a-half ounces avoirdupois. They presented a deep chocolate, almost black, hue. Their surfaces were smooth; the capsules non-adherent; and blood dripped in large quantity from the cut surfaces. The uriniferous tubes were loaded with granular epithelium. The spleen was also large and very soft. Peyer's patches presented the appearance which has been likened to a shaven beard.

Dr. Murchison, *3rd of April*, 1866.

4. *Extreme atrophy of one kidney, associated with plugging of renal artery.*

The absence of one kidney has been so often recorded by morbid anatomists, that this condition is held to be a circumstance of not infrequent occurrence. In some instances, however, this conclusion appears to have been arrived at from a cursory or incomplete examination, the entire absence of the organ, or of some representative of it, having never fallen under my notice among a large number of *post-mortem* examinations. In the following instance, indeed, it was at first inferred that the left kidney was wanting; but, upon carefully dissecting out the supra-renal capsule and tracing the ureter upwards from the bladder, the remains of this organ were discovered.

A female domestic servant, æt. 42, was admitted into King's College Hospital, under the care of Professor Lionel Beale, in December, 1865, suffering from renal dropsy, and died three months subsequently. The history of the case was briefly as follows :—The patient had been much exposed to wet and cold, and about six months before admission had contracted a severe cold, which was speedily succeeded by swelling of the feet, legs, face, and hands. Her breathing became much distressed ; and a cough, from which she had suffered for several years during the winter months, was much aggravated. The lungs exhibited indications of general bronchitis, but the heart's sounds were natural; the præcordial and the hepatic dulness also were normal at the time of admission. The urine averaged in quantity from sixty to seventy ounces daily; its specific gravity was generally about 1015, and it contained an amount of albumen which, upon coagulation, varied from one-third to half the bulk of the specimen examined. Under the microscope, the urinary sediment exhibited blood-corpuscles and renal epithelium in small quantity, and a few cells and tube-casts having oil-globules within, or entangled upon, them. The urine occasionally fell to twenty-four ounces in as many hours, or was even less; the difficulty of breathing increased, symptoms of uræmic poisoning set in, and the patient died comatose.

Upon *post-mortem* examination, the following were the appearances observed :—The body generally was much emaciated, and the lower extremities were somewhat œdematous. Both pleuræ contained a large quantity of clear, yellowish fluid, and there were some old bands of adhesions over the upper lobe of the left lung on its posterior aspect. The lungs were emphysematous and much congested, but in no part consolidated. The pericardial sac contained seventeen ounces of a blood-coloured liquid; and both its layers, parietal and visceral, but the

latter especially, were almost universally coated with rough, villous lymph of recent formation. There were also shreds of lymph floating freely in the pericardial fluid. The heart weighed twelve-and-a-half ounces; both ventricles were empty. The increased weight of the organ was mainly, if not entirely, due to hypertrophy of the left ventricle, the walls of which were very firm and exceeded an inch in thickness. All the valves were healthy, and the aorta was quite free from atheroma.

The abdominal cavity contained a small quantity of clear, yellowish serum. The liver reached nearly to the umbilicus (being pushed downwards by the fluid within the chest), and weighed forty-two and-a-half ounces; its surface was smooth, but its vessels were much congested, and there was some thickening of Glisson's capsule and apparent obliteration in parts of branches of the portal vein. The stomach, pancreas, and intestines were healthy. The spleen was small, weighing two ounces and a-half, and its substance was dark and rather soft. With the exception of venous engorgement and slight opacity of the arachnoid, the brain appeared to be healthy: it weighed forty-five ounces.

Kidneys.—The right kidney was large, and weighed six ounces; its capsule could be stripped off tolerably readily, but not without detaching along with it minute portions of the subjacent renal structure. The surface of the organ was universally granular, and in places puckered; on section the cortical portion was found to be larger, and more abundant than normal, and of a pale yellowish colour, the medullary cones being much congested. On being subjected to microscopical examination, the renal structures exhibited the several morbid appearances, which have been so carefully described by Professor George Johnson, as characteristic of the "granular fat kidney."* Both supra-renal capsules were well-developed and apparently healthy; but of the left kidney all that could be discovered was a small mass of condensed, fibrous-like tissue, about as large as a shilling, though somewhat thicker. From the lower and inner part of this structure a fairly-developed and perforate ureter led down to the bladder, which it entered in the usual situation. The renal vein, also, was well-developed; but representing the renal artery were two minute vessels springing from the left side of the abdominal aorta, and these, upon careful examination, were found to be completely plugged up, and not to permit the passage through them of the finest probe.

* Diseases of the Kidney. By George Johnson, M.D., p. 379.

In considering this case, it can scarcely be doubted that the extreme atrophy of the left kidney, which here existed, depended upon loss of arterial blood as a result of those conditions which led to the obliteration of the two arteries through which the organ derived its supply; and a point of great pathological interest in the case appears to be the determination of the period at which this change occurred, or began to occur. The extremely small size to which the kidney had shrunk might lead to the inference that this change took place in early,—possibly in fœtal,—life; but when it is borne in mind that the supra-renal capsule and the renal vein were normal both in size and appearance, and that the ureter also was well-developed and perforate, there are good grounds for concluding that the wasting occurred at a later period than might at first sight be imagined. In hastening the fatal termination of the case, the condition of utter uselessness at which this kidney had arrived unquestionably exercised an important influence.

Dr. Conway Evans, *1st of May*, 1866.

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5. *A solitary kidney; the bladder having but one ureter.*

Some writers consider it to be doubtful whether solitary kidneys are ever found occupying the normal position, and they seem to imply that in previously reported cases the second kidney has been overlooked, being in a rudimentary condition, or having undergone more or less complete atrophy. In the present case, however, the complete absence of the ureter, and even of the ridge bounding the trigone of the bladder (and on which the ureter normally opens), on the side on which the kidney was found to be wanting, offers an important confirmation of the possibility of such an occurrence. The right kidney is very large, and shews some signs of fatty degeneration. It weighs seven ounces and a-quarter (without its capsule), and measures three and a-half by three inches.

The patient (a man, æt. 49,) died in University College Hospital from an accidental injury; there were no symptons of renal affection during life. The specimen is in the Museum of University College.

Mr. Alexander Bruce, *15th of May*, 1866.

B. MALE GENITAL ORGANS.

6. *Fatty tumour in the scrotum excised from a patient aged 52.*

The tumour was first noticed about seven years ago, and was then the size of a walnut; its weight, on removal by Mr. Lane, was five pounds six ounces. The growth was not connected with the skin of the scrotum and appeared to have originated in the lowest part of the spermatic cord; the body of the testicle and the epididymis were in contact with, and in front of, the tumour, but in all respects natural; some branches of the spermatic vessels ramified upon its surface, and supplied it sparingly with blood.

On section, it was found to be entirely composed of adipose tissue. One small portion was of a deep yellow colour and much firmer than the rest, being divided into several small lobules; but, under the microscope, it appeared to be formed of the same material. The fat-cells contained large crystals of margarine.

Mr. Geo. G. Gascoyen, *5th of December*, 1865.

Report on the above specimen.—I have carefully examined the portion of tumour which, in Mr. Gascoyen's case, was of unusual nature. This portion, about the size of a walnut, was of a yellower colour, more diaphanous and harder than the rest of the tumour; it presented an appearance more like an amyloid growth than fatty tissue; nevertheless, it was found, under the microscope, to consist only of fat-cells; these were smaller, and their section was more hexagonal than usual; in fact, the appearances physical and microscopical, can only be attributed to the effects of pressure.

Mr. Richard Barwell, 16*th of January*, 1866.

On microscopic examination of the lobule of fatty tumour, above referred to, I found the appearances as described by Mr. Barwell. I also observed that great part of the fat in the fat-vesicles was in a solid form, and I would venture to suggest that this unusual appearance was due to death of that portion of the tumour having taken place before its removal from the body.

Dr. J. Wale Hicks, 16*th of January*, 1866.

7. *Malformation of genital and urinary organs, &c., in a fœtus.*

This case occurred in the practice of Dr. Barnes, by whom the specimen was presented to the Museum of St. Thomas's Hospital.

The bladder and rectum were both without any external opening, but both communicated with a pouch projecting externally in the position and form of the scrotum. This pouch was filled with thick white mucus, containing a quantity of squamous epithelium. Mucous fluid presenting the same characters was found in the bladder. From the scrotal pouch a narrow canal passed upwards, with two openings, one into the bladder, the other into the rectum.

The testes were in the abdomen, the right more developed and further down than the left. There was only a sac in the position of the right kidney. The left kidney appeared normal. The extremities were malformed. The upper part of the right femur, the left radius, and the left thumb were wanting. There was a supernumerary toe on the inside of the right foot. Dr. J. Wale Hicks, *2nd of January*, 1866.

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8. *Epithelial cancer of the glans, and of the cavernous bodies of the penis.*

The following case is remarkable as being an instance of cancer attacking the glans penis and slowly extending into the body of that organ, the prepuce and the skin remaining unaffected with the disease. The origin of the affection may evidently be traced to long-continued local irritation depending upon a peculiar condition of the skin of the glans penis. There is fair ground also for believing that this state of skin was dependent upon the presence of syphilitic taint in the system. The form of cancer, although exhibiting some peculiar features, was, doubtless, epithelial, as might have been expected from the fact that the disease originated in local irritation.

In the progress of the disease, the urethra being surrounded by cancerous tissue became obstructed, and, in consequence, several fistulous openings formed behind the seat of obstruction. In this respect again, the case differed from an ordinary example of cancer of the prepuce, in which it not uncommonly happens that the disease extends to the glans and body of the penis, so that the latter becomes gradually eaten away, and yet the patients pass water without difficulty.

A gentleman, the subject of this disease, died on September 3rd, 1865,

having nearly completed his seventieth year. He had usually enjoyed fair health, but had been the subject of epilepsy from the age of fifty-five till that of sixty-five. He was a man of small stature and slight make, and had been thin all his life. When thirty-five years of age he had a chancre, which healed up under mercury, but left a scar which was visible for some time afterwards. He had no bubo or secondary symptoms. Seven years before his death he first noticed some redness in the locality of the scar. The redness subsequently became a sore surface, which extended from time to time, and then healed up. When examined, five years before his death, there was, on the right side of the glans penis, a patch of redness, the surface being raw, as if denuded of epithelium. The red patch was circular and surrounded by a zone of brighter redness. There was slight irregularity of surface, but no induration.

For a time the affection remained stationary, occasionally partly healing and then extending. In the following year (1861) the surface became more distinctly warty. It was at this time treated with caustics, especially with glacial acetic acid. This destroyed a portion of the surface, which healed up, but fresh warts formed at the side. Portions of the surface thus continued to heal, and others to become sore. In the latter part of 1862, the glands in the right inguinal region became slightly indurated. About this time he began to suffer from occasional attacks of inflammation and œdema of the prepuce. These attacks usually passed away in the course of a few days, leaving the prepuce perfectly sound and free from induration.

Early in 1864, some induration was observed beneath the sore part; at first this was very limited in extent, but, by degrees, nearly half the glans penis was rendered hard and solid. At this time the ulceration extended, with superficial sloughing gradually increasing in extent. The glands in the groin increased slowly in size. The hardness in the glans penis also extended, and the corpus spongiosum was apparently involved. The attacks of inflammation of the prepuce became more frequent in the early part of 1863, and at length the foreskin could not be drawn back. The hardness and induration extended along the body of the penis. The glands in the groin, by this time, had enlarged to the size of a large orange.

In May, 1865, there was some irritation of the bladder and frequently difficulty in passing water; this increased to become urgent. On June 9th, a small abscess formed on the under side of the penis, which broke, and the urine was passed in a small stream through the

opening. By this he was much relieved, and had less difficulty in passing water, and he was again able to walk about. Within, however, a few weeks, a second abscess and fistula formed on the penis, on the left side of the first. About this time (the end of June) the glands in the groin commenced to ulcerate. His general health then rapidly gave way, and the ulceration both of the penis and of the glands in the groin extended. A third fistulous opening formed, and he passed water through each of these openings. The patient, however, continued to be able to walk about till the first week in August, when he had a slight feverish attack and he was obliged to take to his bed. There was no further difficulty in passing water, but the ulceration extended, his strength failed rapidly and he died on the 3rd of September, 1865.

During the progress of the disease various methods of treatment were adopted, and in the early stages of the complaint several applications, for a time, did some good. Subsequently, mercury was given for a considerable time apparently with benefit. The patient was seen by Mr. Arnott, Mr. Paget, and Mr. De Morgan, and the expediency of an operation for the removal of the disease was discussed. Until, however, there was marked induration of the glans penis, it did not appear to be justified, and synchronously with the appearance of this condition the glands in the groin became enlarged, and therefore the disease could not have been perfectly removed.

After death an examination was made of the penis. The internal organs were not inspected. A longitudinal section of the organ being made, it is found to be infiltrated with cancerous disease to a distance of five inches and a-half. At this point the disease terminates abruptly, the remaining portion of the corpora cavernosa being free from cancer. The corpus spongiosum, except the part connected with the glans penis, is healthy. The glans is for the most part eaten away by ulceration, the left side being more destroyed than the right. One portion, which remains, is infiltrated with cancer. The disease itself exhibits the usual features of cancerous affection; it is hard and not uniformly infiltrated and the section is coated with thick creamy juice.

The orifice of the urethra is seen on the ulcerated surface. On passing a probe along the canal, the urethra is found to be opened by ulceration at a short distance behind the glans. This opening is on the under surface and is half-an-inch in length; it communicates with a long cul-de-sac which passes along the under surface of the penis, between the corpus spongiosum and the skin, to the extent of about

four inches. The cul-de-sac is lined by a sort of mucous membrane and is large enough to admit a finger. Into the front part of this cavity open the three fistulous apertures which have been spoken of.

It should be borne in mind that there had been no use made of the catheter during the life of the patient, and that this cul-de-sac was, therefore, a spontaneous formation.

There is no evidence of cancerous disease of the skin of the penis, or of the prepuce. At the under surface of the glans the skin is, however, adherent to the disease beneath.

A microscopical examination of the diseased tissue discovered the usual features of cancerous disease. In the portions near the ulcerated surface of the glans, the characters of epithelial disease, *i.e.*, epithelial cells and laminated capsules, were distinct, but the more distant parts were made up of simple cell-structure.

Mr. Septimus W. Sibley, 16*th of January*, 1866.

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9. *Cancer of the glans penis.*

This was an example of cancer originating in the glans penis. The specimen was removed by amputation by Mr. Nunn (to whom Mr. Sibley was indebted for the case) from a patient in the Middlesex Hospital, in November, 1865. The patient was aged about 55 years, and the disease had been forming about three months.

On making a section of the amputated portion of the penis, the prepuce and the skin are found to be perfectly healthy. The glans is partly eaten away by ulceration, the remaining portion being made up of hard scirrhus-like tissue. The corpora cavernosa are perfectly healthy, the disease terminating above abruptly at the back of the glans; on the under surface, however, it runs along the corpus spongiosum to an extent of rather more than half-an-inch, the urethra being surrounded with the cancer tissue. Under the microscope, the diseased portion is found to be made up of cell-structure, but the distinctive features of epithelial disease are absent.

Mr. Septimus W. Sibley, 16*th of January*, 1866.

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10. *Large double sarcocelle* quasi *malignant.*

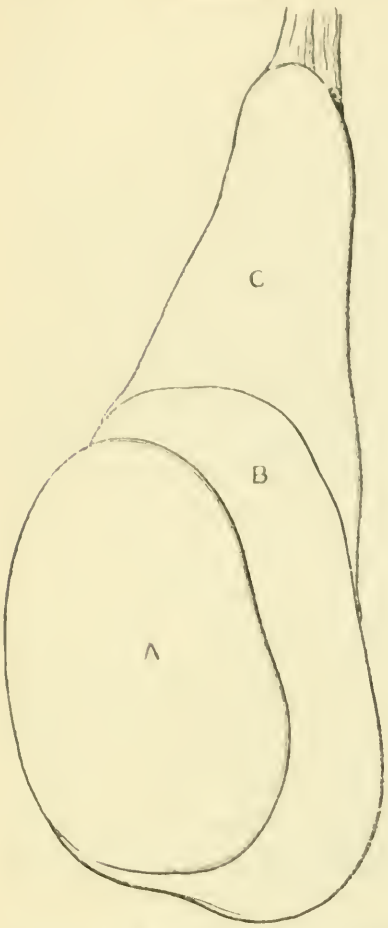
On August 23rd, 1865, I saw, in consultation with Dr. Hodgkin, a

person with an enlargement of both testicles, who had come up from Nottingham for an opinion on his case, at the recommendation of Mr. Joseph Thompson. He was aged 57, married, had enjoyed good health, and was looking well for his years. The right testicle was very large, oval in shape, uniform on the surface, and very firm. The left testicle was also large, but less in size than the right, and its surface was somewhat irregular. They were not tender or painful, and were inconvenient only from their size and weight. The spermatic cords were unaffected. He first noticed the enlargement of the right testicle twelve months before, and of the left, nine months. Though unable to determine the nature of the double disease, we had no difficulty in coming to the conclusion that it would not yield to treatment, and we recommended the early excision of the right testicle, leaving the left to be dealt with afterwards, according to circumstances. The patient returned home and put himself under the care of a quack, and then consulted Sir John Fife, of Newcastle, who also recommended an operation. He returned to the care of Mr. Thompson, who, on October 7th, excised the right testicle, together with an enlargement of the cord extending as high up as the outer ring. The patient recovered favourably. He delayed submitting to a second operation till February 19th, 1866, when the left testicle had greatly increased in size, and a considerable swelling had formed in the spermatic cord, so that Mr. Thompson had to slit up the inguinal canal as far as the internal abdominal ring, in order to remove this part completely. He has since informed me that his patient recovered favourably, and was apparently in good health on March 11th, 1866.

The mass formed by the disease of the left testicle was sent up to town, and reached me the day after its removal, quite fresh. It weighed more than a pound. Its surface was irregular, with rounded nodulalations. The surfaces of the tunica vaginalis were adherent. A section of the tumour shewed the body of the testicle (A), and of the epididymis (B), quite distinct, but greatly enlarged by morbid growth. (See Fig. 8.) The tunica albuginea was dilated and thickened. A mass similar in appearance to the disease in the testicle was found invading the spermatic cord to the distance of three inches (C). The upper extremity was rounded as if all the disease had been removed. The three separate masses of morbid growth presented a semi-opaque appearance, variegated in the testicle by some whitish spots. There was no trace of healthy natural structure either in the testicle or in the epididymis. Mr. Thompson has informed me that the morbid change

in the right testicle resembled that in the left, though it was not so far

Woodcut 8.



Outline of a section of the diseased testis, reduced in size one-half.*

Woodcut 9.

Seminal tube filled with granular matter, surrounded by nucleated cells.

advanced, as the former was excised at an earlier period of the disease.

Report on the above specimen.—When examined with the naked eye the section of the tumour presented a tolerably uniform surface more or less translucent, with a number of opaque white specks, like portions of twisted thread, distributed uniformly throughout the surface of the section.

When a thin section was examined beneath the microscope, these thread-like streaks were seen to be seminal tubes, the new or diseased tissue being altogether situated between the tubes, and separating them from each other. The tubes themselves were all in a state of degenera-

* One-half of the tumour is preserved in the Museum of the College of Surgeons.

tion, the epithelial cells being filled with granules, and in some places the tubes being almost wholly made up of granular matter (Fig. 9).

The tissue between the tubes was made up chiefly of nuclei with a few cells, and a few fusiform fibre-cells. These latter structures were nowhere abundant, but the few seen were well formed and contained a single oat-shaped nucleus within them. The nuclei which composed the great mass of the new structure were oval bodies, larger than blood-corpuscles, the largest being nearly double in long diameter that of a blood-corpuscle. The nuclei contained some granular matter and mostly enclosed within them a single bright nucleolus. Some, however, contained only a few large granules. In places at the edges of the section some of these nuclei were seen surrounded with a quantity of granular matter, but only in a few instances was this enclosed in a cell wall.

The structure of the epididymis (Fig. 10), and also of the cord (Fig. 11), was essentially the same as that of the testis itself.

Woodcut 10.

From the epididymis, shewing nuclei with some fibres.

Woodcut 11.

From the cord, shewing a few ordinary fat cells, nuclei similar to those in the testis, and a small band of fibrous tissue.

From this description it will be seen that the disease differed in structure from a typical—*e. g.*, a scirrhous—cancer in the remarkably uniform infiltration of the diseased tissues among the natural structure, and also in the absence of the varied forms of cell structure seen in such cancers. At the same time such an exuberant formation of cell elements, with but little tendency to the development of fibre, and the general dissimilarity of the tissues to the natural structure of the testicles cannot be regarded without suspicion of malignancy.

Mr. Septimus W. Sibley.
Mr. J. W. Hulke.

The disease in this case presents remarkable features, different in some respects from anything I have recognised before. I would particularly call attention to its double character. It is extremely rare to find diseases not originally constitutional—such as carcinoma, enchondroma, and cystic disease—attacking both testicles at the same time. I can only find one instance of encephaloid cancer occurring in these organs simultaneously, the case of Professor Denonvilliers, referred to in my work on *Diseases of the Testes*, and I know of no case on record of double cystic disease. Another circumstance of interest is the slow destructive power of the morbid growth. In carcinoma of the testicle the tubular structure sometimes remains intact for a time in consequence of being spread over the surface of the tumour, but when cancerous disease commences in the body of the gland, the tubuli seminiferi are rapidly destroyed, and all distinction between the testicle and the epididymis is soon lost. But in this specimen, although the disease occurred at an early period both in the testicle and in the epididymis, the distinction between the two parts was well preserved after fifteen months, and the tubules, though degenerated, were present in large numbers, and might be recognised even with the naked eye. The great abundance of cell structure and the out-growth in the spermatic cord indicate a probable recurrence of the disease in the internal parts, and lead me to conclude with Messrs. Sibley and Hulke, that the tumour is likely to prove malignant.

Mr. Curling, 20*th of February*, 1866.

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11. *A case of emasculation as practised among the Mahomedans in East India.*

The following account of the preparation was sent by Dr. Duka, of H. M. Bengal Army:—

The present was not, strictly speaking, a pathological specimen, but rather one of off-hand Asiatic surgery, serving to illustrate the still prevailing customs and manners of the people in the East, and especially those in the empire under the British rule.

The specimen exhibited was the pubic region of an old eunuch, Edoo by name, aged about 60 years, who, as the chief of a gang of eunuchs in the districts of Patna and Monghyr, in the Presidency of Bengal, was in the habit of enrolling fresh hands into his confraternity by "doing as he was done by," namely, emasculating such young male

children of 6 to 8 years of age, as he was able to get into his possession. In consequence of this he was sent up by the magistrate of Monghyr to take his trial for mutilation, and was sentenced by the sessions' judge of Bhaugulpore to a long term of imprisonment, during which he died in the Monghyr Jail in 1863, whilst I was in medical charge of it.

It is, I believe, the general impression that all eunuchs in Turkey, Abyssinia, &c., are deprived merely of their testes; this specimen, however, shews that in India, a clean sweep is made of the whole of the scrotum with its contents and the penis also, leaving only a longitudinal cicatrix closely adhering to the bone with the orifice of the urethra at its upper end, which in after-life, when obesity sets in, resembles the labia majora of the female.

Whilst on this subject, it will not be out of place to mention some circumstances referring to this class of people, as brought out at the trial of Edoo and his associates. It appears that the Indian eunuchs live in gangs of four or five individuals, their occupation being to attend on females, serve and amuse during the family festivals of their wealthy compatriots, and be the passive agents of those unmentionable eastern practices, of which we find the most ancient records, even amongst the Jews, as far back as the days of Lot. The ranks of the eunuchs are, as a rule, recruited by purchasing young male children, especially of poor Hindu parents, who often part with their offspring—as in the case which brought Edoo to his trial—for the sum of five or six rupees and a piece of cloth.

On the day appointed for the operation, the fraternity have a regular feast, and the youthful victim, dressed up in his best and ornamented, is intoxicated with spirits and bhang. Whilst lying on his back, his hands and feet kept down by assistants, the chief with a sharp razor removes with a clean sweep every vestige of the external organs. To prevent bleeding, herbs are applied and *hot* poultices; in half of the cases the excessive hæmorrhage is followed by death.

Like the self-torturing fakeers and religious devotees, these people are looked up to with a certain awe, thus obtaining a kind of recompense for the inhuman custom by which, without their consent, they have been sacrificed at an early age.

All the eunuchs are Mahomedans.

The specimen is in the Pathological Museum of St. George's Hospital. Dr. Dickinson *for* Dr. T. Duka, *3rd of April*, 1866.

12. *Tubercular enlargement of left testicle.*

The patient, æt. 30, is a builder by trade, married four years, and father of two children. In October, 1865, he supposes that he slightly hurt his left testicle. There was no inflammation, but it became very hard and enlarged to the size of a small fist within a few days. It was treated as a tubercular enlargement till March, 1866, without any perceptible alteration in size or hardness, the pain throughout that time, though considerable upon touch, being otherwise moderate. Within a fortnight of that period, the pain became excruciating and constant; this, and the cachectic and emaciated appearance of the patient, the development of two cyst-like places on the outer margin and the lower front of the tumour, its rapid enlargement towards the epididymis, and the nodulated character of its surface, suggested the suspicion of malignancy, which was further enhanced by the fact that his father had died of cancer in the rectum. An operation becoming anyhow unavoidable, it was determined, in consultation with Mr. Nunn, to have it performed forthwith.

On section, before the specimen was exposed to the action of methylated spirit, yellow tubercle was seen to have been deposited in variously sized masses throughout the entire gland. Tubercle also constituted the nodulations, which gave the resemblance to cyst-formation, where it was soft or semi-elastic. Tubercle was likewise deposited between the scrotum itself and the gland. The microscopic examination of various parts of the tumour exhibited no sign of malignancy. The tubuli, with very few exceptions, were almost entirely obliterated by amorphous tubercular deposits.

The chief interest of the case rests on the absence of malignancy, notwithstanding the presence of so many symptoms favouring the supposition of its existence; moreover, the history of the case and the examination of the tumour seem to indicate, in this instance, an exception to the accepted rule that the disease begins in the epididymis. The patient has made a good recovery, and the right testicle, which for years has been remarkably small and flabby, has become vigorous in its function. Dr. Maurice Schulhof, 17*th of April*, 1866.

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13. *Bladders and prostates after lithotomy, shewing that the so-called dilatation of the prostate is comptete rupture.*

In nearly all surgical works it is stated, that in performing lithotomy,

the deep incision ought never to exceed the limits of the prostate, and that the opening in that gland ought to be enlarged by dilatation.

From frequent experiments on the dead body, and from an examination of all the bladders and prostates after lithotomy, in the different pathological museums in London, I come to the conclusion that no ordinary sized calculus can be extracted from the bladder without complete rupture of the prostate and its capsule. In fact, in lithotomy as usually performed, the stone is *torn out* of the bladder.

I have experimentally arrived at the following facts :—

1. The prostatic urethra will only admit the terminal joint of the fore-finger without laceration.

2. If the introduction of the fore-finger be continued, the mucous membrane splits longitudinally as the second joint is passing through. The urethra splits in the roof, because the convexity of the joint is pressed against that part. In lateral lithotomy, the incision into the prostate prevents laceration of the roof of the prostatic urethra.

3. If a stone, half-an-inch in diameter, be extracted through a prostate, in which no incision has been made, the mucous membrane of the floor of the urethra is lacerated, and the prostate slightly torn; the capsule remains perfect, but the orifices of the ejaculatory ducts can no longer be distinguished.

4. If a calculus, half-an-inch in diameter, be extracted through a prostate which has been partially incised, as in lateral lithotomy, the capsule and the orifices of the ejaculatory ducts remain perfect.

5. Stones, upwards of half-an-inch in diameter, when extracted by the median operation, lacerate, more or less, the prostate and its capsule, and obliterate the orifices of the ejaculatory ducts.

6. Calculi, of one inch in diameter and upwards, when extracted through a prostate, which has only been partially incised, in the lateral operation, lacerate the gland and its capsule completely, in a direction downwards and outwards, and obliterate the orifices of the ejaculatory ducts.

7. If a calculus be extracted through an aperture, which has been made by cutting and not by laceration, then the orifices of the ejaculatory ducts can always be distinguished.

From an examination of specimens in the museums, I have ascertained the following facts :—

1. Out of the very many specimens of bladders and prostates, after lithotomy, there is no unequivocal specimen which shews that an ordinary sized stone can be removed from the bladder without complete rupture of the prostate and its capsule.

2. In the extraction of ordinary sized calculi, not only is the prostate torn through, but the rent extends into the bladder, as far usually as the orifice of the left ureter.

3. There are several bladders and prostates of persons who have lived upwards of ten years after lateral lithotomy, and in such specimens the cicatrix can, in each case, be seen extending as far into the bladder as the orifice of the left ureter.

4. Fistula in the bladder communicating with the rectum is a common occurrence after lithotomy; such fistula is the result of laceration, and does not appear to be of any moment.

5. In lateral lithotomy, the prostate is completely split into two, but the halves are generally held together by a fibrous remnant of the capsule, about half-an-inch broad.

6. One of the most frequent causes of death, after lithotomy, would seem to be extensive suppuration and phlebitis, from bruising and laceration of the prostate and neck of the bladder.

7. Infiltration of urine, after lithotomy, must be regarded as a surgical curiosity.

And I have come to the following conclusions:—

1. When lateral lithotomy is performed, the stone ought always to be cut out, and not torn out.

2. The median operation is not justifiable for the extraction of calculi, which are upwards of half-an-inch in diameter; for, if such sized stones be removed by that process, obliteration of the orifices of the ejaculatory ducts and permanent impotence result.

Mr. W. F. Teevan, *15th of May*, 1866.

C. FEMALE GENITAL ORGANS.

14. *Two fibrous tumours of the round ligament of the uterus.*

One of these tumours was of the size of a very large orange; the other was about the size and nearly of the shape of a cocoa-nut. Both had occupied the right inguinal region and had been removed without difficulty by a single incision, and in both patients the wound had healed by the first intention. One patient was 40, the other 50 years of age. The tumours were of slow growth, almost painless, and moveable. The neighbouring tissues and glands were healthy. Histologically, the growth, in each case, was simply an excess of the fibrous tissue of the round ligament. The operator had not been able to find any published description of such tumours.

Mr. Spencer Wells, *17th of October*, 1865.

15. *Uterine tumour removed by mistake for a tumour of the ovary.*

Mrs. S., married, with two children, æt. 29, was a patient in St. George's Hospital in the summer of 1865, in consequence of a tumour which filled up the whole abdomen, and which was producing rapid emaciation and increasing dyspnœa, the latter occasionally recurring in paroxysms and threatening even to prove fatal. She had been previously a patient in St. George's Hospital under the care of Dr. R. Lee, and again of Mr. Brodhurst, and she had been for some time in the Samaritan Hospital under Mr. Spencer Wells, in the early part of the year 1864. In Dr. Lee's opinion the tumour was ovarian, but closely adherent to the uterus. Under Mr. Wells, the disease had been diagnosed as being due to the presence of three fibroid tumours of the uterus.* She was never known to have had any uterine hæmorrhage.† The tumour was of four years' known duration, and was accidentally discovered by herself, by touch. At that time there were no symptoms connected with the disease. Latterly, however, she had been losing flesh and strength rapidly, and she was urgently desirous that some operation should be done if possible. The whole of the anterior part of the abdomen was dull to percussion, but there was slight resonance in either flank; motion of the body had no apparent effect on the mass. There was doubtful fluctuation in most parts. Examination by the vagina and by the rectum shewed that the pelvis was filled up by the mass. The os uteri was natural. The cervix could be felt, but not the body, and it was impossible to discover whether or no the uterus moved on the tumour. In the month of July, as the dyspnœa had become very urgent, paracentesis was performed by Mr. Holmes; only very little fluid (about half-a-pint) escaped through the trocar, which was almost colourless, and of a gelatinous consistence; but after the withdrawal of the instrument, as much as a gallon of the same kind of fluid exuded slowly in the space of twenty-four hours. This gave her great temporary relief; but the tumour again increased, and one night the House-Surgeon was

* Mr. Holmes was afterwards favoured with the loan of a note-book belonging to the Resident Medical Officer of Mr. Wells's Hospital, in which the situation of those tumours is figured with perfect exactness, one lying in the right iliac fossa, another near the middle line, and the third and largest (the one which was the subject of operation) projecting into the abdomen, and extending at that period, about as far as the umbilicus.

† In the note-book, above referred to, however, there is a notice that she had had "flooding" in the commencement of the year 1863, after a cessation of the catamenia for three or four months.

called suddenly to her, as she was thought to be dying of dyspnœa; this was in the month of August, during Mr. Holmes's absence from town. Paracentesis was again performed, and the result was reported as being almost exactly the same as on the previous occasion, that is to say, very slight flow at the time, followed by a copious exudation with great relief to the breathing. On Mr. Holmes's return in September, the woman was anxious that the question should be settled. She had become greatly emaciated, and the pulse was very small and weak. She knew that she had not long to live, and was very desirous of taking the chance of an operation, if it was judged to be justifiable. She had, however, been informed of Mr. Spencer Wells's diagnosis, and was aware that an attempt to remove the tumour, if uterine, would prove fatal. A careful examination was made by Dr. Lee and by the Surgeons of the Hospital, and the idea of its being a case of fibroid tumour was rejected, mainly on account of the absence of uterine symptoms, the great extent of the tumour, and the large quantity of fluid evacuated from it. Dr. Lee only took part in the consultation so far as the diagnosis was concerned. The Surgeons of the Hospital agreed that it was justifiable to attempt an operation under all the circumstances, and this was accordingly done on September 20th. Before operating, Mr. Holmes explained to those who were present, as he had previously to the patient, that the operation must be looked on as exploratory only, as his opinion was almost equally divided between ovarian tumour and the fibro-cystic degeneration of the uterus, which so closely simulates it, and of which illustrations and cases are found in the *Transactions* of this Society (Vol. xiv., pp. 198, 204), and a specimen exists in the Museum of St. George's Hospital. However, on cutting down upon the tumour, these doubts were no longer entertained; it looked so exactly like an ovarian tumour that none of the surgeons present doubted that it was so. There were a good many very firm adhesions in front to the abdominal walls and to the omentum, which was spread over the anterior surface of the mass, and the vessels in which were of very large size, giving rise to pretty copious hæmorrhage. In some parts it was necessary to use the knife. When the anterior part of the tumour had been cleared as far as possible, the trocar was introduced, but no fluid would flow through, until by squeezing and cutting freely into the tumour its bulk had been so far diminished that it seemed possible to extract it from the wound, which had now been extended to the whole length of the abdomen. The

adhesions, however, were universal, and were of extreme density in the neighbourhood of the liver and spleen, necessitating the cautious use of the knife here again. When these had been overcome, the tumour was found to be still more firmly adherent behind to the mesentery, and almost incorporated with the small intestines. The patient had now become excessively exhausted, and in separating as rapidly as possible the tumour from its posterior connections the small intestine was torn. This, it is believed, took place from the weight of the tumour. The peduncle was of small size, about the circumference of the thumb. A piece of stout wire was twisted round it. The patient rallied after the operation, but after the first rise in the pulse she suddenly sank, as though from internal hæmorrhage, and died the same afternoon, about four hours after the operation. The main tumour which had been removed was of very large size and weighed above eleven pounds, even after it had been drained of fluid. Its texture was spongy or reticulated, without any actual cysts, but with very large spaces in some parts between its meshes of fibres. It appeared to have resulted from the softening of an ordinary fibroid tumour. It was attached by the small stalk above mentioned (which was not above one inch and a-half in length) to the top of the fundus uteri. The walls of the uterus were full of fibroid tumours of various sizes, the whole forming a mass about as large as a cocoa-nut. This mass formed the second tumour spoken of in the above description of the case. A third tumour, about the shape and size of the spleen, was attached to the fundus uteri on the right side by a pedicle, and was lying in the right iliac fossa. The cavity of the uterus was elongated, measuring from os to fundus about five inches. The peritoneal cavity contained a large quantity of blood, and this hæmorrhage seemed to have been the proximate cause of death.

The above case was presented to the Society as one in which there were unusual difficulties, leading to an error in diagnosis which was not discovered, even when the tumour was exposed to the sight. There was, on the one hand, the clear history of a careful diagnosis by so experienced a surgeon as Mr. Spencer Wells; but, without any discredit being cast on that diagnosis, the main tumour might still have been ovarian. Of the coexistence of ovarian cysts of large size with fibroid tumours of the uterus, an example is published in the last volume of these *Transactions*. So that it was quite possible that the woman, when under Mr. Wells's care, might have presented no visible indication

of the ovarian cyst which had grown to such large proportions afterwards. At the time of her last stay in St. George's Hospital, the main tumour masked everything else; and if two of the uterine tumours (supposing them to exist) had been covered and concealed by the larger mass which filled the abdomen, why not the third? Again, the large size and rapid growth of the tumour was much more like ovarian than uterine disease. The great quantity of fluid which the growth yielded on paracentesis was another very deceptive feature in the case, and so was the absence of uterine hæmorrhage, and of any perceptible uterine displacement. On the whole, it may be said that no sufficient elements for an exact diagnosis existed at the date of her last stay in St. George's Hospital, without an exploratory incision. The operation, however, was only undertaken as an exploratory one; and here one of the most unfortunate peculiarities of the case comes in—viz., that the appearance of the tumour, and its uniform semi-fluid consistence were so deceptive that, even after it was exposed, no one doubted that it was an ovarian cyst. This led to persevering attempts at its extraction, and these attempts were necessarily attended with great embarrassment on account of the extensive adhesion of the tumour, and the impossibility of lessening its bulk without much violence and consequent loss of blood. It had been found in the early stage of the operation that the lower part was free and pedunculated, and this was an additional encouragement for persisting with the operation. But the abdomen had to be laid open from one end to the other, and the patient was greatly exhausted before the hand could be passed round the upper part of the tumour. When this had been effected, the most difficult part of the operation commenced—viz., the separation of the tumour from its posterior connections. It was in doing this, necessarily in much haste, for the patient's condition was very critical, that the intestine was lacerated; and thus the fatal event was made certain. But even without this, it is most improbable that she would have survived long—in fact, she appeared actually to die from hæmorrhage rather than from extravasation of the contents of the intestine. The case is put on record as an interesting example of the great difficulties which surround diagnosis in such instances, and also of the formidable nature of the connections which solid tumours form when growing among the abdominal viscera.

The uterine sound was not used in the diagnosis of this case. This, as it turned out, may be matter of regret. Still it is hardly likely, considering the pressure to which all the parts were subjected

by the superincumbent mass, that it would have been possible to pass this instrument to the bottom of the enlarged uterine cavity. If so, it would have been as likely to confirm the error as to rectify it.

Mr. Holmes, *7th of November*, 1865.

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16. *Five cases of ovariotomy.*

I exhibit four ovarian tumours taken from different women, and two taken from a fifth.

No. 1 tumour was taken from a married woman, aged 36, whose case had been mistaken and treated for ascites until she was very weak and exhausted. She had been delivered of a child a few months previously. On the nature of the case and the danger of the operation being explained to her, she was very wishful to have it performed. There was literally universal adhesion of the sac in every direction. When it was punctured with the trocar, the contents were as thick as jelly, and would not pass through the tube. A long incision was made into the tumour, and the contents removed with the hand, but it was impossible to detach the sac; the abdominal wound was therefore closed. The woman died twenty-two hours afterwards. Even after death, the sac could not be detached, except by tearing through the whole peritoneal surface, which is now seen adhering to the thick walls of the sac.

No. 2 was removed from an unmarried woman (one of the largest women I ever saw) æt. 26, but who had had one child at the full term and a miscarriage at the fifth month, when doubtless the ovarian disease had been developed. She had suffered much from the distension and also a good deal of abdominal pain, which induced suspicion of the existence of adhesions. These were found to exist to a considerable extent to the peritoneum, to the omentum, and in a less degree to the intestines. There was very little peritoneal fluid. The tumour sprung from the right ovary, and had a moderately long pedicle, which was tied with china twist and secured with one of the uniting pins. The wound healed without any trouble, though for three days there was much distressing sickness; when this abated, the woman rapidly recovered.

Six months after the operation she married: she at once became pregnant, and was delivered of a very large child. She has since remained well.

No. 3 tumour, which is solid, was removed from a single woman, æt. 43. It had existed three years. She had been once tapped. There

were twenty pints of thick peritoneal fluid. The tumour sprung from the right ovary. There were no adhesions. The pedicle, a moderately long one, was tied with china twist, and included with one of the hair-lip pins which closed the wound. Four of these pins were employed and passed through the peritoneum with small cutaneous wire-sutures between. The wound united by the first intention; the ligature came away on the eighteenth day; the woman never had a bad symptom, was up in twelve days, and was walking in the street in less than three weeks: she continues well. The tumour taken from this woman is now in the Museum of the Royal College of Surgeons.

No. 4 was removed from a married woman, 45 years of age. She had had two children upwards of twenty years before. The disease had existed several years. In her there were seventeen pints of thick peritoneal fluid. The tumour consisted of the right ovary converted into a mass of small cells, which were so closely bound together, as to constitute a solid globular mass weighing six pounds. The pedicle, which was very short, consisted of the broad ligament, spread out to seven inches in breadth, and so short that there was no room to place a ligature securely on it. The hot iron was used with great advantage; a ligature of china twist was also left on the pedicle close to the uterus; this was left *in sitû* in the pelvis. The wound was secured by three large pins, and twisted sutures (the peritoneum being well included) and by intervening cutaneous stitches. The wound united by the first intention; the patient was up on the twelfth day, and on the fourteenth was removed to a distance in a cab, as her nurse was seized with idiopathic erysipelas. The ligature came away on the twentieth day. She was well from the first.

To these two women, Dutch liquid (the chloride of olefiant gas) was administered as an anæsthetic.

No. 5. The two smaller tumours, are, I believe, instances of malignant disease of the ovaries. They were taken from a woman, æt. 37. She had been married several years, but had not been pregnant; her health had not been good for long past. There was no suspicion of the existence of malignant disease. She was of a very large size, owing to the quantity of peritoneal fluid, which indeed was so great that, as it flowed out and the parietes collapsed, some who witnessed the operation were disposed to suspect that a mistake in the diagnosis had been made. However, both ovaries were found to be involved, and were removed. When taken out of the body, the tumours had the appearance of half-boiled sago. The pedicles were so short as to be with very great diffi-

culty secured. The woman never rallied from the operation: intense and constant sickness continued, and she died on the third day.

On *post-mortem* examination a small quantity of blood (perhaps one-third of an ounce) was found in the pelvis, which must have escaped from one of the pedicles, though the ligatures on both appeared to be tightly fixed; the hæmorrhage was probably caused by the constant strain of vomiting. There was some diffuse inflammation of the peritoneum. Mr. Nunneley, 21*st of November*, 1865.

Report on the third of the above cases.—We have carefully examined the tumour exhibited by Mr. Nunneley on the 21st of November, 1865, and referred to us for report.

We cannot find in it any trace of the structures found either in healthy or diseased ovaries; but its appearance to the naked eye is precisely that of fibroid tumours of the uterus, and on microscopic examination of thin sections the structure is seen to be identical with that of these tumours, viz., unstriped muscular fibre and connective tissue. We, therefore, believe that the tumour is uterine and not ovarian.* Dr. Graily Hewitt,
Mr. T. Spencer Wells, *5th of December*, 1865.

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17. *Fibro-cystic tumour of the uterus.*

Mrs. W., a widow, who had had no children, was a patient of Mr. Duke, of Kennington, who first saw her on the 15th of January, 1848. She at that time, seventeen years ago, had a very large tumour in the abdomen, in which fluctuation was not to be detected. She was then 47 years old. Dr. Addison and two other Physicians saw her, but the nature of the case remained obscure. Mr. Duke thinks, however, that the mass was not regarded as an ovarian tumour. The patient had had, as was supposed, a miscarriage some years before in India, and the idea was suggested that it might be an extra-uterine fœtation. Scott's ointment was prescribed, and was rubbed into the abdomen for some time. Among the symptoms present at this time were irritability of the bowels and sickness. Mr. Duke does not remember ever hearing of any menstrual disorder. The uterine sound was not employed

* Mr. Nunneley writes to say, that all who were present at the operation were of opinion that the tumour was ovarian, and had no connection with the uterus. —Ed.

to aid in the diagnosis of the tumour. She never complained of much pain in it, except quite latterly, when it became painful at the upper part.

The tumour increased in size but very slowly. She died rather suddenly, in the month of October, 1865, from inflammation and plugging of the veins of the left lower limb, ascribed to her having knocked her shin in getting out of bed. At the time of her death the existence of the tumour had been recognised for between twenty- and twenty-five years.

On *post-mortem* examination, the growth was found to be seated in the right side of the body of the uterus; and, as it projected upwards into the abdomen, it, of course, tilted the fundus over to the left side. The tumour grew partly towards the uterine cavity, which gradually became enlarged and flattened out, partly towards the broad ligament, between the layers of which it insinuated itself.

The os and cervix uteri were healthy. In the interior of the organ was found a mucous polypus, attached by a narrow pedicle and fan-shaped, corresponding to the flattened form of the uterine cavity.

The left Fallopian tube and ovary were healthy. The right Fallopian tube and broad ligament were both stretched out over the round summit of the mass. The right Fallopian tube was also much dilated, its opening into the uterus being enlarged, so that a blow-pipe could be passed from the uterus into its canal for three or four inches. The extremity of this tube had been cut off in removing the mass. Of the right ovary no trace could be found. It was at first supposed that one of the smaller cysts, which had somewhat the position of the ovary, corresponded to that organ; but this does not appear probable, for this cyst was very similar to the others, and was separated from them only by a thin septum. Moreover, it seems to me that the uterine tissue passes continuously over the surface of this smaller cyst. Probably the right ovary became embedded in the substance of the tumour, as this grew over towards the right side between the layers of the broad ligament.

The tumour was surrounded everywhere by peritoneum, and there were no adhesions between it and the different viscera with which it was in contact.

It was formed of a collection of large cysts, and was covered, on all sides, by a layer of hypertrophied uterine muscular fibre. Many of the smaller cysts were quite cut off from one another by thin septa. The fluid within them was of a light pink, or dark red, colour. In one

of them, at least, there was a soft fresh fibrinous coagulum; and many shreds were present, which looked like broken-down clots. Moreover, the wall of one of the cysts was ecchymosed; and abundance of blood-discs, but no blood-crystals, were found at this point.

The substance of the growth contained a large quantity of earthy deposit, forming masses of considerable size, which the microscope shewed not to consist of true bone. Dr. Stevenson very kindly analyzed some of these yellowish-brown masses for me, and found them to be made up of carbonate and phosphate of lime.

Dr. C. Hilton Fagge, *5th of December*, 1865.

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18. *Large multilocular ovarian cyst, with a pedicle formed by omentum.*

Accident had thrown more than usual interest around this specimen. The patient was operated on for presumed ovarian cysts, and her medical history affords nothing worth recording. After the customary incisions, a few adhesions and straight vessels were observed running from the lower border of the omentum, and from the upper surface of the cysts, and on looking for the pedicle none could be found. In fact, the tumour was closely adherent to the omentum; the ovaries and uterus were present, and they were healthy. The nature of this tumour, Dr. Barratt remarked, was of more than usual interest, and it was more by a process of exclusion, and by saying what it was not, that he could arrive at the truth of what, in great probability, it was. Dr. Wilson Fox, Dr. Barratt added, had kindly joined him in the examination, and he contented himself with saying that the tumour consisted of a group of cysts with contents and structures, such as are uniformly seen developed in ovarian dropsy. In the first place this cystic growth was not indigenous to the omentum; cysts of this membrane are generally simple filmy bags with a thin serosity in them; they are dilatations, as it were, of the peritoneum. It was not a translated cyst from the par-ovarium, for such are single, small, and generally have a very short pedicle, as Dr. West describes them; neither has it for its origin an ovary which by twisting on itself has been severed (as happened in the case recorded by Dr. Turner, of Edinburgh), and had thus attached itself to a neighbouring place. "Thus," Dr. Barratt said, "I have exhausted almost all possibilities, except one—viz., that it may be a detached cystic growth from the parietes of the uterus. The uterus was, however, quite normal. I believe it to be a link that was wanting to prove the

truth of the views held by the Ritchies, a few others, and myself—viz., that the ovum is itself oftentimes the point of departure for cystic degeneration. The Graaffian follicles, the corpora lutea, the stroma of the ovary, each and all have been regarded as giving rise, in different modes, to capsules of fluid, which, by pressure and by aggregation, become the large growths we see in the ovary. But one cannot long examine ovaries without asking the question, Does the unimpregnated ovum always die? In connection with such researches it is only right to mention the name of the late Dr. Charles Ritchie. Dr. Ritchie exhibited a diseased cyst, developed in the Fallopian tube, to the Fellows of the Obstetrical Society, on December 6th, 1865. In the specimen I am alluding to I cannot but conclude that its origin was really ovular, and that it escaped from its receptacle,—the Fallopian tube. If so, the share the ovum may take in cystic disease is made apparent, and, as I believe, in looking at the three specimens before us, we are only contemplating different phases of the same structure—pathologically developed in the one, and physiologically in the two others, by the diseased cysts. These cases, I may add, were all operated upon successfully by Mr. Baker Brown, and I am indebted to his kindness for having them at my disposal." Dr. Barratt, *6th of February*, 1866.

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19. *Epithelioma propagated by contact from the posterior to the anterior wall of the vagina.*

This specimen was taken from the body of a woman, aged 34 years, who died in the Middlesex Hospital, under the care of Mr. Nunn, on January 7th, from a cancerous stricture of the rectum. The cancerous ulcer in the rectum has perforated the posterior wall of the vagina, forming a fistulous communication which will admit a goose-quill. On the anterior wall of the vagina, exactly opposite to the fistulous opening is an inflamed circular patch, the size of a sixpenny-piece, superficially ulcerated and studded with little red granulations. This patch when the vagina is collapsed, is in contact with the fistulous opening. The intervening mucous membrane of the vagina is normal. On microscopical examination of the reddened patch, numerous little deposits of cancer made up of concentric layers of epithelial scales are visible, embedded in the mucous membrane. These correspond in every respect to the cancerous infiltration of the margin of the fistulous ulcer in the posterior wall.

It seems evident that here cancer has been propagated from one side of the vagina to the other, by a process analogous to inoculation.

Dr. Cayley, *20th of February*, 1866.

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20. *Cystic disease of both ovaries.*

This specimen was removed from the body of a patient who came under my notice at the Western General Dispensary on account of an umbilical hernia, and who died of exhaustion from vomiting coupled with fatty degeneration of the heart. The subject of it was a large, fat woman, aged 64, and the ovarian disease had not been suspected during life, all her abdominal symptoms having been attributed to a hernia; but it appeared that for several years past she had suffered from pain and weight,—greatly increased by walking or riding,—at the lower part of the abdomen. She had had constant attacks of sickness, and had been unable to make water except in a standing position. She had borne several children, the last at the age of 41; the menses became very irregular after this, and ceased at the age of 52.

The tumours were freely moveable, and at the *post-mortem* examination lay one behind the other. The large one occupied the front in the centre of the pelvis and looked exactly like a distended bladder; it had one long, firm adhesion to the back part of the pelvis. The walls of the cysts were excessively thin, so that the mere manipulation in drawing the tumours to one side caused some of the cysts to burst, allowing a quantity of reddish serous fluid to escape. The tumour of the right ovary was about the size of a duck's egg; that of the left, before being injured, was as large as the egg of an ostrich; the specimens, therefore, shewed two stages of cystic disease.

Dr. W. Hickman, *6th of March*, 1866.

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21. *Case of alveolar disease of ovaries.*

Mrs. K., æt. 49, widow of a medical man, mother of a family of five children, very spare and feeble, was seen by me in November, or early in December, 1865, suffering from an abdominal tumour.

The symptoms had only become prominent in September, and she then commenced to have sickness and pain in the abdomen, which had continued up to the time of my visit. She was miserably thin and wasted and very depressed and nervous, dreading even to be examined,

I found a large firm tumour, or tumours, occupying the right hypochondrium and extending across the belly in an oblique direction towards the left iliac fossa. There was a collection of fluid evidently lying in the peritoneal cavity, which could easily be displaced from the surface of the tumour itself; the latter gave me the impression of being solid, or at least partially solid. It had a nodulated surface, and was but slightly, if at all, moveable.

I had no opportunity at that time of making an examination per vaginam; and I withheld any opinion as to the nature of the tumour.

A few weeks after, a physician, who has paid great attention to diseases of women, saw the patient, made an examination of the uterus with his uterine sound, pronounced the uterus healthy, and suggested the probability of the disease being a cancer of the omentum. Subsequently, a surgeon from the United States examined this lady, and gave it as his opinion that the ovaries were the seat of the disease, but that the tumours were probably solid, and the case not one that could be dealt with surgically.

I was inclined to this gentleman's diagnosis, though I did not consider the case by any means a clear one.

The sickness continued with very little abatement up to the time of her death, which occurred at the end of January of the present year.

On opening the abdomen, the tumours were found to be enormously enlarged ovaries; the right occupying the right hypochondrium and being adherent to the under surface of the liver, the left occupying the left iliac fossa, and both being united to one another and to the parts behind, but not having any adhesions to the anterior abdominal walls. Some of the adhesions were very firm and required considerable force to tear through them. There were several cysts of the size of oranges and larger, in each ovary, which were opened at the time, and from which several pints of fluid escaped. On making a section of those portions of the tumour which appeared to be solid both to touch and sight, they were found to be a mere agglomeration of cysts of varying size and shape, very closely packed together, like the way in which the cells of an orange-pulp are arranged. The microscopic appearance of the parts, which, even after a section was made, appeared solid to the naked eye, was that of a number of minute cells lined with epithelium.

A section of the wall of one of the larger cysts was seen to consist of fibrous material and fibroid cells, arranged in laminæ and interlacing with numerous granulated corpuscles of large size scattered through-

out their substance. In some parts even of the cyst-walls, spaces filled with glandular or epithelial cells were found. In this respect the tumour resembled one exhibited to the Society by Dr. Julius Pollock, and reported on by Mr. Hulke, in Vol. xv. of the Society's *Transactions*.

Mr. Spencer Watson, *6th of March*, 1866.

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22. *Case of colloid cancer of the ovaries, omentum, and abdominal organs generally.*

Mrs. C., aged 53, was transferred to my care in the London Hospital by my obstetric colleague, with a view to the performance of ovariotomy. She had been the subject of supposed ovarian dropsy for three years; the abdomen had steadily increased, and was now much larger than is usual in the last month of pregnancy. Fluctuation could be felt in all parts, and in some, very distinctly, but the wave was transmitted with difficulty from side to side. We judged that the cyst was multilocular and contained thick fluid. No one expressed any doubt as to the diagnosis of ovarian dropsy. The woman was in tolerable health; she had never been tapped, and was very desirous to have the radical operation performed.

I proceeded to the operation with the usual preliminaries, and assisted by most of my colleagues. In making the incision through the linea alba, I was puzzled by encountering some small aggregations of gummy material before reaching the peritoneum. Having opened the latter, I had the greatest difficulty in distinguishing the cyst wall, and having at length used a trocar of half-an-inch bore, I found that the contents were so tenacious, that none escaped through it; I enlarged the opening, introduced my hand and scooped out an immense quantity of soft colloid material, breaking down the partitions between different collections: not less than a couple of pailsful were thus removed. Strong adhesions existed in all directions, and there were also larger solid masses, in which the cysts were too small to admit of their being emptied. I could not identify any continuous cyst wall, and had great difficulty in distinguishing what I took for the cyst wall in front from the parietal peritoneum, to which it adhered. After half-an-hour's attempt, I judged it better, with the concurrence of my colleagues, to abandon the operation. We had not exposed any of the abdominal viscera. The wound was left open in the middle. The patient died of peritonitis, &c., three days after the operation.

At the *post-mortem* examination, I found colloid cysts in the structures of the abdominal wall, just where the incision had been made. The great omentum covered the upper two-thirds of the abdominal cavity and was in many places from an inch and a-half to two inches thick. The section presented a beautiful example of colloid deposit. The cysts varied in size from a pin's-head to a marble, and their membranous dissepiments were so delicate as to be in parts quite transparent. The omentum had adhered everywhere to the abdominal wall, and having been taken in the operation for the thickened cyst, had been detached to a considerable extent. The broad ligaments, both ovaries, and the body of the uterus were lost in a mass of colloid cysts. The intestines had been pushed upwards by the growth, but adhering to them at various parts were detached masses of colloid material, from a pea to a cherry in size. On the surface of both kidneys and on that of the spleen, were similar deposits. In all cases the colloid matter was clear and almost untinged; it was supported by an exceedingly delicate frame-work, which contained branching capillaries. The thoracic viscera were healthy.

It may be supposed probable that the disease in this case began in one ovary, and subsequently extended to the other organs. It was, of course, quite impossible to have made a differential diagnosis before the operation between such a condition and that of an ordinary multilocular ovarian tumour. The autopsy does not supply any hints by which such diagnosis might be helped in future cases.

Mr. Jonathan Hutchinson, *6th of March*, 1866.

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23. *Fibro-cystic tumour, with diseased uterus and ovary.*

This tumour was removed on the 4th of April, 1866, from a married woman, 38 years of age, in whom disease of the uterus and of both ovaries had been suspected three years before the operation, a tumour in the abdomen having been discovered in 1862. She had been tapped three times between December, 1863, and January, 1866, eleven or twelve pints of fluid escaping at each tapping. At the last tapping the fluid contained much cholesterine.' The patient being in a very distressing condition, the attempt to save her by removing the tumour was made, but it was impossible to remove it all and the connection with the right side of the uterus was severed by the écraseur. Signs of general chronic peritonitis were observed during the operation, and the patient died in thirty-two hours.

The uterus, with two fibroid outgrowths from it,—the left ovary surrounded by the adhering fimbriæ of the left Fallopian tube,—and the tumour were exhibited, in order that they might be referred to a committee, as the operator still entertained doubt whether the tumour was ovarian, or a fibro-cystic outgrowth from the uterus, or a fibro-cystic tumour developed in the right broad ligament.

Mr. Spencer Wells, 17*th of April*, 1866.

Report on the above specimen.—The parts examined were a large tumour removed by operation, and the pelvic organs which had been taken out after death.

The tumour consisted of one large and two or three smaller cysts, and also contained some minute cysts in the thicker parts of its wall. The larger cysts had been emptied of their contents.

The wall of the tumour was composed externally of a compact fibrous tissue. This, on microscopical examination, was found to consist of fibrous bands of variable breadth, to exhibit here and there elongated fibre-cells, and to correspond in most particulars to the structure of the walls of ovarian cystic tumours. Many, however, of the fibrous bands had a definite width and bore a considerable resemblance to organic muscular fibre, but they often admitted of being split up into finer fibres. The inner part of the cyst-wall appeared to consist of concentric layers of lymph, partly organized; the most internal was soft and shreddy. In some parts indistinct traces of glands could be discovered, but these appeared to have been destroyed in great part by the inflammatory process.

The parts removed after death included the uterus and left ovary. The uterus was elongated, and its fundus appeared drawn out along the course of each Fallopian tube. On the left side, the change was due to a fibrous tumour, the size of a tennis-ball, which was embedded in its wall anteriorly to the insertion of the left Fallopian tube. A similar tumour, of smaller size, had grown nearer to the cavity of the uterus.

On the right side, the ovary, a part of the broad ligament, and a small portion of the anterior wall of the uterus had been removed by the operation; some thick fibrous substance, which had apparently formed part of the cyst, remained attached to the uterus and broad ligament. The uterine tissue in other respects was normal.

From the state in which the parts were presented for examination, and bearing in mind that the écraseur must have caused the disappearance

of a breadth of tissue between what was removed during life and the parts taken out afterwards, it appears impossible to decide, with certainty, whether the tumour was an ovarian cyst, or had originated in a glandular sarcoma of the uterus which subsequently had undergone cystic degeneration. The cyst closely resembled an ovarian cyst, and no trace of the corresponding ovary was visible; but, on the other hand, the absence of definite ovarian structure in its walls and some traces of glandular and muscular tissue are suggestive of an uterine origin.

Dr. Dickinson.
Dr. Wilson Fox.
Dr. Cayley,
Mr. Spencer Wells, *15th of May*, 1866.

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24. *Uterus, remarkable for its size and form, having an elongated leech-shaped polypus attached to its inner surface at the base. Cyst connected with the left ovary. Enormous cyst containing several quarts of fluid replacing the right ovary.*

The uterus was about five inches in length and very narrow in proportion to its length, presenting a long cylinder-like cavity, the mucous membrane of which, excepting some enlarged mucous follicles, appeared to be healthy. The os uteri was not at all natural, its lips having almost completely lost their prominence, so that the inner surface of the walls of the vagina was well-nigh continuous without interruption with that of the uterus. The long, flexible polypus alluded to above was attached to the interior of the uterus on the left side; when recent it was very dark and congested, and so long as to reach, leech-like, out of the os uteri into the vagina. The general appearance of the entire organ was such as might have been produced had any hypertrophied uterus, fixed at its lower extremity, been subject to constant and firm traction from above, or to uniform lateral pressure all around.

The specimen was removed from the body of Charlotte B., æt. 69, who was brought into St. George's Hospital on the 13th of July, 1853.* Two years previously she had been in the Hospital suffering from an 'accumulation of fluid' in the abdominal cavity, which had not, as far as could be ascertained, commenced on one side more than another, or been confined in a cyst. She said she had long been "bilious" and once had jaundice.

* See Hospital Post-Mortem Book, 1853, fol. 163.

On her return to the Hospital she stated that, though the swelling had been reduced, it had not quite gone down, and that during the last six months the abdomen had again rapidly increased in size. It was now very greatly distended and there was much pain on pressure at its upper part on the right side, where more resonance existed than on the left side as far down as the iliac fossa. She suffered from flatus and pain in the abdomen after food; the tenderness increased, and vomiting of green fluid supervened. Anxiety of face and sleeplessness at night came on, and in spite of treatment she became worse, the vomiting assuming somewhat a stercoraceous character. She sank and died, on the 7th of August.

Post-mortem examination.—On dividing the integuments of the abdomen an enormous cyst, containing several quarts of clear yellow fluid, and formed of white, firm substance, in some places one-eighth of an inch thick and of almost cartilaginous consistence, was found occupying the abdominal cavity. To its inner surface in many places numerous small fibrinous granulations were attached, some of them being quite infiltrated by calcareous matter. At first sight this cavity appeared to be the general abdominal cavity itself; but a thick membrane forming its walls proved to be those of a cyst which passed in front of all the abdominal viscera; and when detached and entirely removed, the stomach, intestines, and general peritoneal cavity were seen behind. The walls of the sac on the right side were connected with a thickened mass of membrane, in which was hidden a peculiar large and elongated body, having the appearance of a gigantic flattened bean, situated in the right part of the fold. On dissection, this body was found to be an elongated flattened uterus, and connected with the upper part of this body and with the neighbouring membrane was a large mass of cysts (some having granulations attached to their walls, some containing purulent fluid, others cholestearine) passing upwards in a curious manner behind the great omentum which was lying loose behind the stomach, appearing above the smaller curve of the stomach, and so elevating this organ. Connected with the mass, also, were a few fibrous tumours containing much calcareous matter. The thickened membrane connecting this mass with the uterus contained the right Fallopian tube, which was pervious to some extent and became lost in the thick membrane of the cyst. No ovary on the right side was found. The left ovary was replaced by a mass of the size of a large cricket-ball, containing numerous cysts; the left Fallopian tube was pervious to a great extent.*

* The specimen is described in St. George's Hospital Pathological Catalogue (see Appendix to Series XIV.).

Remarks.—In the St. George's Hospital Museum is a coloured drawing made many years ago and presented by the late Dr. Seymour, shewing, along with scirrhus, a very similar state of the uterus,* although no polypus exists. This drawing is given in Dr. Seymour's work on *The Ovaries* (Plate IX.), and is described as representing a portion of a simple ovarian cyst, probably from the development of a Graafian vesicle by disease, &c., the cervix uteri being much elongated by the weight of the diseased mass dragging up the uterus.

It may be mentioned that Rokitansky, in his *Manual of Pathological Anatomy*,† speaking of anomalies of form, although not specifying any particular variety of acquired malformation of the uterus, alludes to such as being the result of "traction exerted upon one side by fibroid tumours, or by an enlarged ovary which has risen into the abdomen." Again he alludes to malformations "in consequence of traction exerted uniformly on both sides," &c.

Dr. John W. Ogle, *15th of May*, 1866.

VI.—DISEASES, ETC., OF THE OSSEOUS SYSTEM.

1. *Congenital dislocation of both hip-joints.*

Mr. Shaw brought to the rooms of the Society, for the inspection of the Members, a girl, aged 10, in whom both hip-joints had been dislocated from the time of birth. He was indebted for the opportunity to Mr. Chandler, who likewise sent two casts of the patient. A photograph, executed by Mr. Heisch, was also shewn.

The patient was a second child. The delivery at birth was so easy as to have been over before the medical man arrived. No relative was known to have had a similar defect. She did not begin to walk till two years of age; her gait was then unusually awkward, as it has continued ever since, being a combination of waddling and running, accompanied with frequent tripping and falling, commonly forwards. It was not till a twelvemonth ago that the nature of her lameness was understood.

The patient is well-grown, and, but for the deformity, well-propor-

* See the Catalogue of Drawings in the Pathological Museum, No. 129.

† See the Sydenham Society's Translation, vol. ii. p. 284.

tioned. The abnormal appearance of the hips attracts first notice when she is undressed; and the same description applies to both. The chief peculiarity, as she stands, consists in the apparently excessive height of the great trochanters of both thigh bones and their extraordinary distinctness of outline; or the singularity may be otherwise described, as an unnatural falling down of the body between the thighs.

Woodcut 12.

(Woodcut 12.) The summits of the trochanters are perceptibly above the level of the highest part of the brim of the pelvis on each side; and

owing to the thinness of the structures covering them, their forms are clearly visible. On rotating the limbs, the head of each femur can be felt rolling on the dorsum ilii, about an inch and a-quarter below the level of the crest, and three-fifths of the length of the crest distant from the anterior spinous process; it is also situated behind the trochanter; that is, in the relative position met with in ordinary dislocation of the hip, upwards and backwards, from violence. Moreover, from the head being likewise considerably below the level of the highest point of the trochanter, it is obvious that the cervix is inclined downwards. On pressing the fingers deeply between the pelvis and inner surface of the thigh, by the side of the perinæum, and guiding the points in the direction of the acetabulum, a projecting, irregularly-shaped surface, supposed to be the imperfectly-developed acetabulum, was felt. Mr. Shaw stated parenthetically that, in cases of dislocation of the hip from violence, he had found that way of examining the parts valuable in deciding the question whether the head of the femur were out of the socket, or not.

When the patient stands, she can keep both her limbs in an even line with the body; but it appears easier for her to rest on one, when straight, and to bend, invert, and slightly adduct the other. The same description applies to her position in bed. And it seems indifferent which leg is thus allowed to assume the posture characteristic of dislocation of the femur on the dorsum ilii from accident. Except abduction, she can voluntarily perform all the ordinary movements of the hip. An attempt was made to draw the thigh-bones vertically downwards; but without success. The hollow of the loins is preternaturally deep, presenting the appearance termed "lordosis;" but this deformity, it is obvious, is the mere effect of the body being bent much backward, so that the centre of gravity may be in a line with the hip-joints, which are displaced posteriorly. Owing to the subsidence of the body between the two limbs, the umbilicus is on a level with the summits of the trochanters; the pubes also appears disproportionately low; or, what is the same thing, the thighs seem too short for the figure: and when she places her arms by her sides, the tips of the fingers reach to the middle of the knee-joints.

Notwithstanding the malformation, the patient enjoys considerable facility of locomotion. She can walk a mile at a stretch without fatigue. She is expert at dancing; and she can run with considerable speed. As before described, the mode of her walking is a compound of running and of twisting her feet,

in a kind of rocking manner. She wears her boots principally at the toes. On closely watching her progression the feet seem turned in at first; the heels are elevated; and lastly, the toes are everted. She frequently loses her balance and tumbles forwards while running.

Mr. Shaw remarked generally on the singular circumstance that the patient should continue to be possessed of the power of executing such a great variety of the natural movements of the hip-joints, although, from the malformation of the articulations, very extensive changes must have taken place in the lines of action of all the group of muscles appropriate to the hips. In regard to the theories which have been broached to account for the occurrence of double congenital dislocation of the hip-joints, he said that none with which he was acquainted gave a satisfactory reason why the two articulations should be so frequently affected simultaneously; and again, that none solved another problem connected with the subject, namely, why, in a very large majority of the cases, the patients should be females—a fact established by statistics. Mr. Alexander Shaw, 17*th of October*, 1865.

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2. *Osteoid cancer of the humerus. Amputation at the shoulder-joint.*

The patient, a boy, æt. 15, was admitted into the Great Northern Hospital, October 9th, 1865, under the care of Mr. T. Carr Jackson. He is a healthy-looking lad, somewhat spare in conformation, has not suffered from illness, and has no hereditary predisposition to malignant disease, as far as can be learned from the history of his family; father, mother, five brothers, and four sisters are all living and in good health. He has been in the habit of taking a great deal of exercise, and been noticed for his skill (at his age) as a round bowler in the game of cricket.

The history of the disease is that four months ago he casually noticed, that a swelling, the size of a marble, had formed on the inner side of the right humerus, quite painless, and causing no uneasiness. He consulted Mr. Burton, of Blackheath, who regarded its nature as obscure, and cautioned him regarding his usual work, amusements, cricket-playing, and so forth.

Notwithstanding this, he continued the latter amusement until his arm became stiff after bowling. The swelling now gradually increased in size, but still caused no pain, beyond what the patient termed an aching in the bone. In two months from this time, the swelling gradually

extended round the entire lower and middle third of the humerus, and as gradually the movements of the elbow-joint became impaired from the encroachment of the swelling upon it; his health remained unaffected; within the last month the tumour has increased rapidly, but without any increase of pain beyond occasional numbness extending down the fore-arm and hand; he has also lost the use of his elbow-joint, the biceps and triceps muscles being prevented from bending or extending the fore-arm to any appreciable extent. He has the entire use of his hand and fingers, but cannot use his pronators or supinators.

There is a large immoveable swelling occupying, and evidently involving, the lower half of the humerus, projecting most on the inner side of the limb. It is hard and incompressible to the touch; handling it causes pain. The skin is somewhat reddened over the tumour at its posterior aspect. The surface is smooth; the superficial veins are well defined, and there is slight œdema around the elbow-joints. The tumour measures thirteen inches round its largest circumference, and ten round its smallest. It is about six inches in length, and seems to terminate gradually in the adjoining bone, there being no sudden or abrupt finish to it. The appetite is not very good, but the bodily functions are well performed. Pulsation in the radial and ulnar arteries normal. The brachial artery can be felt stretched and pulsating in front of the tumour on the inner side. There is no enlargement of the cervical or axillary glands.

October 11*th*.—Mr. Jackson removed the limb by amputation at the shoulder-joint, the patient making a good recovery unto this date, November 7th.*

My colleague, Mr. Hulme, who has carefully examined this specimen for me, reports as follows:—

The tumour completely surrounds the shaft of the bone, forming an oblong, oval mass, of the size of a small cocoa-nut; the muscles covering it are stretched and expanded over its surface, those immediately investing it are somewhat thinned and pale in appearance. A longitudinal section through the shaft shews that the cancellous structure of that part of the bone which is enveloped by the tumour has disappeared, its place being occupied by a fibrous tissue, in which small deposits of a hyaline-looking substance are deposited, and the whole mass is infiltrated with amorphous bony particles, which give a gritty sensation when a section is made with the knife. The shaft of the bone, both above and below the tumour, is limited by hard bony

* September, 1866. Mr. Jackson informs me that the boy is still well and has gained flesh, and that he is actively engaged in driving a baker's cart.—Ed.

matter filling up the cancellous structure. Above and below this the bone appears healthy, though perhaps it is rather more vascular than usual in its medullary structure. The external part of the tumour is smooth, soft, of a pinkish colour, and exudes a juice on scraping. The periosteum surrounding the shaft is traceable right into the mass, where its continuity is lost.

Under the microscope the soft, external part consists of variously shaped, ovoid, fusiform, and many tailed-cells, containing one or more nuclei with nucleoli. They vary in diameter, but present well-marked characters of "cancer-cells." The muscular fibres, which run over this external part, shew nuclei deposited in their fibrils. A dense fibrous stroma pervades the whole mass, in which cancer-cells may be traced. Bony particles are found abundantly in this tissue, as well as in the hyaline masses which pervade the structure.

Mr. Thomas Carr Jackson, *7th of November*, 1865.

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3. *Tumour of right humerus, for which amputation at the shoulder-joint was performed.*

Mrs. C., aged 27 years, was admitted into the Great Northern Hospital, under the care of Mr. W. Adams, on the 20th May, 1865. She had been married a year, and was three months in the family-way. She was a thin, spare woman, rather tall, of fair complexion, but had no appearance of constitutional delicacy.

Condition when admitted.—The right arm was the seat of a large tumour, evidently connected with the bone, the entire circumference and greater part of the length of the humerus being involved. The tumour was coarsely lobulated, tense, and somewhat elastic to the touch. The most prominent part of the tumour corresponded to about the centre of the humerus, on its anterior and inner surfaces; but the bone was involved in its upper third, and one lobe projected into the axilla, where it could be felt to be connected with the periosteum or bone, close up to the surgical neck of the humerus.

At the lower part, the tumour extended to within a short distance of the elbow-joint, a little above which a lobulated growth could be felt connected with the periosteum.

The patient suffered constant pain in the arm, and had had very little sleep for many weeks, so that there was a fear of her becoming exhausted, and she was willing to submit to any treatment likely to afford relief.

History.—She had been subject to pain in the right arm occasionally during the last two years; it was considered to be of a rheumatic character and treated accordingly, lately by galvanism, and she had been some time under treatment at a Galvanic Institution, before applying to Mr. Adams. The swelling of the arm was first perceived about four months since, at about the centre of the humerus towards its inner side, and the tumour very rapidly enlarged to its present dimensions.

Treatment.—The only treatment applicable to a case like the present, appeared to be amputation at the shoulder-joint, as the morbid growth evidently involved the substance of the bone, and extended as high as the surgical neck of the humerus, projecting into the axilla. After a consultation with my colleagues at the Hospital, and their unanimous concurrence in the necessity of the operation, an opinion with which Mr. Skey, the Consulting-Surgeon of the Hospital, also agreed, amputation at the shoulder-joint was proposed to the patient and consented to by her.

On the 31st May, 1865, I removed the arm at the shoulder-joint, adopting the plan of dissecting upwards a large deltoid flap; and then, after opening the joint, dividing the vessels, nerves, &c., by one sweep of the knife through the axilla. Very little blood was lost; the subclavian artery being controlled by Mr. Gay, and the vessels rapidly seized by Mr. Allingham, Mr. Jackson, and Mr. Hulme.

After the operation, no untoward event occurred, and the case progressed in the most favourable manner. Sleep was procured by the subcutaneous injection of morphia every night, for three or four weeks. I removed the ligature from the axillary artery on the nineteenth day, and the wound healed completely before the woman left the Hospital.

Subsequent history.—I saw this patient about five or six months after the operation, and she was then in good health. The stump was quite sound and shrunken, without the least appearance of reproduction, nor had there been any pain. Eleven months after the operation (April, 1866), I heard that she was suffering constant pain and had sleepless nights, and that some reproduction of the tumour had taken place at the shoulder-joint. Intelligence afterwards reached the Hospital that she died in May or June of the present year.

Examination of the tumour.—The tumour was of large size, involving the entire length and circumference of the humerus, from the surgical neck of the bone above to the elbow-joint below, and into this articulation small lobulated growths projected. The tumour was coarsely

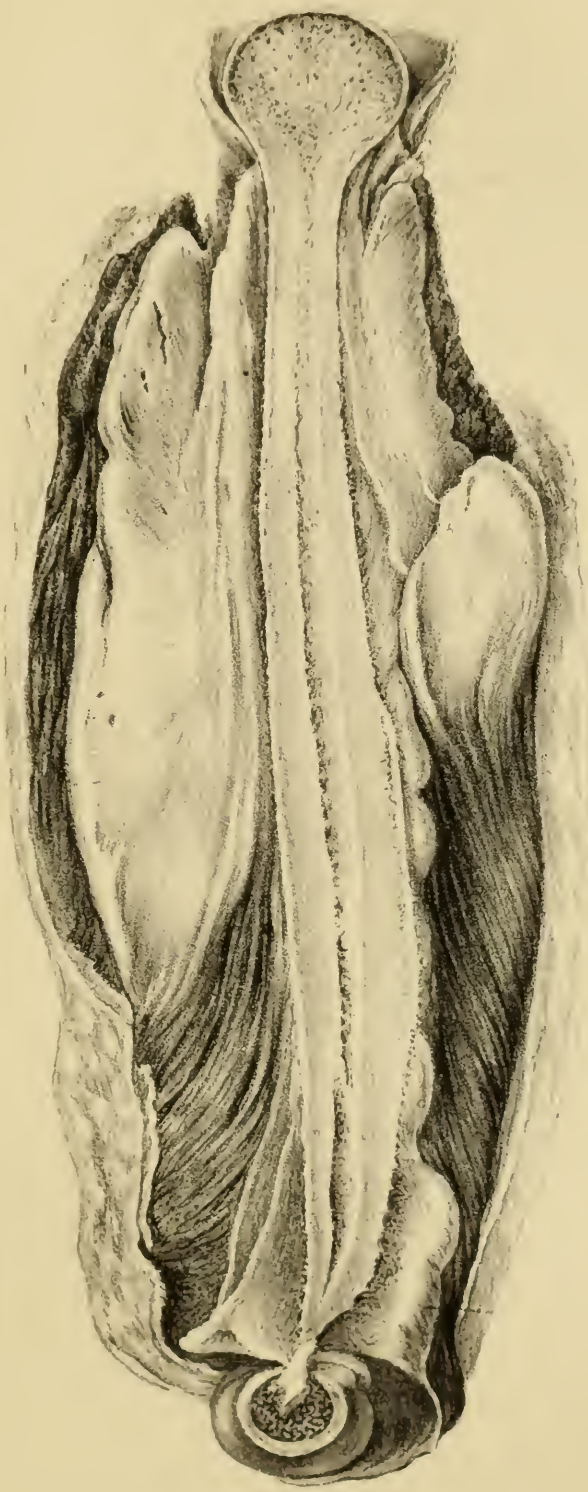
DESCRIPTION OF PLATE VIII.

Illustrates Mr. W. Adams's case of Tumour of the Right Humerus, for which amputation was performed (p. 211).

A longitudinal section has been made through the bone and the tumour.

The periosteum of the humerus, from the surgical neck of the bone above to to the elbow-joint below, is seen to be implicated in the morbid growth, which was of an encephaloid character; and the outer surface of the bone is seen to be destroyed in some places.

The structure of the tumour had, in many parts, a striated appearance; the striæ, most distinct near to the outer surface of the lobules, passed in different directions corresponding with the direction of the adjacent muscles, into which the tumour was spreading by infiltration of encephaloid material between the fasciculi and the primitive muscular fibres. This appearance is well represented at the lower portion of the lobulated growth on either side of the humerus.



Jean Allous, lith

Harrison & Sons, Imp.

lobulated and defined in outline, but not encysted or capsulated, except imperfectly so over the larger lobes. It was elastic to the touch.

On section, the structure presented a greyish, translucent, and homogeneous appearance. It contained very little fibrous tissue, and no bone. The cancellous tissue of the shaft of the humerus was filled with the same greyish, translucent tissue; and the compact shell of the bone was superficially destroyed in some places. The periosteum was everywhere involved in the growth.

One peculiar feature, which I have not seen in any other specimen, presented itself, viz.: the structure of the tumour had, in many parts, a striated appearance, extending an inch or more within the circumferential margins of the lobes (see Plate VIII.). These striæ did not pass in the same direction, in different parts of the tumour, but they always corresponded with the direction of the adjacent muscle, into which the tumour was spreading by infiltration of encephaloid material between the fasciculi and the primitive muscular fibres.

On microscopical examination, the appearances presented were generally similar to those met with in encephaloid tumours of rapid growth, in which there is but little fibrous tissue, and no bone. The cells were generally spherical, and of small size, varying from two to three diameters of a blood-corpuscle; they were distinctly nucleated, usually presenting one clear nucleus, surrounded by molecular matter; cells of the largest size were not abundant; oval and elongated cells were rare, and neither fusiform nor caudate cells were met with. The cells were most abundant and well defined in proportion as we approached the circumference of the lobules, *i.e.*, in the more recently growing part. In the deeper parts of the larger lobules and in the neighbourhood of the periosteum, little else than oil-molecules and granular matter was met with.

Muscular fasciculi and primitive muscular fibres were easily recognised in the structure of the tumour for some little distance within the circumferential margins of the lobules, and were seen to be in every stage of fatty degeneration, evidently disappearing by this process in proportion as the elements of the encephaloid growth were infiltrated between them. These appearances I have not met with in any other specimen, and they at once explained the striated arrangement of the tissue above adverted to. The regularity of the marginal outline preserved by the infiltrating tissue, as it invaded the different muscles, was also remarkable. Mr. W. Adams, *7th of November*, 1865.

4. *Tumour of the arm, removed by amputation, at the shoulder-joint.*

The patient, a widow, aged 59, very stout, but of healthy appearance, applied at St. George's Hospital as an out-patient in June, 1865, presenting a large swelling of only six weeks' known duration, situated at the back of the left arm, underneath the triceps muscle, about three inches below the head of the bone. It was tapped with a grooved needle, and about three ounces of clear yellow serum, exactly like that of an enlarged bursa, flowed out. This, however, still left a good deal of enlargement, deeply seated in the arm. She was directed to come again when the tumour had refilled, and it was then determined to tap the cyst with a common trocar, and if the swelling was due to a cyst only, to inject it with iodine. She was accordingly admitted as an in-patient in July, the tumour having become much larger and harder, and on the 11th of July she was brought under the influence of chloroform, and a common hydrocele trocar was thrust deeply into the tumour in three different parts. As not a drop of fluid flowed from any one of these punctures, it became clear that the previous cyst was only an incidental and insignificant part of the disease, and that there was a solid, and probably a rapid-growing, tumour deep under the muscles. At that time she was not suffering sufficient inconvenience to render her willing to submit to any serious operation, or even to justify the proposal of such a measure. The tumour grew, however, after this time, at first gradually, and afterwards, more rapidly, and she re-applied in the early part of September, anxious to submit to anything necessary to get rid of the disease. The tumour was now of very large size, extending quite up to the head of the bone, and projecting to a great extent in the axilla, so as to come round to the situation of the vessels. The triceps and deltoid muscles were much raised by it. There was great pain, and the arm was useless. The pain was not only in the part, but also shot down to the fingers. On consultation, it was decided that the only prudent course would be to amputate at the joint. It would, on the one hand, have probably been feasible to reduce the bulk of the tumour by tapping, as a good part of it now seemed fluid; but the experience of the former tapping shewed that this would do no permanent good. On the other hand, to attempt to extirpate so large a mass in so deep a situation, and so close upon the nerves, vessels, and shoulder-joint, would probably only end in disappointment, or in fatal injury to the arm. In this opinion Mr. Adams, of the London Hospital (whom the patient had consulted privately),

was said to concur. Accordingly, on the 21st of September, the arm was amputated at the shoulder-joint. As the tumour spread so high up into the axilla, no flap was taken from the inside. In cutting the first flap out of the deltoid, a large cyst was opened, a portion of its wall, as large as half-a-crown, having been shaved off. No great quantity of blood was lost, the subclavian artery being securely held by Mr. Brodhurst. As many as thirty vessels required the ligature. After the completion of the operation the remains of the cyst were dissected out of the flap. The parts came together without any tension, forming an ample soft covering. She had no subsequent hæmorrhage, and went on well for the first day; then the pulse began to increase in rapidity and decline in power: she suffered a good deal from vomiting, became excited, and at last a little delirious, and died four days after the operation. No *post-mortem* examination was permitted. It had been noticed, when she was previously under chloroform, that the pulse had failed suddenly, and it was probable that the heart was in a condition of fatty degeneration. The tumour consisted of some lobes of soft solid matter, presenting the usual characters of encephaloid cancer, and surrounding, but not connected to, the humerus, and of a few small cysts, and one much larger one on the walls of which the axillary artery and nerves of the plexus were spread out, and which extended so far upwards as to be in actual contact with the capsule of the joint. It would, therefore, have been quite impracticable to dissect out the whole of the disease. Mr. Holmes, *7th of November*, 1865.

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5. *Two specimens of amputation at the hip.*

Mr. Holmes exhibited the femora in two cases in which he had recently performed amputation at the hip with success,—at least, as far as recovery from the operation went. The first was that of a boy, between six and seven years of age, who had been originally admitted into the Hospital for Sick Children, on account of long-standing disease of the hip. For this he had been under treatment in various institutions for long periods of time, but was not benefited. Finally, Mr. Holmes determined to try the effect of excision of the head of the femur. The acetabulum was found but slightly affected, but the femur was very soft, almost rotten; and though a good deal of it was removed, it was found impossible to expose more healthy bone. The boy went on pretty well at first: then alarming cerebral symptoms came on;

he had fits of screaming, followed by very severe convulsions, in which it was thought probable that he would die. He partially recovered under the influence of counter-irritation, the head being shaved and blistered; but the screaming fits still continued. The limb could not well be maintained in position, and the upper end of the femur protruded, and became dead. A sequestrum about two inches long was drawn out with the fingers. Still the screaming fits did not cease, and he suffered greatly from pain, coming on in nocturnal exacerbations. An abscess now formed near the knee, and the probe passed down into softened bone, in the lower part of the femur. It seemed possible that the irritation of the diseased femur was keeping up the cerebral disturbance, and as the limb was clearly useless, it was decided to give the child the chance of life afforded by its removal. This was done on the 6th of September. The aorta being held by manual pressure, by Mr. Marsh, of St. Bartholomew's Hospital, no blood was lost. A large anterior flap was cut from the skin down to the bone; then the connections between the ilium and femur were severed, and the posterior flap cut from within outwards. The vessels were tied, and the acetabulum, which was somewhat softened, was freely gouged out. At the position of the old wound, the cicatrix was so adherent to the os innominatum that it was impossible to bring the fresh edges together. Much of the wound healed by the first intention, and the child greatly improved in health and general condition; the fits of screaming ceased, and he passed tranquil nights. There was still a little discharge from the position of the old wound when he was sent to the Margate Infirmary, about a month after the operation. Here, however, after a short time, the cerebral symptoms recurred, and at the time of the exhibition of this specimen, he was reported to be sinking from the brain-disease.* The specimen shewn to the Society (with a coloured drawing) exhibited the results of osteo-myelitis, or acute and total disorganizing inflammation of the whole shaft, which was separated from the epiphysis and lying dead, and in most parts loose, in a periosteal case of new bone—the epiphysis and the encasing bone being very vascular. The medullary cavity was full of pus, and the tissue of the dead bone was also infiltrated with pus. The case was brought forward as a good example of this disease, and also as bearing on the question of the feasibility of

* Since the exhibition of the specimen, the patient died of coma. Two large abscesses were found in the brain, but no strumous tubercle. The stump was nearly healed; only one small sinus remaining open, in the situation of the old excision-wound (see p. 230).

amputation in chronic disease of the hip, if excision has failed. There are, in Mr. Holmes's opinion, many cases of hip-disease in which the local affection is the only disease under which the patient labours—which are in no more strict sense constitutional diseases than the common chronic (so-called "strumous") disease of the knee. This latter disease is every day treated successfully by excision or by amputation—why not disease of the hip? The answer, of course, is that in diseases of the knee the femur can be divided above the part affected, which is impossible in the case of the ilium. It is well known, however, that in a certain proportion of cases of hip-disease (as in this case) the disease is, if not limited to the femur, at any rate far more extensive in it than in the acetabulum. If in such a case excision has been performed and has failed, so that the patient can never hope for a useful limb, yet seems likely to survive for a long period, is it not more reasonable to give him the chance of an operation than to leave him to certain death? The operation in a child, where the aorta can be thoroughly commanded, need not be a bloody one; and the acetabulum is so completely exposed that it can be removed to any extent which may be judged necessary. Even if perforated, the whole might readily be taken away, without in all probability much increasing the risk of the operation.

The second case was that of a woman, aged 36, a patient in St. George's Hospital, who had twice submitted to the removal of a large tumour, of the recurrent fibroid variety, situated at the back of the thigh. At the time of the first operation, in the early part of the present year, the tumour, though of large size, was comparatively superficial and easily removed. This operation was performed by Mr. Tatum. She left the Hospital with the wound healed, and enjoyed an interval of about three months' health. The tumour had been pronounced to be of the recurrent fibroid variety at the time of the operation, after microscopic examination by Dr. Dickinson. It recurred beneath the scar, and grew rapidly, with much shooting-pain down the course of the sciatic nerve. The second operation was performed on the 29th of June by Mr. Holmes. The mass was ill-defined, infiltrated among the muscles of the limb, and extending from the neighbourhood of the trochanter to the popliteal space. A great deal of the muscular structure was removed, including about four inches of the entire circumference of the biceps muscle, and the sciatic nerve had to be carefully dissected from the mass, which adhered to, and apparently infiltrated, its sheath. The deep parts of the wound, however, appeared

still infiltrated with the same morbid deposit, though it was followed round the femur quite to the inner side of the limb. The operation was, of course, long-continued and bloody, and she recovered from it but slowly. Lint, saturated in a solution of sulphate of copper, was stuffed into the wound, so as, if possible, to induce sloughing of the fragments of the tumour which had been left behind. The only noticeable symptoms in her convalescence were the persistence of pain in the course of the sciatic nerve, and a very severe attack of secondary hæmorrhage, which occurred on the 23rd of July without any very obvious cause. This was so severe that it was decided to amputate the limb if it should recur. However, local measures stopped it. The tumour soon began to fungate out of the wound, and to grow in the deeper parts, accompanied by exhausting discharge and by sloughing of the fungating portion. As her health was rapidly sinking, it was decided to give her the last chance of amputation at the joint. The tumour had spread so far upwards that a flap could only be obtained from the front; and even here the muscles were much infiltrated on the inner side, so that the flaps had to be formed chiefly of skin. The operation was performed on the 14th of September. Mr. Lister's tourniquet was applied on the abdominal aorta; but the instrument was somewhat too large, and did not entirely control the hæmorrhage. Still, it very much checked it; and by commanding any bleeding orifices with sponges and finger-pressure any great loss of blood was avoided. The anterior flap was cut from the skin inwards, the muscles not being divided till close to the groin, so as to avoid all diseased tissue. The knife was brought straight out at the back, little or no flap being available in the buttock. She was at first in great danger of sinking, and suffered severely from vomiting—the result of chloroform. Her strength was supported by nutrient enemata as long as possible; but then a slight attack of diarrhœa threatened to complete her exhaustion. From this, however, she rallied; much of the stump united by the first intention, and it never required any dressing. The silver sutures were left in for a fortnight, when the adhesion of the wound was tolerably complete. She left the Hospital on the 24th of October, to go to a neighbouring charitable institution, where she still remains. Her general health is good, but she suffers severely from pain in the stump, though the latter is very well formed, and there is no present evidence of any return of the disease.*

* The disease did however afterwards recur, and proved fatal.

Remarks.—It may be hoped that amputation at the hip will become less fatal than heretofore, now that the importance and the feasibility of stopping the circulation in the aorta has been pointed out. We owe this great improvement in operative surgery to Mr. Lister, of Glasgow, whose aortic tourniquet was used in the second of these cases. In children there is generally no difficulty in commanding the circulation for a sufficient time by manual pressure, especially as the victims of disease are usually emaciated; but in adults, although manual compression of the aorta can be maintained efficiently for a few seconds, it could hardly (even in those much emaciated) be kept up for the requisite time. In the record of the cases related above, the tourniquet was somewhat too large for the patient; but with a properly fitting instrument, there is no reason why any formidable hæmorrhage should occur; and if this point could be attained, it seems quite probable that amputation at the hip would produce little more immediate shock than the ordinary amputation of the thigh, although its mortality must always remain high in consequence of the large wound, and the great size of the vessels implicated.

Mr. Holmes, *7th of November*, 1865.

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6. *Photographs from a case of excision of the head of the metacarpal bone.*

Rachel L., aged 17, came under my care with necrosis of the lower end of the left middle metacarpal bone. The disease had been going on more than two years, and at the time I saw her, June, 1865, the hand and knuckle of the finger in question were much swollen, there was a sinus opening in the middle of the palm, along which a probe on being passed entered, advanced, and touched bare and diseased bone. My proposal to excise the head of the bone was accepted; accordingly, I made a longitudinal incision over the metacarpal bone and base of the phalanx, at the outside of the extensor tendon, and turned that tendon to the inner side. The metacarpal bone was much enlarged, so that it was difficult to introduce a pair of cutting forceps on either side. However this could be to a certain extent effected, and in three or four cuts the bone was divided and dissected out without injury to the palm. The wound was filled with lint, the finger kept elongated by a somewhat peculiar splint, and the hand ordered to be kept with the palm

uppermost, to allow free escape of pus. No bad symptom occurred, and in little more than three months the wound at the back and the sinus in the palm had healed; the finger enjoyed perfect movement, being but very little shorter than that of the other side.

It is singular, that during the progress of this case, a girl, Harriet I., came under my care with commencing lateral curvature, in whom I observed a scar over the first joint of the right ring-finger, and on questioning her, received the following history :—When about six years old she was badly stung on that place by a bee, a sore formed there, and after eighteen months or two years, several good-sized pieces of bone came away. Examination shewed absence of the head of the metacarpal bone, with shortness of the finger; in fact, in this, which may be called a natural excision, there remains precisely the same condition as was left by the operation, as may be clearly seen by the photographs sent round.

Mr. Barwell, 21*st of November*, 1865.

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7. *Cast of elbow, in which subluxation of the joint had occurred and had been unreduced.*

The cast was made from the elbow of a young gentleman who had injured it in falling from a pony in the country. The case was seen by Mr. Arnott in consultation, and the conclusion arrived at was that the ulna had been so dislocated inwards as to rest by its greater sigmoid cavity upon the internal condyle. The radius had followed the ulna to a corresponding distance in the same direction. The efforts made at reduction were not attended with success.

The mobility of the joint was found on subsequent observation to be but slightly interfered with, and deformity was only obvious on extension, where the outer line of the arm appeared too curved. The case did not come under Mr. Nunn's care until two weeks had elapsed after the accident, when the swelling rendered a diagnosis of the exact nature of the injury impossible, and it was not until this swelling had been got rid of, that reduction was attempted.

Mr. Nunn, 21*st of November*, 1865.

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8. *Knee-joint removed by excision.*

A male, æt. 8, having suffered from disease of the knee-joint for five years, and the articulation being spoilt for working purposes, I con-

sidered it desirable to excise it. The patient made a good recovery.

The parts removed are presented for two reasons.

First: They shew an extreme displacement of the tibia and fibula, both bones having been moved backwards, until only the anterior edge of the articular surface of the tibia transmitted the weight of the body and supported the condyles of the femur; in fact, the head of the tibia having a surface of one inch and five-tenths, only five-tenths of this surface were in relation with the femur. With this malposition the ligaments were lax and displaced, or had altogether disappeared, the articular cartilages were in great part absorbed, and the several bones were loosely joined together by bands of tough fibrous tissue.

Secondly: The parts shew the results of an accident which happened during the performance of the operation. Whilst, at my request, the leg was being flexed upon the thigh to enable me the more readily to lay open the articulation, the femur snapped, and, as the specimen shews, gave way at the line of junction between the epiphysis and the shaft. It resulted from this mischance that the limb was shortened to a greater extent than would otherwise have been the case.

Mr. Callender, *5th of December*, 1865.

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9. *Fracture of the carpal end of the radius, and of the scaphoid bone.*

A male, æt. 45, fell from a height and fractured his skull, his right thigh, and his right radius. He died five hours after his admission into St. Bartholomew's Hospital.

On examining the wrist, the radius was found to be broken at its carpal extremity, four-tenths of an inch from the joint, the proximal portion of the bone being driven into the distal and completely crushing it, the fracture extending in many places into the wrist-joint. The proximal portion of the shaft was also displaced inwards, carrying with it the ulna, the latter bone being torn away from its triangular ligament, to which the tip of the styloid process remained attached. The scaphoid was broken across about its middle, the fissure extending through the bone to the articular surface for the os magnum.

The entire hand was displaced backwards and to the radial side, the ulna projecting. The displacement was easily reduced by simple extension, but the outline of the radius remained irregular, rough projections of bone being felt, chiefly on the dorsal aspect.

This specimen shews the manner in which the proximal portion of the radius, when driven with great violence, is forced into the cancellous tissue of the carpal extremity, breaking the latter into many pieces, splitting into the wrist-joint, and, in this instance, fracturing the scaphoid bone, the last-named being a rare complication. Indeed, there exists to my knowledge, in this country, only one specimen * in which an injury to the carpus has been sustained in conjunction with any such hurt to the radius.

The impaction of the shaft, by which this mischief was occasioned, was prevented from locking together the two portions of the bone by reason of the great comminution which scattered in all directions the carpal extremity of the radius; it is evident, however, from the position of the shaft, and from the nature of the injury to the ulna, that the impaction was established in a direction forwards and to the ulnar side, in the manner which I have elsewhere described.†

One point of interest remains to be referred to. The comminution caused two fragments of bone to be tilted backwards, and between the two the tendon of the extensor carpi radialis brevior was fixed and so firmly compressed, that it could not be freed from its entanglement until after removal of the soft parts surrounding the portions of broken bone.

Mr. Callender, *5th of December*, 1865.

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10. *A foot having four cuneiform bones.*

The specimen was removed from a subject in the dissecting-room of St. Bartholomew's Hospital, in 1863. Both feet in this body presented the same peculiarity.

The extra bone is formed by a horizontal division of the internal cuneiform bone into an upper and a lower portion, making two completely separate bones, covered, on their opposed surfaces, by cartilage and synovial membrane.

The proximal end of the first metatarsal bone has two distinct articular facets corresponding to the two internal cuneiform bones; and the scaphoid has four (instead of three) articulations on its anterior aspect.

The middle cuneiform only articulates with one of the two internal cuneiform bones, and in this respect the specimen differs from a similar one brought before the Society, in 1864, by Mr. Sydney Jones.

* Museum of the Middlesex Hospital, I. 23. c.

† St. Bartholomew's Hospital Reports, Vol. i., p. 285.

Since finding the above, several feet have been examined to see if a similar peculiarity existed, and though no other example of a completely divided internal cuneiform bone has been found, yet four feet were discovered, and are now presented to the Society, shewing a partial cleft in the bone. This cleft manifests itself by two separate articular facets on the anterior aspect, and by a more or less well-defined horizontal groove on the inner surface of the bone. The corresponding end of the metatarsal bone of the great toe, in these specimens, has two distinct articular facets.

From the appearance of these bones, it would seem probable that there are occasionally two centres of ossification for the internal cuneiform bone, though by the standard authors on the subject but one is considered to exist.

Mr. Thomas Smith, *5th of December*, 1865.

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11. *Arrested development of the radius, fore-arm and hand, after an injury in childhood.*

The patient from whom this specimen was removed, was a woman of 25, who died of tetanus, consequent on a burn. She had been in the Hospital ten days before her death, and it had been noticed that her right fore-arm was more slightly developed in all respects than the left, and that there was very considerable deformity at the wrist. The styloid process of the ulna projected very considerably, and, the radius being much too short, the hand was pushed over to the radial border. The hand itself was slightly smaller than the other one. The measurements were as follows:—

Length of right radius		$6\frac{1}{2}$	inches,
,,	,, left ,,	$8\frac{3}{4}$	,,
,,	,, right ulna	$8\frac{1}{4}$	,,
,,	,, left ,,	$9\frac{3}{4}$	,,
Girth of right knuckles		7	,,
,,	,, left ,,	$7\frac{1}{4}$	,,

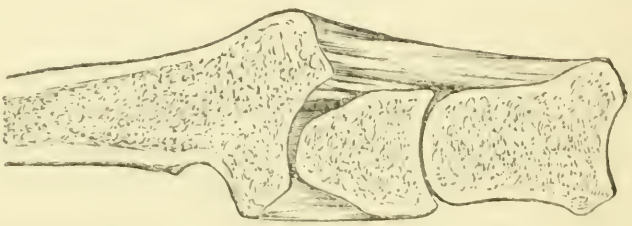
From this condition of things we conjectured that the epiphysis of the radius had been injured in early life. Although both the ulna and radius were less developed than those of the opposite limb, and even

the hand was somewhat smaller, yet the dwarfing of the radius was out of all proportion to that of the other bones. It seemed even probable that the retarded development of the rest of the fore-arm was secondary to that of the radius. The woman's history so far confirmed our conjecture that she stated that when five years old she had had "her wrist put out by a fall on the hand."

After her death we removed the ulna, radius, and carpal bones, and these constituted the specimen exhibited to the Society. The first feature that attracts attention is the smallness of the bones, especially of the radius. The length of the radius measured from the middle of its articular surface at the wrist to the articular surface of its head is five inches. That of the ulna from the styloid process to the tip of the olecranon is eight inches and a-quarter. Measured from the tips of the styloid process of the ulna to the inner side of the articular surface of the radius, the latter is one inch and an-eighth higher than the former.

The carpal bones are drawn upwards with the radius, and the side of the ulna is consequently in apposition with the cuneiform. The cartilage covering the bones which constitute the wrist-joint is irregularly

Woodcut 13.



A section of the carpal end of the radius and of the carpal bones. The end of the radius is much altered in form. More especially a strong lip of bone projects forwards to the palmar aspect of wrist, and upon this lip the carpus rests, instead of in the middle of the articular surface.

thinned at various places, especially that covering the extremity of the radius, and two or three strong bands of adhesion pass between them. The carpal extremity of the radius is dwarfed in all its dimensions, excepting its antero-posterior diameter. The grooves for tendons are well-marked, there is no irregularity on the surface, and the chief peculiarity in form is a projection on the palmar aspect, or the anterior lip, of the articular surface. This projection is about a third of an

inch in length and a quarter of an inch in height, and bears a corresponding hollow on the front of the bone just above. The articular surface slants from behind forwards and upwards, and the carpal bones rest in apposition with the anterior half of this surface only. The posterior half is occupied by strong ligamentous bands. The head of the radius also displays some peculiarities. Its articular surface is placed obliquely, slanting from within outwards and downwards, and at its outer side the cartilage is deficient over a patch, as if from attrition. At this end, as well as at the lower one, the radius would appear to have undergone alterations consequent on its being too short for its fellow bone. The elbow-joint, as far as the ulna and humerus are concerned, is perfectly normal.

Postscript.—When the specimen was exhibited to the Society, the radius was entire. A longitudinal section was afterwards made, and the results are described by the committee appointed to report on the specimen. I may state, however, that the section does not disclose the slightest indication of fracture of the shaft of the bone at any part. The medullary canal is everywhere perfect, and so are the outer layers of dense bone. Even at the carpal end of the bone there is no indication in the section of the nature of the original injury. The re-modelling has been perfect, as we might perhaps expect that it would be, if we recollect the early age of the patient when the accident happened, and the long interval which has since elapsed.

Mr. Jonathan Hutchinson, 19*th of December*, 1865.

Report on the above specimen.—In this specimen the radius is considerably shortened, as compared with the adjacent ulna, and this shortening is equally distributed throughout the length of the entire bone.

On examining the radius side by side with bones of average size and formation, the following peculiarities are observed :—

At the carpal extremity, the incline on the front surface of the bone is abrupt and steep; about the middle of the shaft, the outer margin bulges considerably; and at the upper third, the tubercle for the biceps is rotated outwards, as compared with its usual position, projecting, that is to say, at an angle of about 94° from the front of the shaft, in lieu of one of about 84.°

At the head of the bone there exists a limited facet for articulation with the ulna, and from its appearance it would seem that pronation and supination must have been confined within narrow limits.

On its outer margin the bone is more curved than usual, forming an angle of 170° instead of following a nearly straight line.

On its posterior surface is an exaggerated ridge, corresponding with the site of the greatest convexity, and not unlike the track of a fracture.

A section having been made in the direction of the long axis of the shaft, the compact tissue is seen to be dense, the outer wall thick, and the cancellous structure scanty.

The ulna, save in its adaptation to the shortened radius, presents no unusual feature.

There is no positive evidence to shew that there has been a fracture at the carpal extremity of the bone, or displacement at the distal epiphysis; nor, whilst it is clear that the growth of the bone is stunted, is there satisfactory evidence as to the cause of the deformity. The head of the radius is as much removed from its normal condition in the disposition of its parts as is the carpal extremity, and the marks which favour the supposition of fracture of the shaft, viz., the unusual convexity of the outer margin, the ridge on the posterior surface, and especially the displacement of the tubercle of the radius by outward rotation, are not sufficiently definite to admit of a positive conclusion, nor would such a fracture have been in itself enough to account for the arrested growth of the entire bone.

Mr. W. Adams.

Mr. G. W. Callender, 16*th of January*, 1866.

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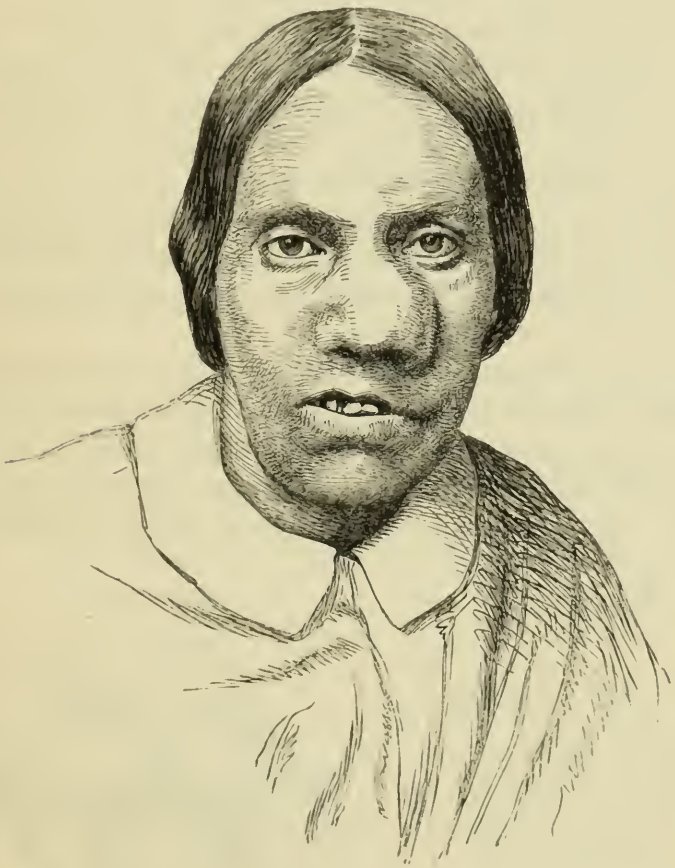
12. *Extirpated superior maxillary bone containing a tumour of the antrum.*

M. F., aged 35 years, is the wife of a soldier, and has resided in Malta for the last five years. She was admitted into the Charing Cross Hospital, under my care, on 29th of August, 1864.

She states that six months previous to arriving at Malta, her husband dealt her a violent blow on the cheek, which rendered her temporarily insensible. Soon after reaching the island, she noticed a small swelling on the left side of the nose. This gradually enlarged, and by the end of twelve months it had attained such dimensions as to be inconvenient and very unsightly. An army surgeon removed the projection. The wound healed favourably; but, after the lapse of some months, the tumour re-appeared and gradually increased in size until about fourteen months since, when it was again removed by operation. As the wound was all but closed the disease again shewed itself, and its rapidity of growth induced the patient to come to London for further advice.

On placing herself under my care, I found her general health to be good: her complexion was somewhat dark and sallow. None of her relatives had suffered from tumours. The tumour appeared to be about the size of a turkey's egg, extending the whole length of the left side of the nose, bulging into the nostril and reaching across the cheek, so as, apparently, to encroach on the malar bone (see Woodcut 14). By

Woodcut 14.



placing the finger behind the soft palate, an elastic mass could be felt projecting into the pharynx. Externally, the tumour felt firm and semi-elastic. No fluctuation was perceptible. There was an occasional discharge of blood and dark grumous fluid from the left nostril.

On the 8th of October, Mr. Canton extirpated the superior maxillary bone by the usual operation. The wound healed quickly, and but little deformity remained. The patient was able to swallow fluids and solids

easily, and after the lapse of a few months she left the Hospital, the disease not having recurred.

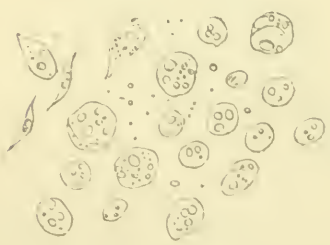
Mr. Canton, 19*th of December*, 1865.

Report on the above specimen.—The parts placed in our hands for examination consisted of the left superior maxillary bone, including its orbital plate, from the inferior surface of which appeared to grow a large tumour, which filled the cavity of the antrum and projected forwards and inwards into the nasal cavity. There was also a second and loose portion, the size of a walnut, which appeared to have been broken off during the operation, and was said to have projected posteriorly towards the pharynx. The external wall of the antrum was not expanded so fully as is usually found in tumours of the antrum. The tumour, which had been some time in spirit, was of a firm, fibrous nature and irregularly lobulated, and it had a dense capsule.

On section, the structure presented a large amount of fibrous tissue, arranged in a curvilinear form, intermixed with other tissue not easily broken up.

Microscopically examined, the tumour consisted of an abundance of fibrous tissue which formed the stroma (Fig. 16), containing in its meshes innumerable cells, generally of a circular or ovoid form (Fig. 15), varying from two to three diameters of a blood-corpuscle, and some of a still larger size. These cells were all nucleated, usually containing several

Woodcut 15.



Shews the nucleated cells isolated from the fibrous stroma.

Woodcut 16.

Shews the fibrous stroma of the tumour enclosing cells.

nuclei, and frequently presenting a granular appearance. Large compound cells were abundant in the posterior and softer lobe of the tumour, and a few elongated cells were seen amongst the fibrous tissue.

These large compound cells presented very much the appearance of the poly-nucleated cells met with in myeloid tumours.

Mr. Thomas Bryant,
Mr. W. Adams, 16*th of January*, 1866.

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13. *Fatal excision of the hip.—Osteo-myelitis of the femur, and pyæmia.*

Mr. Holmes exhibited to the Society the parts taken from a case of excision of the hip which had proved fatal. The patient, a female child, was admitted into the Hospital for Sick Children in an advanced stage of hip-disease, the pelvis being extensively affected. Excision was performed, and the whole floor of the acetabulum was found diseased in its entire thickness, two or three portions of it being dead, and almost detached. On the removal of all the dead bone and of as much more as seemed hopelessly disorganized, a hole was made through the acetabulum of about the size of a half-crown—nearly the whole of its floor having been taken away. The case went on well for a few days, then the soft parts began to separate from the cut end of the femur, which projected into the wound bare and dead. Then rigors and other symptoms of pyæmia occurred, and after death secondary deposits were found in various parts of the body.

This case illustrated various interesting points in the treatment of diseased hip by excision.

1.—In many of the advanced cases, the disease is essentially incurable by natural processes, for the diseased portions of the pelvis are so locked up in the cavity of the joint, that no suppurative process, even after dislocation, could bring them to the surface; and they must remain and produce irritation which cannot fail soon to prove fatal. To talk of "natural cure" in such circumstances as these is a delusion.

2.—The case also shews the ease with which, in such diseased conditions, the acetabulum can be removed. The bone is always much softened, often extensively necrosed, and can be operated on with the greatest facility. The depth of the part and the impossibility of seeing the surface of the pelvis form indeed great obstacles to the certain removal of all the diseased bone, but, in many cases, it can be effected; and, in the one before us, it appeared as if no bone had been left behind, that was hopelessly disorganized.

3.—In cases, such as the above, which prove fatal from acute osteo-myelitis, followed by pyæmia, can nothing be done to arrest the fatal symptoms? The only hope must be in amputation performed as early

as possible after the osteo-myelitis is decidedly pronounced. What prospect this would hold out can only be decided by experience. Mr. Holmes mentioned that he had had a very similar case, a few days previously, in which he had amputated after well-marked symptoms of pyæmia had set in. The result would be communicated to the Society at a future meeting. At present the child was doing as well as could be expected.

Mr. Holmes, 16*th of January*, 1866.

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14. *Sequel of a case of amputation at the hip after excision.*

The boy, from whom the present preparation was taken, had had the thigh removed at the hip, after excision of that joint, on account of osteo-myelitis attacking the whole length of the shaft of the femur. That bone, together with a coloured drawing of its recent condition, was exhibited to the Society at one of its previous meetings. The amputation was performed early in September. There had previously been severe cerebral symptoms, viz., convulsions, and constant attacks of screaming, with violent, and apparently uncontrollable, irritability of temper. At one time organic disease of the brain was suspected; but as the symptoms did not get worse, and the constant pain of the disease in the femur furnished a source of irritation which perhaps might account for them, I thought it fair to give the child the benefit of the doubt, and remove the diseased limb. Everything went on well up to the date of the last report of the case. The boy had gone to Margate, had lost all pain, had had no convulsions, and had become contented and happy. The stump had healed, with the exception of a sinus which communicated, doubtless, with the acetabulum, but the discharge from which appeared to be diminishing. Soon afterwards, however, the convulsions recurred, insensibility came on, and then paralysis, and the boy died in the month of November.

There were found two large abscesses in the brain; one in the cerebral hemisphere, which had perforated the membranes, and had slightly eroded the inner table of the skull; the other, in the cerebellum. It seemed doubtful what was the source of these abscesses. Tubercle was carefully looked for, but none was found. On the other hand the symptoms strongly negatived the idea that the abscesses were pyæmic, as the child had had no symptom of pyæmia, and the convulsions, which were the first symptoms of their formation,

came on without any warning, while the boy was apparently recovering from the excision.

My main object, however, is to call attention to the state of the pelvis. The cavity of the acetabulum was filled by a mass of healthy muscle, and appeared all fairly and properly covered, except at one small spot where a sinus led upon bone, which was certainly exposed and ulcerated; but which was quite sound in consistence, and apparently in process of recovery. The extent of this exposed surface was small, and the ulceration had not perforated the bone, the internal surface of which was natural—although from successive scoopings out of the cavity, first at the excision, and afterwards at the amputation, only a very thin layer was left, so thin as to be almost transparent.

Remarks.—In considering the question of the justifiability of amputation at the hip (either after excision or not,) for "strumous disease" of that joint, the natural and reasonable objection is, that the pelvis is probably diseased, and that the pelvis cannot be amputated. This is true, and is no doubt a drawback to the certainty of success in the operation. But though the pelvis cannot be removed bodily, as the lower end of the femur is in amputation for disease of the knee, still the ulcerated acetabulum is freely exposed at the operation, and can be removed with the gouge, chisel, or trephine, to any extent that may be judged necessary. It must be allowed, indeed, that such removal is at best an imperfect and untrustworthy substitute for the complete removal of the disease, which is insured by amputation through healthy tissues; still, I see no reason for doubting that it will often succeed, and that by this means some children may be saved from the lingering death, which is inevitable after a certain stage of disease of the hip.

Another objection is, that the disease is a constitutional affection, and that therefore the child could not long survive, so that it is unjustifiable to expose him to the great danger of this operation. I have little doubt that this is only partially true—that is to say, that there are cases (and many cases) of morbus coxarius which are, in the true sense of the term, constitutional, and are merely symptoms of a cachexia, which cannot be eradicated by any surgical operation; but that there are also many (and I believe more) cases which are purely local, and which leave the child after successful operation in precisely the same condition, as far as expectation of life is concerned, as he would have been in after successful excision or amputation for so-called

"strumous" disease of the knee or ankle. It is one of the difficulties of treating advanced cases of hip-disease, to determine whether they belong to one or the other of these classes, since it is only in the latter that operation can be successfully undertaken.

Mr. Holmes, 16*th of January*, 1866.

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15. *Cast and specimen of exostosis of middle finger.*

The patient, a healthy woman of 40 years of age, had a tumour, such as the cast represents, which had been there for two or three years, and had latterly been getting troublesome and interfering with her household duties.

The tumour had all the characters of a bony growth connected with the middle phalanx of the finger, and not involving the joints either above or below. It could not be ascertained whether the flexor and extensor tendons were implicated, and whether the growth could be removed without taking away the finger or a portion of it. I determined therefore to make exploratory incisions and dissections at first, and then proceed to remove the tumour alone, or amputate the finger as circumstances might suggest.

On removing the skin I found the tumour lying so far from the sheath of the tendons in its deep attachments, and to have so very narrow a base, that it seemed quite possible to remove it without amputation; and this plan was carried out. During the operation the extensor tendon was seen. Several abscesses have formed in the finger; one of which has extended to the palm of the hand. But these abscesses are rapidly closing, as well as the wound at the site of the tumour, and the finger promises to be a very useful one, all the joints being perfect in motion and free from pain when moved.

Mr. W. Spencer Watson, 16*th of January*, 1866.

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16. *Loose cartilage removed from the knee-joint by subcutaneous incision.*

Alfred B., æt. 19, a groom, strong and healthy in appearance, and living in a village in Buckinghamshire, where he says the people are very subject to rheumatism, was admitted into the Great Northern Hospital, under the care of Mr. W. Adams, on the 27th of November, 1865, evidently suffering from a loose cartilage in the left knee-joint. The cartilage, about the size of a horse-bean, could be distinctly felt, and was freely movable in the joint, so that the patient could by a little

manipulation and movement, displace it, at pleasure, either on the inner or outer side of the joint.

He states that some symptoms of his present affection in the knee-joint have existed for three years, and that he has occasionally suffered, more or less, from inflammation and swelling of the joint. He believes that the cartilage has been floating loose for about two years, and that it became detached after a fall and sprain of the joint. He has been frequently subject to fall suddenly, and, on one occasion, in November, 1854, the joint was violently sprained in a fall; this accident was followed by inflammation and swelling of the joint, in consequence of which he was laid up for three weeks. He has been for a long time unable to follow his occupation without the constant risk of falling, and being partly incapacitated for work, he is anxious to submit to any operation for his relief.

Treatment.—On the 29th of November, I performed the operation for removing the cartilage from the joint by the subcutaneous method, using a long narrow knife, three inches in length, with a cutting edge of about two inches, the blade being a quarter of an inch in width. The point of the knife was entered an inch and a-half below the joint on the inner side, and then carried under the skin towards the cartilage, which had been worked to the inner side by the patient himself, and was held steadily against the edge of the tibia by my colleague, Mr. Gay: the cartilage was fixed in this situation by a strong, straight needle passed through the skin, directly into it.

Before opening the capsule of the joint, I made a free subcutaneous incision in the cellular tissue, by moving the point of the knife in a curved direction under the skin, without at all enlarging the cutaneous puncture. The object of this was to form a bed in which the cartilage might be lodged after its extraction from the joint. I then cut directly upon the cartilage with the point of the knife, and opened the capsule of the joint freely, by a single incision. The cartilage, however, could not be easily pressed out of the joint, and I therefore endeavoured to extract it by introducing a very fine pair of long-bladed forceps, with hooked extremities, made for the purpose by Mr. Blaise. From these, however, the cartilage slipped, but the forceps acted very well as a director, along which the cartilage slid out of the joint, by a little manipulation, into the bed formed for it in the cellular tissue by the incision described. I then immediately applied a pledget of lint above the cartilage,—between it and the joint,—so as to close the aperture in the latter, and applied strips of plaster, with a firm bandage round the

joint; the cutaneous puncture was also covered by a piece of plaster, and the leg bandaged from the toes upwards, to a straight splint placed behind the joint, from the leg to the thigh.

December 1*st*.—No pain or swelling in the joint, but some tenderness and redness over the cartilage in the cellular tissue below the joint; this gradually diminished and disappeared in four or five days, the bandage being kept wet with water. The pain had been severe up to the middle of the night following the operation, but on the second day the man was sitting up in bed, free from all pain. With the view of completely closing the aperture in the joint, I allowed the cartilage to remain in its subcutaneous bed until December 13th, when I proceeded to remove it by a direct incision over it of a semilunar form. It came out like a bullet that has been lodged under the skin. No inflammation followed; the wound healed well, and in about a fortnight the man left the Hospital to return to the country, and has since remained well and able to follow his occupation.

The cartilage, when removed, was of the size and form represented in Plate IX., Fig. 1. It was of an oval form, measuring very nearly an inch in its long, and half-an-inch in its transverse, diameter; it was flattened, and less than a quarter-of-an-inch in thickness. Its outer surface, although generally smooth, presented some irregular, fissured depressions. Attached to its smaller extremity, was a thin, attenuated, although strong, fibro-membranous pedicle, three-quarters of an inch in length.

On a longitudinal section of the cartilage being made, it was seen to consist of a blueish, translucent, cartilaginous substance, resembling articular cartilage, and containing a considerable quantity of bony matter, irregularly disposed through its central portion, and at the smaller extremity along its margin. Cartilage traversed even the central portion, and ossification had evidently proceeded from numerous independent centres, and not as it were from a single central nucleus; the general appearance somewhat resembled an ossifying enchondromatous tumour. These appearances are represented in Plate IX., Fig. 2.

Microscopical examination.—The appearances presented were generally those of true cartilage and bony structure, the former in some parts resembling articular cartilage, modified in the arrangement of its cells and nuclei, according to the series of changes which I have described as taking place, as ossification proceeds in this structure in chronic rheumatic arthritis (See paper in *Transactions of Patho-*

DESCRIPTION OF PLATE IX.

Microscopical appearances of loose cartilage removed from the knee-joint by subcutaneous incision, by Mr. William Adams (p. 232).

Fig. 1 *a*. shews the size and form of the cartilage, with its slender pedicle attached to the smaller extremity.

b. Section of the same, shewing irregular distribution of osseous matter through its central portion and along the margin of the smaller extremity. The other portions presented the ordinary appearance of articular cartilage, patches of which were also intermixed with the bone.

Fig. 2. Section including the outer surface, drawn under a fourth-of-an-inch magnifying power with the camera. The outer surface presented a fibroid appearance, the fibrillæ running parallel with the surface, and separable at one extremity of the section. Intermixed with the fibrillæ cells appeared to be placed edgewise, and elongated in the direction of the fibrillæ.

A little below the surface, isolated cartilage-cells were irregularly scattered; and below these were elongated groups of cartilage-cells or nuclei, flattened transversely, generally presenting a semilunar form, and arranged in elongated groups, surrounded by a defined, clear, marginal space, but not by a distinct cell-wall, and embedded in a translucent homogeneous, or minutely granular, cartilaginous matrix. The appearance altogether closely resembled that of epiphysal cartilage.

Fig. 3. Another section including a portion of the outer surface and exhibiting the fibrillated character of the cartilage, near to the surface, but the fibrillæ arranged at right angles to the surface and intermixed with spherical nucleated cartilage-cells. At the deeper portion where the fibrillated character terminates, elongated groups of cartilage-nuclei, similar to those in Fig. 2, are seen embedded in a minutely-granular, translucent, cartilaginous matrix.

Fig. 4. A portion of cartilage from a little below the surface, shewing more distinctly the elongated groups of nuclei, inclosed in a clear marginal space, but without distinct cell-walls, exhibited in Figs. 2 and 3.

Fig. 5. A portion of cartilage from a little below the surface, and taken from another part of the cartilaginous body, shewing irregular, but generally elongated, groups of spherical nucleated cells, embedded in a more distinctly fibroid cartilaginous matrix.

Fig. 6. A section of the bony nucleus drawn under a low magnifying power—one inch—by the camera; shewing the general character of the bone, which presented numerous irregular spaces and canals running through its substance. Lacunæ with canaliculi were abundant, but were irregularly scattered through the bone-structure.

There was no appearance of the concentric arrangement and regularity seen in the Haversian system of well-formed bone; the only approach to this being such as is represented at the upper part of section, where, in the osseous walls between the open spaces or canals, the lacunæ were arranged in a curvilinear direction.

Running transversely through the centre of the bone is a channel of cartilage indicated by letter *a*, the cells of which are spherical and distinctly nucleated, having one or two nuclei. In this cartilage there was a large dark patch of granular osseous matter, on a level with letter *a*, without any lacunæ, and presenting at its margin a honey-combed appearance, the meshes of which inclosed the spherical cartilage-cells. It seemed here, as if ossification was proceeding by deposit of earthy granular matter, both within the cells surrounding the nucleus, and between the cells, or on the outer surface of the cell-walls. A similar but small patch of opaque granular bone, with an irregular honey-combed margin, is seen at the lower part of the section, and indicated by letter *b*, above which it extends. What relation this opaque granular bone held with respect to the more translucent bone, in which lacunæ were abundant, it was difficult to determine.

Fig. 7. Lacunæ, with canaliculi, from a portion of the bone, drawn under a fourth of an inch magnifying power. Generally, the lacunæ were less perfect than here represented, more irregular in outline, and with shorter canaliculi. They were irregularly scattered through the bone-structure, except in a few parts, where their disposition was more regular, in a curvilinear arrangement.

Fig. 8. Groups of cartilage-cells, of large size, with one or two distinct nuclei, met with in several portions examined.

Fig. 1

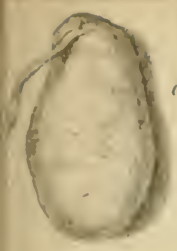


Fig. 2

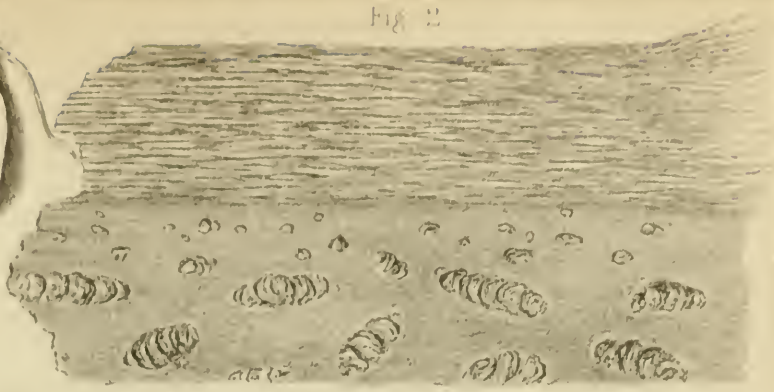


Fig. 3

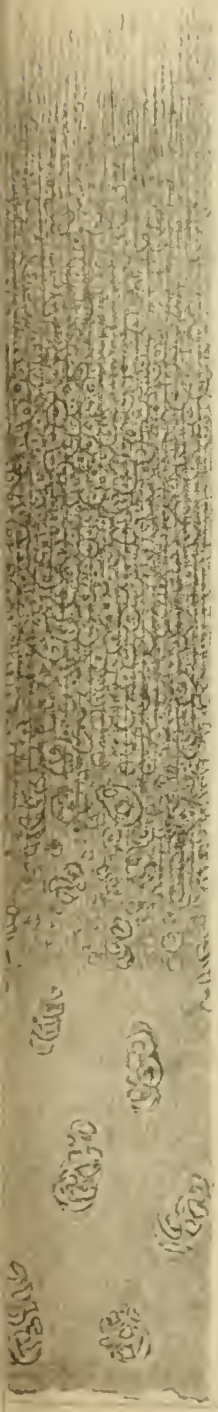


Fig. 4

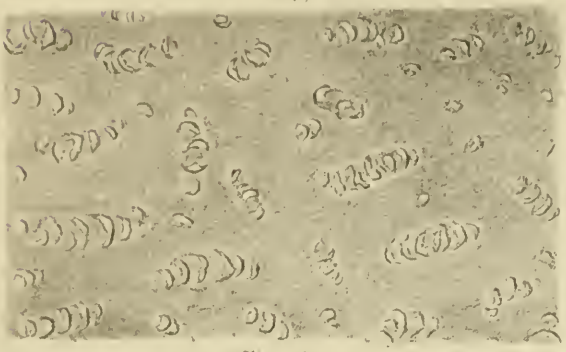


Fig. 5

Fig. 6

Fig. 7

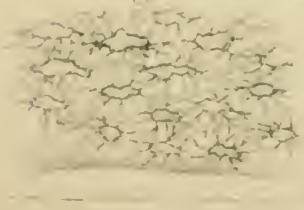
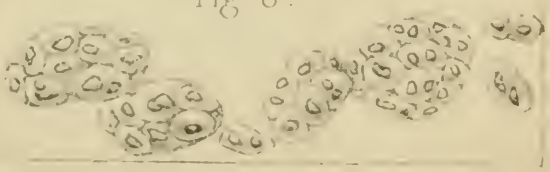


Fig. 8.



logical Society, Vol. iii, page 156,) and in other portions resembling epiphysal cartilage in process of ossification.

Close to its outer surface the structure of the cartilage presented a fibrillated appearance, the fibrillæ running parallel to the surface; at the margin of a section these frayed out as separable, but very delicate, fibres.

A little below this layer, small cartilage-nuclei were aggregated in irregular groups, and in some parts scattered irregularly without any such arrangement.

Still deeper, flattened and irregularly-shaped nuclei, of a large size, and placed with their long diameters transversely, were seen in elongated groups, generally six or eight in number, surrounded by an indistinct marginal cell-wall, and arranged in parallel series, resembling those observed in ossifying epiphysal cartilage. These appearances are well-represented in Plate IX., Fig 4. Between these groups the cartilage matrix was translucent and homogeneous, presenting neither a fibrous nor granular appearance.

Close to these cells, but a little nearer to the bony structure, the cartilaginous matrix presented a fibroid appearance, with irregularly-scattered small bright nuclei, enclosed in cells or spaces, generally one or two nuclei in each cell or space. As we approached the margin of the bone, the appearance was more distinct of a single round bright nucleus, with a dark margin as if from the deposit of earthy matter around it, occupying the centre of a spherical cell, on the outer wall of which earthy matter was also deposited, so that in an aggregated mass of these cells, they appeared to be separated by granular earthy matter, deposited around, and between them.

In some parts, opaque, earthy, granular matter was seen to be deposited in the transparent cartilaginous matrix, independently of any of the fibroid or cell-changes I have just described, so that it would seem as if ossification were proceeding in different ways.

The osseous structure was thickly studded with small angular lacunæ, generally without canaliculi, and without any definite arrangement, such as is seen in well-formed bone; but spaces somewhat analogous to Haversian canals existed, and round them, in a few places, the nuclei were arranged in a curvilinear direction, and some of the elongated lacunæ presented canaliculi. The appearances were therefore those of true bony structure, and not merely of earthy infiltration or deposit (Plate IX., Fig. 5).

In the microscopical examination, made by Dr. Murchison, of a loose

cartilage removed from the knee-joint, and recorded in the *Edinburgh Monthly Journal*, June, 1852, he describes the cartilaginous substances as "composed of a transparent, slightly granular, matrix, in which were embedded nucleated cells, exactly similar to the elongated cells met with in the costal cartilages. But the most interesting structure was that of the bony matter, which possessed Haversian canals, concentric lamellæ, lacunæ, and canaliculi, in all respects resembling those met with in true bone, except that the canaliculi were not so distinctly marked. The presence of Haversian canals in the bony matter, necessarily implied the existence, at one time, of blood-vessels."

With regard to the formation of these loose cartilages in joints, further observation is necessary; but it appears to me, from the examination of several specimens of knee-joints in our museums, in which cartilages, still attached by their peduncles, are to be seen,—and a remarkably good example of this kind exists in St. Thomas's Museum,—that, at least, in some instances, they are formed in the synovial fringes, described by Mr. Rainey as existing in all joints, in parts removed from pressure, such as the notch between the condyles in the knee-joint, &c., and by their structural arrangement of epithelium, basement membrane, and peculiar convoluted arrangement of vessels, adapted to the special purpose of secreting the synovia. See *Proceedings of the Royal Society*, May 7th, 1846.

My attention being directed to these synovial fringes by Mr. Rainey's observations and beautifully injected specimens (now in the microscopic collection), at the time I was connected with the school of St. Thomas's Hospital, I observed that these bodies were sometimes the seat of various morbid changes, such as deposits of fat, fibroid, and fibro-cartilaginous tissue; and in one specimen, pedunculated cartilaginous bodies, in the knee-joint, appeared to have originated in these structures. Mr. W. Adams, *6th of February*, 1866.

17.—*Parts removed, by excision, from an anchylosed knee.*

The parts exhibited were the ends of the femur and tibia, together with the patella, forming a wedge-shaped piece of bone, locked together by apparently bony anchylosis, but which, on closer examination, was found to be of a tough fibrous nature. The specimen was removed by excision of the knee; the limb having been anchylosed at a most awkward angle, and perfectly useless to the patient. Rapid and excellent

recovery took place; the patient got a stiff and straight knee, and left the Hospital in two months.

Mr. Henry Smith, *6th of February*, 1866.

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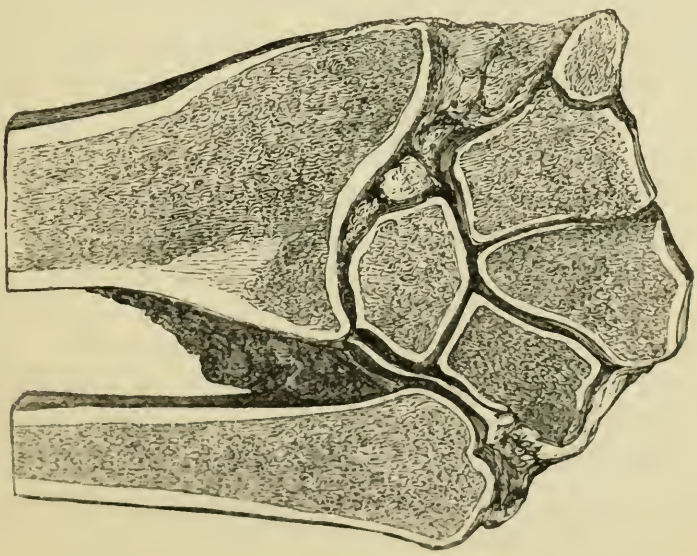
18. *Retarded development of the radius after an injury in childhood.*

This specimen is almost a counterpart of the one already described (p. 223). I obtained it from the fore-arm of a man aged 40, who died in the London Hospital, having committed suicide because he had contracted syphilis. He lived about a fortnight after the attempt. I noticed the deformity of his left fore-arm, and he told me it was in consequence of an injury in childhood. It is now some years since I procured the specimen, and unfortunately I have neglected several rather important points. I have no notes as to the relative measurements of the man's two arms and hands, and at the *post-mortem* examination I removed only

Woodcut 17.



Transverse section through ulna, radius, and carpal bones. The ulna is fully half-an-inch longer than the radius, and rests against the side of the cuneiform bone.

the carpal ends of the bones. The injured hand had been very useful,

there was free motion at the wrist and no defect whatever at the elbow. The ulna projected considerably, and the hand was pushed over to the radial side.

The specimen consists of the carpal bones and the lower third of the ulna and of the radius. A vertical section has been made through all the bones. (Fig. 17.) The ulna is about three-quarters of an inch longer than the radius, and articulates with the side of the cuneiform bone, the triangular fibro-cartilage intervening. This cartilage is very much elongated. The styloid process of the ulna is short and ill-marked. Part of the articular surface of the ulna is devoid of cartilage, but there are no adhesions; at the other parts the cartilage is of normal thickness; and the edge is quite smooth and bevelled off where it has been removed. The carpal end of the radius is shaped exactly like that of the specimen described at p. 223. It has a strong lip anteriorly, projecting towards the palmar aspect, and occasioning a deep hollow on the front of the bone just above it. Against this lip the carpal bones chiefly rest; the cartilage covering the end of the radius is perfect at parts, and at others, chiefly the ulnar half, it is deficient. There is free motion at the joint, but some strong fibrous bands cross it, uniting the scaphoid and semilunar bones to the radius.

My hypothesis respecting this and the preceding specimen is, that they illustrate the results of displacement of the carpal epiphysis of the radius at a very early period of life, when the re-modelling power was great. Probably the epiphysis was, as is usual, displaced backwards, carrying with it, of course, the carpus. The bones of the carpus thus placed, would probably tend to glide forwards, and hence the formation of a strong lip of bone in front to support them. By the displacement backwards, we may also explain the great depth of all the grooves for tendons on the dorsum, as these would have to play over a ridge, and would gradually deepen their channels. The evidence of absorption of cartilage in both specimens and of strong bands crossing the articulation is difficult to deal with, but it does not materially militate against the hypothesis of epiphysal detachment. In both cases, and in several other examples of similar deformity which I have seen in living patients, we had the clear history of an accident in childhood—a supposed "dislocation of the wrist."

Mr. Jonathan Hutchinson, *6th of February*, 1866.

19. *Bones of the carpus, nine years after an excision of the wrist-joint.*

The patient, from whom this specimen was removed, was a man, aged about 40, when he died of advanced phthisis. Nine years before his death, a resection of his right wrist-joint was performed by Mr. Stanley at St. Bartholomew's Hospital. The method adopted was by a transverse incision across the back of the joint. The first row of carpal bones was removed; the end of the ulna was not interfered with. After a tedious convalescence, the man recovered sufficiently to leave the Hospital, but he never acquired any use of the limb, nor did the wound ever wholly heal. During the last four years of his life, he had been under Mr. Hutchinson's care at different times, in the Metropolitan Free Hospital; and as the hand was merely an encumbrance to him, and as there was still discharge at the back of the wrist, amputation had been proposed. The hand was kept in a position of semi-flexion at the wrist. The fingers were straight, but quite stiff, and a certain degree of swelling still persisted. The man had been for years the subject of chronic phthisis, and from this he at length died. On examining the parts after death, the extremity of the radius was found firmly anchylosed to the second row of carpal bones, and between the latter and the proximal ends of all the metacarpal bones, firm bony union also existed. A portion of necrosed bone, about the size of a hazel-nut, was lodged in a cavity at the back of the carpus. The ulna was not anchylosed either to the carpus or to the radius. It is worthy of note that no active caries now existed: no doubt the discharge had been kept up by the necrosed fragment.

Mr. Jonathan Hutchinson, 20*th of February*, 1866.

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20. *Parts removed in two cases of excision of the hip.*

I exhibit the parts removed in two cases of excision of the hip. In the first case, Lewis N., aged 7 years, the portions consist of the top of the femur, a goodly-sized piece of joint cartilage from the inner side of the head, and a quantity of carious fragments from the pelvis. I describe the first piece of bone "the top of the femur," for it will be perceived that the head has entirely disappeared, and that of the neck nothing is left but a little tubercle projecting upwards from between the trochanters. Such utter disappearance of the head and neck, indicating long-continued caries, seems hardly compatible with the coexistence of the

piece of joint cartilage—the articular lamella still attached—which I found lying in the enlarged joint cavity. The explanation of the fact lies herein, that the disease began in the cancellous structure of the head of the femur, ran its course to suppuration rapidly, and in consequence cast off the lamella and cartilage early, before the latter had time to ulcerate; indeed, the tissue is even now but little changed, fibrous degeneration has scarcely affected it, which is probably owing to the connection of the lamella with the abundant false membranes sprouting from bare cancellous structures. The other portions of bone are simply some that were taken from the floor and circumference of the acetabulum. There had been in this case evidence of a large pelvic abscess; during the operation the acetabulum was found to be carious; it was therefore pierced; a great quantity of pus came away, and the finger inserted into the opening found widely-spread separation between the fascia and bone. In order to eliminate as much diseased bone as possible, and at the same time to leave a good opening for the discharge of pus, the nippers and saw were freely used, and a large gap was made.

The second portions of bone consist simply of a very carious head and neck of the femur which I excised from Robert S., aged 6½ years, a week after the above operation.

A few words on the issue of these cases are desirable. On the fourth day after the operation on L. N., all discharge from the wound ceased, the edges were, therefore, all separated, and a drainage tube carried to its deepest parts. It appears very important in these cases to prevent sudden and premature cessation of discharge, which is the *prodromon* of pyæmia or osteo-myelitis. In spite of all care this boy was a long time in a precarious state, from debility produced by so extensive suppuration. The other boy, Robert S., got well more quickly and uninterruptedly. There was a great difference in the condition of the two boys. R. S. was restless, and could not be kept in one position, but managed to lie with the limb adducted. L. N. was quiet, and his leg could be kept abducted. In consequence, S.'s limb was two inches and a quarter short; N's. limb only three-quarters of an inch. Both boys were, at the date of the report, walking without support.

Mr. Barwell, 20*th of February*, 1866.

21. *Fracture of base of skull, with large effusion of blood between dura mater and bone. No symptoms of compression during life.*

The subject of this case was a boy, aged 12, who had been knocked down in the street. Fracture of the base of the skull had been diagnosed from the first: the chief symptoms which indicated it were ecchymosis of the upper eyelids and hæmorrhage from the nose. He was not insensible and was able to resist very vigorously when disturbed: the day after the accident he was still restless and complained very much when examined. He took his food, and he could talk freely; he could both see and hear. No symptoms of paralysis were detected, if we except that of the sphincter of the pupil on the right side, the right pupil being widely dilated and fixed. Suddenly, on the evening of this day, he became insensible and died. Within half-an-hour of his death he had sat up in bed and taken some bread-and-milk. His symptoms throughout the thirty-six hours, during which he lived, were those that are common to severe concussion of the brain, and not those that are supposed to indicate compression.

At the *post-mortem* examination, fracture of the base of the skull, involving the right sphenoidal fossa and passing obliquely forwards to the roof of the left orbit, was found. A very large blood-clot, probably not less than from two to three ounces, had detached the dura mater in the sphenoidal fossa and on the side of the skull above it. In all probability the blood was effused from a ruptured branch of the middle meningeal artery, for the line of fracture crossed the direction of this vessel. The brain-substance was exceedingly pale, but was not injured. The blood-clot between the dura mater and the bone was, in parts, nearly an inch in thickness. It appeared to consist of two layers, one softer than the other, and it is quite possible that a second effusion took place immediately before the boy's death, in addition to that which had occurred soon after the accident; yet we must note, that not even immediately preceding death were the ordinary symptoms of compression present. His respirations were irregular, but not stertorous; his pulse was not laboured, but exceedingly rapid, 170 in the minute. The chief clinical interest of the case is that it illustrates the difficulty, or the almost impossibility, of making a diagnosis of these cases of intra-cranial hæmorrhage and impending death from compression of the brain. There can be no doubt that the boy's symptoms were from first to last chiefly due to compression, and that his death ensued as a direct result from that cause. The dilatation of the

pupil on the side of the injury was perhaps due to pressure on the trunk of the third nerve.

Mr. Jonathan Hutchinson, *6th of March*, 1866.

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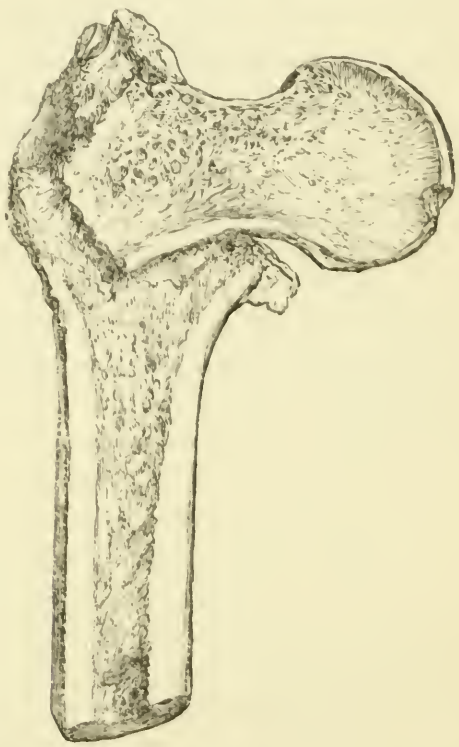
22. *Extra-capsular fracture of the neck of the femur.*

The patient from whom this specimen was removed was a man aged 23, who died five months after having received very severe injuries. His chief injury was a compound fracture of the left femur, but in addition to this he had a simple fracture through the cervix on the right side. This last fracture had for two months before his death shewn all the indications of firm union. When at length his death from pyæmia afforded an opportunity for examining the condition of the bone, it was found that the fracture had occurred at the base of the cervix, and that the great trochanter had been split in such a manner as to allow the cervix to become lodged between the fragments (Fig. 18). In this position union had occurred with very considerable deposit of new bone.

Woodcut 18.



Any one examining the specimen without a knowledge of the history of the case, would probably come to the conclusion that there had been impaction, for the cervix is now firmly fixed at a depth of three quarters of an inch into the great trochanter. The history of the case, however, entirely confutes the hypothesis of impaction; for, at the time of the accident, the fragments of bone were freely movable on each other. The limb could be everted very easily, and it was shortened to the extent of an-inch and a-half. Crepitation was produced with the greatest ease, there being no locking whatever of the fragments together. Mr. Hutchinson stated that he brought this specimen forwards, not because it was a very rare one, but because it seemed to shew how easily fallacious conclusions might be drawn from the examination of old specimens without a clear history of the original accident. The splitting of the great trochanter was, he believed, a very common occurrence in cases of fracture of the cervix with penetration of the latter into the shaft. By this splitting, impaction (in the sense penetration and fixation) is prevented, and the fragments are left freely movable on each other.

Mr. Jonathan Hutchinson, *3rd of April*, 1866.

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23. *Peculiar disease of the cranial bones, of the hyoid bone, and of the fibula.*

For permission to exhibit the specimens now submitted to the Society, and for the notes of the patient's history, I am indebted to Mr. E. R. Bickersteth, of Liverpool. He obtained the specimens from the body of a man born in, and residing at, Liverpool, who died in 1857, at the age of 34, and who had been under his observation for several years. At the age of 14, the bones of his face were first noticed to become enlarged, and three years later, he was a patient for a short time in St. Thomas's Hospital, London, on account of this facial enlargement. The swelling of the face gradually increased, and thirteen years after its commencement, a similar hard swelling appeared along the course of the left fibula.

Apart from their unsightliness, the swellings referred to caused the patient little inconvenience until about two years before death, when he began to suffer from intense pain in the left leg, and about the same time from pain in the head, although in a less severe form. The pains were so severe that the patient got into the habit of taking large quantities of laudanum. He became gradually emaciated, and, as the facial enlargement increased, the cavities of the mouth and nose were

greatly lessened, and the eye-balls were protruded almost beyond the lids, so as to impart a frightful appearance to the countenance.* The sight of the right eye remained good, but that of the left was lost. The motility of the lower jaw was but slightly interferred with, and mastication and deglutition were performed without difficulty. The smell and hearing were not affected and the intellect was unimpaired. The patient died at last, worn out by emaciation and protracted suffering. At no time was there any suppuration, and to the last neither the integuments, nor the soft parts, were implicated in the disease. The patient had never suffered from syphilis; both his parents were alive, and in good health, and there was no history of tubercle, cancer, or constitutional syphilis in the family. One brother, however, had a similar enlargement affecting the upper jaw on one side. This growth had also commenced about the age of puberty, but had for many years remained stationary; and, in 1856, it gave the man simply the look of a person with a swelled face.

The *post-mortem* examination was conducted hastily, and under rather disadvantageous circumstances; but the lungs were free from disease, and the internal organs generally appeared to be healthy. The only bones in the body, which were the subject of the peculiar disease about to be described, were the cranium, the hyoid bone, and the left fibula. A slice from the middle of the fibula, the entire cranium and lower jaw, and the hyoid bone, were removed for more careful examination, and are now submitted to the Pathological Society.† In drawing up the following account of the morbid appearances, and the table of measurements, I have been ably assisted by my friend, Mr. Campbell De Morgan:—

The disease of the cranial bones consists in great thickening and induration, this condition being chiefly due to the growth from the outer surface of numerous, closely aggregated, smooth, dense, botryoidal excrescences, varying in size from a hemp-seed to a small cherry, and causing the bone to resemble somewhat a mass of malachite.

The disease involves more or less all the cranial bones, except the occipital, which is perfectly free, although both parietal bones are involved as far as the lambdoidal suture. This exemption of the occipital bone is well seen in Plate XI. The lambdoidal suture is well-defined

* There is a rough drawing shewing this appearance during life in the first volume of the *Liverpool Medical Journal* for 1857. Plate V.

† The specimens are now in the Museum of the Liverpool Royal Infirmary, to which they were presented by Mr. Bickersteth.

DESCRIPTION OF PLATE X.

This Plate illustrates Mr. E. R. Bickersteth's case of Peculiar Disease of the Bones of the Cranium and Lower Jaw: anterior view. (p. 245.)

Maskel del et lith

W West

DESCRIPTION OF PLATE XI.

This Plate illustrates Mr. E. R. Bickersteth's case of Peculiar Disease of the Bones of the Cranium: viewed from the base. The Plate shews well the remarkable exemption from the Disease of the Occipital Bone (p. 245).

The three figures at the bottom of the plate represent the hyoid bone from the same case. The central one is an anterior view of the body; the one on the left shews the bone viewed from above, and that on the right shews it viewed from below.

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W Westhip

and serrated. The posterior and upper part, however, of both parietal bones, over a defined patch measuring three inches from before backwards, and varying in its transverse diameter from 1½-inch to $\frac{7}{10}$-inch, is also free from the disease, and quite smooth. The upper part of the squamous portion and the mastoid process of the right temporal bone, although thickened, are not unusually rough, and contrast strongly with the adjoining portion of the parietal bone, in which the disease is far advanced. In the frontal bone the disease is, on the whole, more advanced than in the parietals. But it is the malar bones which have undergone the most remarkable change. Both are developed into dense globular masses, the size of an orange, and with a botryoidal surface. The accurate dimensions of these masses are given below, and the peculiar appearance, which they impart to the skull, is well shewn in Plate X. They encroach upon the orbits, so as greatly to reduce their capacity at their lower and outer part. They almost meet indeed the orbital plates of the frontal bone, so that the orbits at this part are merely narrow horizontal slits. The cavities of the orbits are not only much reduced in capacity, but are greatly altered in shape. The right is somewhat triangular, the base of the triangle being formed by the frontal plate, and the apex by the junction of the malar mass, and the ascending process of the superior maxilla. The left orbit, which is the smaller of the two, has a quadrangular form. The upper angle is formed by a depression between two excrescences from the orbital plate of the frontal bone; the lower, by the junction of the malar mass with the ascending process of the superior maxilla; the inner angle is at the point of junction of this process with the frontal bone, and the outer is at the point of contact of the malar mass with the frontal bone. The ascending processes of the superior maxillæ are also very extensively diseased and thickened, so that they almost obliterate the nasal opening, reducing it to a mere fissure about a line in width. The nasal bones are thickened, but are comparatively free from the surrounding disease. The palatal processes of the superior maxillæ are also greatly diseased, a rounded mass projecting down on each side, so as to fill up the cavity of the hard palate to a level with the alveolar ridge. The growths from the two bones, however, are not fused together, but are separated by a narrow mesial fissure, which extends as high up as the natural level of the hard palate. They are likewise separated by a deep fissure from the palatal processes of the palate bones. The horizontal plates of the two palate bones are transformed into a central smooth globular mass (see Plate XI.), the size of a

cherry, a slight groove on its anterior aspect indicating its originally double character. The superior expanded border of the vomer is also greatly thickened and rounded on either side. The teeth of the upper jaw are normal, except that there is no trace on either side of the third true molar or of its alveolus. The alveolar ridge, in fact, terminates immediately behind the second true molar.

The whole of the outer surface of the diseased, and also of the occipital, bone is perforated by innumerable openings for vessels. The diseased bony matter at many places exhibits a tendency to grow over the line of sutures, the margins of the bones being rounded. This is remarkably seen in the parietal bones, at the lower part of the lambdoidal suture on either side, where the diseased parietal overlaps the healthy occipital bone, and also in the edge of the squamous portion of the left temporal, which overlaps the parietal bone. Nowhere, however, is there any tendency to undue anchylosis: quite the contrary. For example, the globular masses into which the malar bones have become transformed, separated from the adjoining bones during the process of maceration, and have been glued on again. The squamous portions also of both temporal bones appear loose and detached, being apparently pushed out by thickening of the subjacent parietal bones. Another peculiarity worth noting is that, while the effect of the disease is greatly to reduce the capacity of the orbits and of the nasal and external auditory openings, the sphenoidal fissure and the foramen lacerum posterius on both sides are unusually large. The cause of this is not very apparent. Looking through the foramen magnum into the interior of the skull, the inner surface is seen to be but slightly involved in the diseased process in comparison to the outer surface, the chief alteration consisting in an abnormal roughness and an appearance of porosity, arising from the presence of innumerable minute openings for vascular canals.

Next to the malar bones, the lower jaw (See Plate X.) presents the most remarkable change. It is enormously thickened in every direction, the right side more so than the left. Little trace can be seen of a condyle, coronoid process, or sigmoid notch, the whole being fused into one uniform globular mass. Owing to the great thickening also, the angle of the arch formed by the rami is unusually acute and V-shaped. The surface of the jaw presents but little of the botryoidal chararacter, so strikingly developed on the frontal bone, but has a very porous aspect, owing to the presence of numerous vascular openings, and is also marked by many narrow irregular fissures. (See Plate X.).

In the lower jaw, as in the upper, there is no trace of the third

true molar, or of its socket. The sockets of the other teeth are partly

Woodcut 19.

Transverse section of growth from fibula, natural size. The original bone from which the growth springs is shewn at the upper part of the cut.

filled up by bony matter, so that the teeth are greatly extruded, and many of them have dropped out.

The hyoid bone (See Plate XI.) partakes in the same morbid process as the bones of the skull, the anterior portion or body being greatly thickened, and marked on its outer surface by botryoidal eminences.

The transverse section of the growth from the fibula has a diameter of five inches and a-half in one direction, by four inches and three-quarters in another. (See Fig. 19). Its structure throughout is extremely dense, and the cut surface exhibits numerous minute rounded openings, which appear to be the sections of vascular canals.

Altogether the morbid appearances are so remarkable and unique, that it would be desirable to have a careful account of the microscopical appearances of the bony tissue, by a Committee of the Society, placed on record.

The following measurements have been taken, with great care, by means of Mr. Busk's calipers. The figures refer to English inches, and tenths of an inch.

TABLE OF MEASUREMENTS.

Bones of Cranium and Face.	*Inches.*
Extreme antero-posterior diameter from frontal bone to occiput	8·1
Extreme height above external auditory openings	5·5
From external auditory openings to upper angle of lambdoidal suture	4·4
From ditto to upper and most prominent part of frontal bone	5·6
Extreme width, in line of mastoid processes	6·5
Ditto, of frontal bone in front	5·5
Ditto, between outer edges of malar prominences	6·3
Transverse diameter of right malar prominence	2·2
Antero-posterior ditto of ditto	2·65
Vertical ditto of ditto	2·05
Transverse diameter of left malar prominence	2·
Antero-posterior ditto of ditto	2·93
Vertical ditto of ditto	2·15
Extreme width between outer borders of the ascending processes of the two superior maxillæ	1·6
Extreme width of right ascending process of ditto	0·85
Ditto of left ditto ditto	0·45
Extreme width of nasal slit, above inferior turbinated bone	0·14
Short diameter of left orbit passing from upper and inner angle, downwards and outwards	0·6
Long diameter of left orbit, passing from upper and outer angle, downwards and inwards	·8
Short diameter of right orbit, passing from upper and inner angle, downwards and outwards	·54

Bones of Cranium and Face.	*Inches.*
Long diameter of right orbit, passing from upper and outer angle, downwards and inwards	1·
Width of palate between external alveolar edges, corresponding to second true molars	2·42
Width of palate between inner edges of second true molars	1·3
Antero-posterior diameter from anterior margin of inner incisor to fissure between palatal process of superior maxilla and the palate bone, in mesial line	1·44
Antero-posterior diameter, from ditto to ditto, opposite pterygoid processes	1·98
Transverse diameter of central globular mass representing palate bone	·67
Vertical ditto of ditto	1·05
Transverse diameter of thickened superior expanded border of vomer	·8
Antero-posterior diameter of foramen magnum	1·5
Transverse of ditto	·8
Approximative thickness of vertex, opposite foramen magnum	1·
Transverse diameter of basis cranii, between tips of mastoid processes	5·1
Extreme transverse diameter of left foramen lacerum posterius basis cranii	·8
Extreme antero-posterior diameter of ditto	·41
Greatest width of left sphenoidal fissure	·41
Greatest length of ditto	·55
Antero-posterior diameter of left external auditory foramen	·15
Vertical ditto of ditto	·22
Antero-posterior ditto of right ditto	·2
Vertical ditto of ditto	·31
Lower Jaw.	
Extreme width between outer surfaces of ascending rami	7·3
Extreme length from tip of condyle to lower margin below canine tooth on right side	5·8
Ditto, on left side	5·92
Vertical diameter at symphysis	2·1
Vertical diameter from outer alveolar edge of second true molar, to lower margin corresponding to angle, on right side	3·1
Ditto, ditto, on left side	2·62
Extreme thickness of right ascending ramus	2·7
Ditto, of left	2·05
Ditto, at symphysis	1·05
Extreme antero-posterior diameter of right ascending ramus	3·25
Ditto, ditto, of left	2·9
Width of arch between inner edges of two condyles	2·4
Ditto, ditto, corresponding to second true molars	1·21
Ditto, corresponding to second bicuspids	0·09
Thickness from anterior alveolar ridge of second incisor to posterior surface of horizontal ramus	1·01
Hyoid Bone.	
Width of arch, between tips of cornua	1·7
Transverse diameter of body	1·21

Hyoid Bone.	*Inches.*
Antero-posterior ditto, of ditto	·77
Vertical ditto, of ditto	·95
From tip of left cornu to anterior surface of body, at upper edge and in mesial line	1·85
From tip of right cornu to ditto	1·75

Dr. Murchison, 17*th of April*, 1866.

Report on the above specimen.—The microscopical examination of the bone in this case was confined to the fibula, as it was not considered necessary to injure the cranium.

In the Hunterian Museum, however, are two somewhat similar specimens; one, No. 3093, labelled, 'skull of a Peruvian,' and the other, No. 3236[a]. The first of these is an entire skull, many of the bones of which are enlarged, much as in the present case, but not to so great an extent. The second shews the malar, orbital, and nasal bones, and resembles, to a remarkable degree, the corresponding parts in Mr. Bickersteth's case. Through the kindness of Mr. Flower, an opportunity was given of examining a section of the lower jaw of the first specimen. It presents characters almost identical with those observed in the fibula. It may be concluded then, that in the case presented to the Society, the structure of the cranial bones is the same as that of the fibula.

The shaft of the fibula is much expanded: it presents on its anterior and outer surface, a thin shell enclosing a very open cancellous structure. The shell is highly vascular. From the posterior and internal surface springs, by a narrow neck, the general mass of the bony tumour. The greater portion of this is made up of dense ivory-like bone, with here and there an extremely delicate cancellous structure. About half-an-inch posterior and internal to the shaft, is a large vascular canal, nearly one-sixth of an inch in diameter; and throughout the general mass smaller canals are seen in great number, the average diameter of which is $\frac{1}{75}$ of an inch.

The dense bone is very tough, and to the naked eye appears compact at first view, but, on closer examination, it is seen to be studded with numerous minute openings.

The microscopic appearances are peculiar. The compact structure is traversed in every direction by large branching and communicating vascular canals, forming in some places a close net-work. At the point of confluence of these canals, there is often a sort of ampulla. From the sides of the larger canals finer ones are given off, which form communications with those coming off from the neighbouring, or even from distant, large ones.

DESCRIPTION OF PLATE XII.

Fig. 1. represents the microscopic appearance of the growth from the fibula in Mr. E. R. Bickersteth's case of peculiar disease of the bones of the cranium, hyoid bone and fibula. The bony structure is permeated by numerous vascular canals. One large canal may be seen terminating in a bulbous extremity, from which is given off a pencil of small tubes, radiating in different directions. Magnified 40 diameters (p. 250).

Figs. 2 and 3 represent the microscopic appearances of Dr. Duka's bony tumour removed from the nasal fossa. Magnified 40 diameters (p. 261).

Fig. 2 represents a vertical section, and shews a number of vascular canals running parallel to one another, with communicating branches between them. Their diameter is less than the average of Haversian canals; but they are more numerous. They are surrounded by bone containing very numerous, but irregularly distributed, lacunæ.

Fig. 3 is a transverse section, and shews a large number of openings of vascular canals. The lacunæ are arranged around these openings; but there is no appearance of definite Haversian systems.

Fig 1

Fig 2.

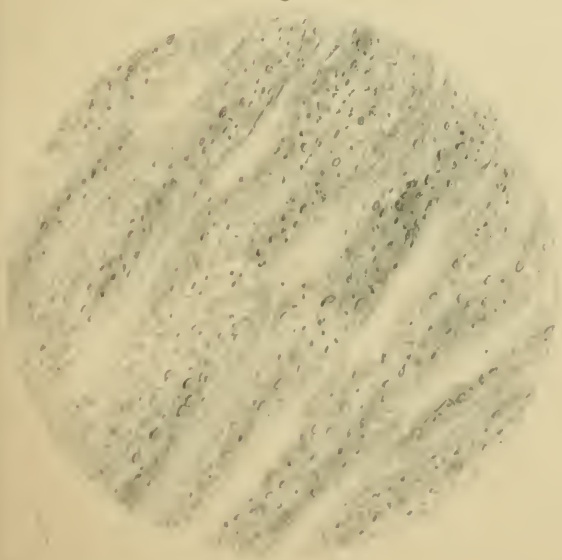
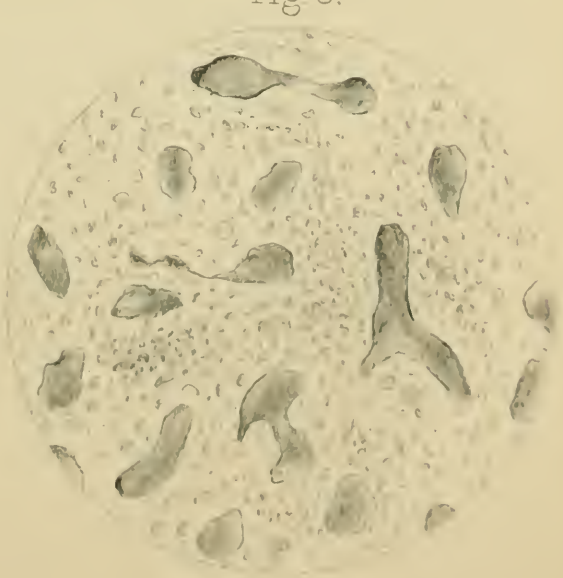


Fig 3.



In many places, the appearance shewn in the drawing (Plate XII., Fig. 1), is seen: a large canal terminates in a bulbous extremity, from which is given off a pencil of small tubes, radiating in various directions. The general arrangement of these tubes is in fact not unlike what is seen in the frame-work of some sponges.

Whether examined in a vertical or a horizontal direction, the arrangement is the same.

The spaces between the canals are filled up by bone-tissue of ordinary character. There is an indistinct lamination for the most part parallel to the walls of the canals, around the larger of which the lacunæ are very closely packed so as to give a dark colour to the bone. The lacunæ are in general very numerous, but they are small, and for the most part elongated. The majority are furnished with very delicate canaliculi. In some places, however, stellated lacunæ, with numerous large canaliculi, are found: very few traces of true Haversian systems are to be seen.

The cancellated bone presents, for the most part, the ordinary characters; but even here are found many of the large canals running into the cancelli.

Mr. Heisch has been good enough to make an analysis of the bone. It consists of:

Earthy phosphates	55·65
Carbonate of lime	8·44
Organic matter	35·91
	100·—

The organic matter is therefore slightly in excess, the normal amount being about 33·3 per cent.

Mr. Campbell De Morgan,
Mr. J. W. Hulke,
Dr. Murchison, 15*th of May*, 1866.

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24. *Instance of arrested growth of the ulna after an injury; probably detachment of the epiphysis.*

Dr. Warwick, of Southend, sent a young gentleman to see me on account of an unusual condition of his right arm. The hand was bent over to the ulnar border (Fig. 20). The extremity of the ulna was hidden. The styloid process of the radius projected, and the lower fourth of the radius was bowed outwards. It was clear,

from the thickening and bend, that the radius had been fractured between two and three inches above the wrist. I could not find any evidence of former fracture in the ulna; but the whole of the lower

Woodcut 20.

half of this bone was very thin, and so buried amongst the muscles, that it was not easy to examine it.

The ulna of the left arm measured from the oleranon to the styloid process . . . . . $9\frac{3}{4}$ inches.

The ulna of right arm	8	,,
The radius of left arm	$9\frac{1}{2}$	,,
,, right ,, ...	9	,,
Girth of left fore-arm, at thickest part .	$9\frac{3}{4}$	,,
,, right ,, ,, ...	9	,,

The accident occurred at the age of five, from a kick from a horse; it was said to be a fracture at the time; the skin was not lacerated.

The deformity has gradually increased as the lad grew. He is now seventeen. He complains that the right arm is much weaker than the other, but still he can use it for most things. The right hand is not smaller than the left to any perceptible degree. There is no deformity at the elbow.

My diagnosis was, that there had been a fracture of the radius in its lower third, and probably at the same time detachment of the epiphysis of the ulna, and that thus the growth of the ulna had been arrested.

Mr. Jonathan Hutchinson, *17th of April*, 1866.

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25. *Fracture of the base of the skull in a child, aged four years.*

The subject of this injury had fallen from a kitchen-dresser on to the stone floor, striking the right parietal eminence, which, like that on the left side, was very prominent. He was brought into the

Westminster Hospital insensible, cold, pallid, and almost pulseless, with some tumefaction over the right parietal eminence and a serous discharge, slightly tinged with blood, from the right ear. He recovered consciousness in an hour after his admission. He had frequent vomiting, which ceased on the third day. The serous discharge (evidently cerebro-spinal fluid) soon lost its sanious tint, but increased considerably in quantity. He frequently screamed, apparently from pain. On the fifth day there was a considerable accession of fever, with heat of scalp. He again became insensible; the pupils were dilated and insensible; and, subsequently, the head was constantly drawn backwards. He gradually sank, and died on the tenth day.

On *post-mortem* examination, a bruise was found on the right parietal eminence, and a fracture commencing about two-and-a-half inches below and in front of it, in the squamous suture, passed downwards to the middle fossa, traversed the petrous portion of the temporal bone and the meatus auditorius, and extended to the jugular foramen.

Pus was found in the sub-arachnoid space over part of the right hemisphere, and in still larger quantities at the base of the brain, completely surrounding the pons and medulla oblongata; there was also pus in the meshes of the velum interpositum, and on the upper surface of the cerebellum, but it did not extend into the substance of the brain.

The principal features of interest in this case are the fact of the fracture commencing not at the point of impact, but at a distance of more than two inches from it, and the age of the patient sustaining such an injury. Mr. Brooke, 17*th of April*, 1866.

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26. *Syphilitic necrosis of the cranium.*

This case was remarkable only on account of its extent, involving a portion of about four inches by five of the occipital region. It had existed for two or three years in a middle-aged man; but no attempt of separation of dead bone had been made. The patient had been in the habit of drinking (according to his own account) two pints of gin, more or less, per day. He came into the Westminster Hospital with ascites, which, subsequently, increased; anasarca supervened, and he died. The ordinary characteristics of a drunkard's liver, were, as it was expected, most conspicuous.

Mr. Brooke, 17*th of April*, 1866.

27. *Parts removed in excision of the knee.*

The specimens consisted of the ends of the femur and tibia from a woman who had suffered for many years from disease of the knee-joint. The parts exhibited very extensive disease. There was ulceration of the cartilage of the outer condyles of the femur, and caries of the bone; and in the head of the tibia was a circumscribed strumous abscess, opening by a small circular aperture into the interior of the joint. The patient was doing well at the time of report, two weeks after the operation. Mr. Henry Smith, 1*st of May*, 1866.

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28. *Circular fracture of the base of the skull, with features of unusual interest.*

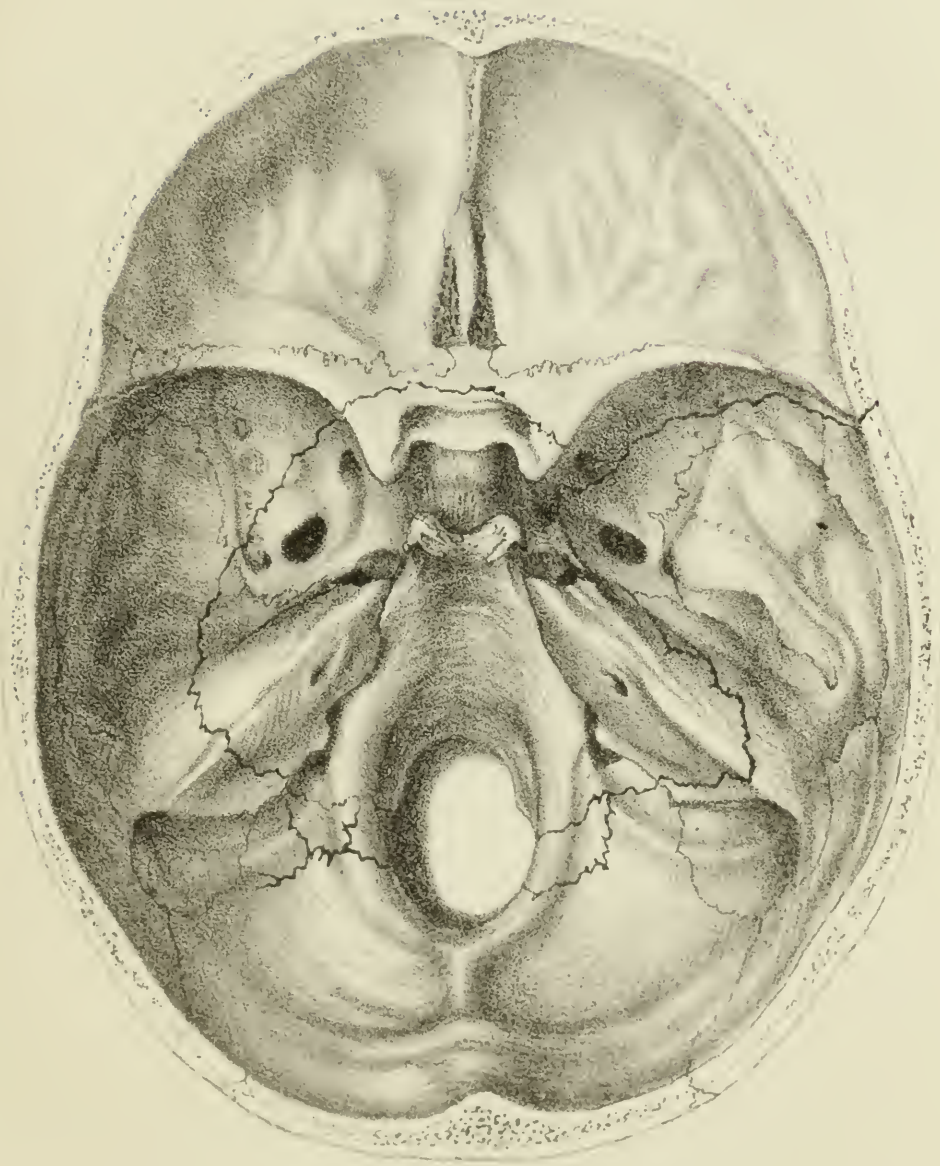
In this case the patient presented several symptoms of unusual clinical importance. His injury had been received in a fall straight down on the top of his head. When admitted, he was partially sensible, but within a few hours he became much less so, and his left limbs were partially paralyzed. This led to the conjecture that hæmorrhage had taken place between the dura mater and the skull, and it was determined to trephine if the symptoms should increase. The symptoms, however, did not increase, but slowly abated, and on the following day the hemiplegia had disappeared. The man was now quite conscious and rational, but he was absolutely deaf. There had been no hæmorrhage from either ear, and there was no paralysis of the portio dura on either side of the face, and as we were assured that the man had enjoyed excellent hearing up to the time of the accident, it became an exceedingly difficult problem to account for the utter loss of that function, on both sides. It seemed highly improbable that the portio mollis could have been injured at any part of its course on both sides, without any degree of implication of the portio dura in either. The man's loss of hearing was certainly not to be explained by any damage to the brain, for he was quite rational, could speak well, and even complained loudly of his deafness. A day or two after the accident erysipelas of the face occurred, and subsequently symptoms of pyæmia set in. He died on the ninth day.

At the *post-mortem* examination, a very extensive fracture of the base of the skull was found (see Plates XIII. and XIV). The line of fracture was symmetrical on the two sides. Passing in a curved direction outwards and forwards from the foramen magnum, the lines crossed

DESCRIPTION OF PLATE XIII.

Illustrates Mr. Jonathan Hutchinson's case of Circular Fracture of Base of Skull (p. 254).

The black line at the base of the skull marks the direction taken by the fracture. It will be seen that the lines are, as described in the text, almost symmetrical, and that the basilar process, occipital condyles, body of the sphenoid, and inner halves of the petrous portions of both temporal bones are inclosed by them in one, nearly circular, fragment. On the right side there is, however, a deviation from symmetry, for a line of fracture passes outwards in the greater wing of the sphenoid. The termination of this line of fracture is shewn in Plate XIV. It terminates in the right side of the frontal bone. This last fracture crossed the course of the middle meningeal artery, by rupture of which a large effusion of blood in the sphenoid fossa had been caused.



E Bourne del et lith

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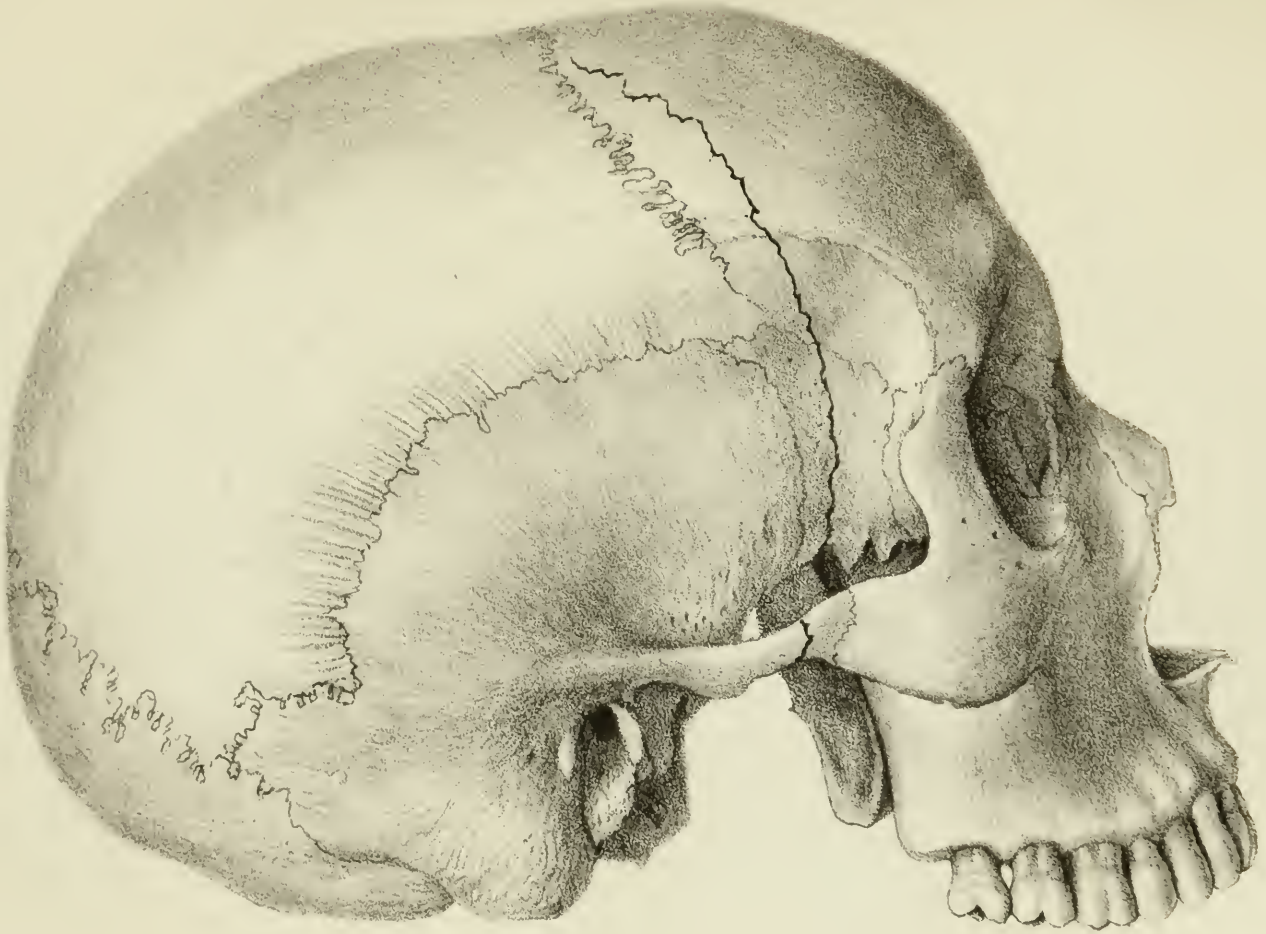
DESCRIPTION OF PLATE XIV.

Illustrates Mr. Jonathan Hutchinson's case of Circular Fracture of the Base of the Cranium (p. 254).

This plate shews the linear fracture in the greater wing of the sphenoid and in the side of the frontal bone, and a fracture of the zygomatic process of the temporal bone, a little behind its junction with the malar.



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the base of the petrous portion of each temporal bone, and then passed forwards through the sphenoidal fossa to meet in the body of the sphenoid. On the right side also, there was a line of fracture extending from the body of the sphenoid, upwards through the wing of the sphenoid into the frontal bone (Plate XIV). The tympanic cavity, on each side, was filled with blood, and the membrana tympani, on both sides, was entire, thus explaining the symptom of deafness without hæmorrhage from the ear. The partial hemiplegia, which had been discovered a few hours after the accident, and which passed off on the second day, was explained by the discovery of a very large clot of blood between the dura mater and the bone in the sphenoidal fossa of the right side. This clot was probably not less than three ounces. It had passed forwards towards the sphenoidal fissure, and might easily have compressed the trunk of the third nerve. During the last day or two we had noticed that the patient's right pupil was twice the size of the other, and quite fixed.

The circular fracture of the base was probably produced by a fall directly on the vertex, the weight of the trunk being received on the condyles of the occipital bone. It is very unusual in practice to find the line of fracture symmetrical, probably because in but few instances is the direction of the violence exactly vertical.

Mr. Jonathan Hutchinson, 1*st of May*, 1866.

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29. *Bony anchylosis of the knee-joint, for which excision was performed.*

The parts exhibited consisted of a portion of the condyles of the femur, to which the patella was attached, and a section of the head of the tibia, which were all firmly united by bony anchylosis, the patella being united to the outer condyle of the femur, and a strong buttress of bone passing between the condyles of the femur and the head of the tibia. The articular cartilage had been everywhere destroyed, but there was no appearance of there having been any destructive disease of the bones entering into the composition of the joint. The tibia had been partially dislocated backwards and outwards, and the anchylosis had taken place in such a manner, that the leg was fixed in the flexed position, at right angles with the thigh.

The patient, a woman, F. K., æt. 27, was admitted under my care, into the Orthopædic Hospital, in June, 1865. She had been the subject of chronic inflammation of the right knee-joint when a child, and little was known of the early history or symptoms of the case, but the leg was said to have been contracted for sixteen years. When admitted,

the leg was contracted, in the flexed position, at a right angle with the thigh, and the lameness consequent on this deformity was extreme, so that she was anxious to submit to any operative measures for her relief.

As some doubt was entertained by my colleagues as to the existence of motion in the joint, I first submitted the case to gradual mechanical extension; and this failing, I tried on two occasions, the method of forcible extension under chloroform, without success, while attempts to force the joint were at the same time also made by my colleagues. I then proposed excision of the joint, to which she consented, and for the purpose of the operation, she was admitted into the Great Northern Hospital, under my care.

On the 4th of October, 1865, I performed the operation of excision of the joint, adopting the plan of a semilunar incision. In consequence of the extreme distortion of the joint and the displacement of the head of the tibia, it was necessary to remove more of the condyles of the femur than is generally required, and the osseous surfaces, therefore, after the operation, corresponded less in size, than when a smaller portion of the condyles is removed, but this in no way interfered afterwards with the strength of the limb. No difficulty whatever occurred in the operation, and not a single ligature was applied. The subsequent pain was greatly diminished, and sleep obtained by the subcutaneous injection of morphia, which was repeated every night for several weeks, and occasionally used in the day-time. The patient was of a highly hysterical temperament, and the only difficulty arose from sickness and irritability of the stomach, for which creasote was found useful. The local inflammation and suppuration which followed were slight, and the case proceeded uninterruptedly to a satisfactory recovery in about three months, when a long gutta percha splint was applied round the leg, from the upper part of the thigh to the ankle, and with the aid of crutches she began to walk. The union was very firm, and she was enabled to bear her weight on the limb when she left the Hospital. Since she has been in the country, I have heard that the limb has improved in strength and usefulness. Mr. W. Adams, 15*th May*, 1866.

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30. *A case of removal of a part of superior maxillary bone, on account of a bony tumour in the nasal fossa.*

Takeeah, a Mahomedan woman, about 26 years of age, in good health, presented herself in March, 1862, at the Government Dispensary of

Monghyr in Bengal, with a disfigured right side of the face. The disfiguration was not very considerable, but there appeared a well-marked swelling in the infra-orbital region, extending downwards and inwards, both the nose and the eye being encroached upon. There was an oozing from the right nostril of what appeared like a muco-purulent fluid; the roof of the mouth was in its normal condition; the difficulty of breathing, however, through the nose was considerable, and what annoyed the patient most was the discharge just mentioned.

Looking at the case without any further examination, it seemed to possess symptoms of a common nasal polypus, when on introducing the probe into the nostril, the instrument was stopped in its progress by a hard bone-like structure, which, on inspection, presented a rounded, blackened extremity, about a quarter-of-an-inch from the edge of the ala and septum nasi. Seizing it with a forceps, it appeared quite movable, as if on a pivot, from above downwards, and to a certain extent from side to side, but it resisted all efforts at traction forwards.

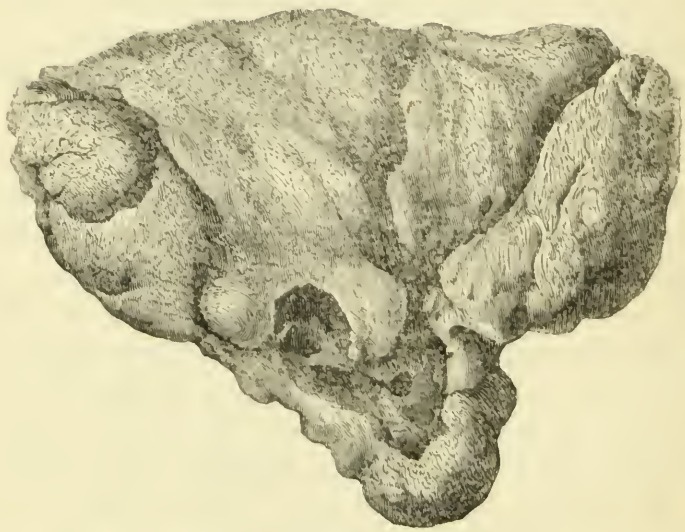
The patient was most anxious to be relieved; she said that her sufferings had lasted for six years; and I imagined that they were due to some extensive necrosis of the facial bones.

The patient being placed on the operating-table—no chloroform was given—I slit open the right ala nasi, hoping, that if I could only lay hold of the piece of bone, I should be able to extract it. But I was disappointed; further exploration taught me that I had to deal with a *rounded* bony mass, and not with necrosed structures. My next attempt was a trial to cut it into two, by means of a Savigny's bone-forceps; the only one in my possession, however, soon broke, without leaving more impression than a slight mark, which is still visible upon the tumour. Having thus been baffled in all my attempts, a still more anxious exploration convinced me that the nasal ridge offered the obstacle to my success, I therefore proceeded to remove so much of the superior maxillary bone as would give an exit to the loose substance. Having now extracted the front incisor and the first bicuspid teeth, and prolonged the incision downwards through the upper lip, I detached the mucous membrane along the alveolar process, and made a flap which was held out of the way by an assistant. The next proceeding was to make a longitudinal incision from behind forwards in the middle line, through the mucous membrane of the roof of the mouth, and another at an acute angle from its inne rextremity towards the extracted bicuspid tooth. I now applied a small saw, which unfortunately was of a very clumsy construction, and did not answer well; but at last a

triangular piece from the palatine process of the superior maxilla was removed, and thus after attempts lasting nearly three quarters of an hour, during which the patient behaved with great stoicism, requiring only a few short intervals of rest for the purpose of clearing the fauces from blood, I succeeded, to my great relief, in extracting the tumour.

The cavity left behind was of great dimensions; the vomer was absorbed; and the right antrum of Highmore had lost its nasal plate. There was little bleeding, and the edges of the external wound having been put into apposition by wire-sutures, healed by the first intention; the patient left the Hospital on the tenth day. I have lost sight of her since.

Woodcut 21.



Illustrates Dr. Duka's bony tumour of the antrum, natural size.

The tumour presents an oblong shape, not unlike a middle-sized potato, with depressions and elevations passing irregularly over it (See Fig. 21.): the upper part, which, I believe, lay in contact with the cribriform plate of the ethmoid bone, exhibits corresponding delicate depressions, with other deeper sulci in front, behind, and on the sides, probably for the passage of blood-vessels. At the lower surface is a large nipple-like process, smooth throughout; this lay in contact with the palatine process, and it has the same dark appearance as the anterior part of the body, which, as mentioned above, presented at the nostril. At the base of this process is a large hole piercing it quite through,

and allowing the tip of the little finger to enter it. In this lacuna was a polypoid mass which contained a nucleus of cartilage, round and flat, like a small-sized lentil. It was this nipple-like prominence, infringing upon the nasal ridge, which prevented the removal of the tumour, without interfering with the superior maxillary bone.

The whole bony mass, which is of a compact eburnous structure, weighs one thousand and sixty grains; its long diameter is nearly three inches, the short one an inch and two lines, and the longest circumference seven inches. The microscope gives evidence of an irregular bony structure.

With reference to the origin of this tumour, owing to its having had no apparent connection with any of the living tissues around, I must confess my ignorance; what added to the difficulty, was the cartilaginous deposit, above referred to, which, for want of a better solution of the hypothesis, might have led one to suppose that ossification had taken place in the centre of a polypus, as, at the time of the operation, a polypoid mass seemed to form a kind of bed for the tumour.

I have shewn this specimen to several pathologists in India; but no one could exactly make up his mind regarding it; the late Dr. Allan Webb, however, gave the opinion, that its nucleus was formed by a tooth-follicle, escaping into the antrum of Highmore.

My friend and late teacher, Mr. Prescott Hewett, was kind enough to elucidate the question and to inform me of an analogous case on record, published in the second volume of the *Mémoires de la Société de la Chirurgie* of Paris. It occurred in the service of the late M. Michon, in the Hôpital de la Pitié, in 1850, and the removal of the tumour lasted above an hour. The resemblance of that case to mine is remarkable in several points, namely, its existence in the right side of the nasal fossa, and the similarity both of its external appearance and of that on section, which looks like polished ivory. M. Michon broke his instruments as I did mine, and although his patient was a young Frenchman, mine a native woman of India, neither was given an anæsthetic, but bore the long and tedious operation with extraordinary *sangfroid*. His case, however, differs from mine in one important circumstance, namely, that whilst my tumour was perfectly loose, his was connected with the orbital plate of the superior maxilla and the vomer. The difficulties he encountered would have been quite unsurmountable in my case, under the circumstances I was placed, as, besides my native assistants, I had no one to help me, nor had I the necessary instruments at my disposal, whilst he had M. Charrière with all his surgical resources at his

elbow; besides MM. Denonvilliers and Gosselin took part in the operation, and Professor Langier also witnessed it. M. Michon concludes the account of it with these significant words,—

"Cette lutte de toutes les ressources de la Chirurgie contre la tumeur a duré une heure et six minutes."

M. Michon's tumour was larger than mine; it weighed 120 grammes, or upwards of 1800 grains.

There are points of interest connected with these two cases, which bear upon surgical practice.

First, with reference to the connections of similar growths to the neighbouring bony structures, and

Secondly, as regards the bulk, which immediately concerns their successful removal.

M. Michon's tumour was so intimately blended with the vomer and maxilla, that the whole of the former, and a great part of the latter, came away with it; there was no thin pedicle, so often observed in ivory exostoses, and, therefore, it must have resembled those sessile growths, specimens of which are found in the Museum of the Royal College of Surgeons, which look like cauliflower excrescences sprouting out of the orbit, and which are also connected with the external bones of the face. My tumour being quite loose, the question arises, when and how it became detached? but to this I can furnish no answer; so much, however, I may be allowed to surmise, that it was attached at the under surface, possibly to the vomer or the superior maxillary plate, by means of the stalactitic processes, behind the mammillary excrescence, so often referred to.

Although tumours of this kind, being of a benign character, admit of removal by operation, the surgeon should not attempt to operate without being prepared to meet great difficulties, by having all the necessary instruments at his disposal, which is an all-important consideration away from large metropolitan Hospitals. To ensure an exit to the diseased mass, part of the facial bones must inevitably be sacrificed.

The specimen is now in the Pathological Museum of St. George's Hospital. Dr. Dickinson, *for* Dr. Duka, *15th of May*, 1866.

Report on the above case.—The specimen, on section, presents a dense ivory-like surface. There is a slight appearance of radiation from the mammillary projection, which was probably the starting-point of the growth.

Under the microscope, a vertical section shews that the structure

consists of bone-tissue, the characters of which differ from those seen ordinarily in exostoses. A number of vascular canals run, for the most part, parallel to one another, but with frequent communicating branches between them. Their general diameter is less than the average of Haversian canals; but they are more numerous than would be found in bone. They are surrounded by bone, containing very numerous, but irregularly distributed, lacunæ.

In the report of M. Michon's case, a drawing is given of a vertical section, which corresponds very nearly with the appearance seen in Dr. Duka's specimen; but the parallel tubes are more wavy, and are represented as having, here and there, small offsets from the centres of the curves giving the appearance somewhat of exaggerated dentinal tubes.

In some parts of Dr. Duka's specimen, the characters are very much those of simple ossified cartilage. Clusters of large ossified cells are here pretty closely packed together. There does not appear to be any difference in the density of these parts.

A transverse section shews a large number of openings of vascular canals, with some more or less oblique or horizontal canals. The lacunæ are arranged around these; but there is no appearance of definite Haversian systems; indeed, the arrangement of the vessels is too close to admit of the existence of many laminæ. The characters of the transverse and vertical sections are shewn in the drawing. (Plate XII., Figs. 2 and 3).

Mr. Campbell De Morgan,
Mr. Prescott Hewett,
Mr. J. W. Hulke,
Dr. Murchison, *5th of August*, 1866.

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31. *Excision of the astragalus.*

Mr. Holmes exhibited the fragments of an astragalus, which he had removed entire from a female child, æt. 2 years and 8 months, who was admitted into the Hospital for Sick Children, January 20th, 1866. She had been suffering from pain and swelling of the ankle for four months, with an open abscess for the last month. The probe passed down deeply into the substance of the astragalus, but there was no affection of the ankle, nor of the anterior parts of the foot. On the 22nd of January, an incision was made down to the astragalus, and as it was

found almost totally diseased, it was decided to remove it. For this purpose a flap, like the anterior flap of Syme's amputation, was made. The anterior tibial artery having been secured, the ankle-joint was opened, and its lateral ligaments divided. The astragalo-scaphoid joint having been next freely cut open, there was no difficulty in lifting the bone out of its bed, and removing it from the os calcis. The whole interior of the bone was carious and dead, and easily separated from its cartilaginous surfaces, which were healthy. The operation was successful; recovery was delayed by an accidental attack of measles, but the child was well enough to be discharged on the 6th of May.

The specimen was exhibited as an example of a condition tolerably often met with in childhood, and in which the removal of the whole bone is usually effectual in restoring health, while gouging or partial operations are probably followed by the extension of the disease to neighbouring bones, and the ultimate loss of the member. The operation is, in children at least, a comparatively easy one, and leaves a very useful foot. Mr. Holmes, 15*th of May*, 1866.

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32. *Amputation at the hip-joint for osteo-myelitis of the femur after excision.*

The patient, a girl 6 years of age, had laboured under hip-disease for more than a year, accompanied by numerous abscesses. The bones were extensively diseased. As there were no phthisical symptoms, excision was performed on the 6th of January, 1866. The acetabulum was found affected, and was removed to a considerable extent. She did well till the sixth day after the operation (January 11th), when œdema of the limb came on, and the soft parts receded from the stump of the femur, leaving it bare of periosteum for a considerable distance. The child also looked pale and languid, and the temperature rose, so as to be 100·6° on the morning of the 12th of January, and 104° in the afternoon. Osteo-myelitis of the femur was diagnosed, and the question of removing the limb was entertained. I rather shrank, however, from this extreme measure, but on the 13th of January, rigors came on, the face assumed a pinched expression (without any yellow cast), she vomitted and refused food, the pulse and respiration were very frequent, and the former very weak, and there was that peculiar saccharine odour about the bed, which is sometimes noticed in pyæmia, especially, I think, in children. The swelling of the thigh ex-

tended to the neighbourhood of the knee, but did not affect the joint.

Next morning, as she was evidently sinking, I determined, though with little hope of success, to risk the amputation of the limb. Mr. T. Smith held the abdominal aorta for me, and the operation was effected with no loss of blood whatever. The child, though at the time almost dying, rallied from the operation, and had no further symptoms of pyæmia. She improved in health, strength, and appetite, but the saccharine odour remained. Thus she went on with some prospect of recovery till the 24th of January, when she was noticed to have a slight cough; this increased, accompanied with abundant fine crepitation, till the 26th, when she died.

On *post-mortem* examination, pyæmic deposits were found in both lungs, and lymph, mixed with pus, in both pleuræ. The external and common iliac veins, on the side of the amputation, were filled with a soft colourless thrombus, but there were no evidences of phlebitis. The stump was healthy, but shewed little trace of union. The ligature on the femoral artery had come away, as had all the others except one.

The femur of the amputated limb was denuded of periosteum as low as the epiphysis, and there was pus between the bone and periosteum—the whole of the medullary cavity and cancellous tissue was loaded with pus. There was slight excess of fluid in the knee-joint.

This case was brought forward in order to illustrate the point touched on in the one related at p. 229, viz., whether in these instances of excision, which prove fatal by pyæmia, there may not be a moment when surgical interference would save life. In most (perhaps almost all) such cases, it seems that the first step in the process is diffuse suppuration (osteo-myelitis) in the interior of the femur. It is worthy of the extensive trial, which alone can decide the point, whether by the removal of the affected bone, the process cannot be cut short and life saved. The same point has already been mooted by M. Jules Roux, and by Professor Fayrer of Calcutta, who have each related cases in which success followed the practice. The present instance, though one of failure, goes, I think, some way to support the inference which they have drawn; for the failure depended evidently on the delay of the operation, until the symptoms of general pyæmia had set in. The interval for decision is not a long one, and the operation should be carried out at once, if at all. The materials for diagnosis are, I think, sufficient. They led me, in this instance, to a correct conclusion, though my practice was not sufficiently resolute. In extenuation of

this I would plead that the point is, to me at least, a new one—one on which I have thought for a long time,* but have, as yet, had no practical experience, and that in so very feeble a child, amputation at the hip seemed a desperate measure. However, though it was put off till her condition had become much worse, and though she was certainly very nearly dying of the shock, the immediate effects of the amputation were all that I could have hoped, and this increased my regret that I had not performed it sooner.

The signs of osteo-myelitis having set in are local pain, more or less general fever, the opening of the wound, the recession of the periosteum from the end of the bone, and œdema of the limb. I am quite prepared to agree with Mr. Longmore (*Med.-Chir. Trans.*, 1865), that there are many cases of osteo-myelitis after amputation, and the same may perhaps be true of excision, where re-amputation is unnecessary, and the patient may fairly hope for recovery after the removal of a sequestrum, but these are the more chronic cases. Where the symptoms, above enumerated, come on with sufficient acuteness, I believe amputation to be urgently called for; and the case above related shews that it ought not to be put off till the symptoms of general pyæmia set in. Mr. Holmes, 15*th of May*, 1866.

VII. DISEASES, ETC., OF THE ORGANS OF SPECIAL SENSE.

A. EYE.

1. *Case of black cataract.*

The two lenses were taken by extraction from the eyes of a man, æt. 75, by occupation an innkeeper and publican. He had drunk hard, and looked pale and anæmic, but was otherwise in fair health. He possessed about the usual amount of vision, seen in fully-formed cataract. The irides acted well; the lenses were observed to be very dark; the balls were rather hard; and it was suspected, as proved to be the case, that the vitreous humour was rather soft. The right eye had been longest affected.

When extracted, the right lens was quite black at the centre, and nearly so at the margin; it has become lighter by keeping; it was extracted on January 19th, 1865. The left lens, which, when extracted,

* See an article by me on Diseases of the Bones, in a System of Surgery, &c., iii., 630.

was a blackish-brown, has also lost in depth of colour; it was extracted on February 8th, 1865. The right lens had a greater specific gravity than usual, and was heavier than the left, for when placed in glycerine, diluted with an equal quantity of water, the black lens sank to, and remained at, the bottom of the jar; while for several days the left lens floated, but afterwards sank to the bottom.

There is nothing unusual in the character of the lens, seen under the microscope. There are the broken-up, disintegrated fibres, which want the well-marked serrated edges of the healthy lens, such as are usually seen in the cataractous lens. I think there is nothing specifically different between the black lens and the more ordinary amber-coloured one: it would appear to be the lens in a greater degree of degeneration rather than structurally different.

The man made a good recovery, though the wounds did not altogether unite by the first intention, and there was slight prolapsus of the irides, but vision was very good; he could read well, and see to shoot game.

After a few months he had most fearful neuralgic pain in the forepart of the head; this, however, did not seem in any way to be connected with the eyes. Out of upwards of twelve hundred operations for cataract, this is the only time I have met with a black lens.

Mr. Nunneley, 21*st of November*, 1866.

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2. *Removal of a large recurrent encephaloid tumour from the orbit. The part remaining healthy fifteen months after.*

The patient, James Vinall, on whom this operation had been performed, was shewn at the meeting on February 6th, 1866. He was 33 years of age, a gardener, healthy, and also of a healthy family, when in August, 1863, he received a blow on the left eye. Two months after, the sight began to fail, and he had deep-seated pain in the orbit. In February, 1864, he had completely lost the sight of the left eye. Mr. Woolcott detected a cancerous growth within the globe, and removed the eye at the Maidstone Eye Infirmary on the 20th of April. The parts healed rapidly, and he went out in a short time; his health, which had been impaired by continued suffering, being much improved. The lids were closed. In May he had again severe darting pain at the back of the orbit, and shortly after the lids were separated by a tumour which protruded from behind. The increase of the tumour was very rapid, and he lost health and strength. In August it began to bleed,

and from that time he lost blood daily. In October, a piece of the size of a large walnut, dropped off from the centre of the mass. He became a patient in the Middlesex Hospital, on November 3rd, 1864.

A large irregular tumour projected from the orbit, excavated in the

Woodcut 22.

centre and sloughing. (See Fig. 22.) The margins of the lids could be traced over it, spread out and stretched to a remarkable degree. At the lower and outer part, the tumour involved the structure of the cheek. Its general surface was somewhat flattened and circular, and measured four inches across. It projected nearly four inches forward from the cheek on the outside, and about two inches and three-quarters from the nasal side. No alteration could be detected in the cranial bones; nor were any diseased glands to be felt. The patient had never had any cerebral symptoms. He was in a wretched state of health from continued bleeding and offensive discharge, and from severe and constant pain. As at two Hospitals, the surgeons who saw him, declined to operate, he was fully impressed with the hopelessness of his case, but he was anxious to have anything done to free him for a time from the pain and discharge. With this view I consented to operate —anticipating only a short reprieve from death—but hoping, that I

might be able, by destroying the disease as it sprouted again, to give him some relief and comfort. The success which attended Mr. Moore's operation on the case of rodent ulcer, brought before the British Medical Association, determined me to follow the same plan, and thus destroy the disease as effectually as I could. I removed the tumour on the 23rd of November, 1864, by first cutting the mass from the orbit with strong curved scissors, and then removing all the parts to which the growth extended external to the lids themselves. The actual cautery was then freely applied over the whole surface of the orbit and parts around, and finally the whole was covered with a layer of cotton-wool thickly coated with the chloride of zinc paste. There was very little hæmorrhage, and he scarcely had pain after the operation. In a fortnight a large mass of the charred tissue was thrown off, with some parts of the orbital bones. Portions of the bones of the orbit exfoliated from time to time, until much of the frame-work came away, exposing in one part the dura mater, and opening the nasal

Woodcut 23.

Shews patient's condition when he appeared before the Society, on February 6th, 1866. This and the preceding cut are from photographs by Mr. Heisch.

and maxillary cavities. Healthy granulations soon covered the whole surface. He rapidly regained health and strength. One or two little

millet-seed looking excrescences remained at the inner part of the wall of the cavity, but they did not appear to grow; from time to time, however, they were touched with the chloride of zinc or nitrate of silver.

On my return to town in September, 1865, he came to me looking ill, with rheumatic pains in the right hip; he had lost flesh, and the pulse was up to 100. The excrescences on the inside of the orbit had increased in size—one was as large as a small nut. I cut them away, and destroyed the tissue around them with the chloride of zinc. Healthy granulation soon covered the surface, and he has remained free from any trace of recurrence of disease in the part to the present time. His present appearance is shewn in the annexed drawing (Woodcut 23).

With regard to the nature of the disease, there can be no doubt. When the mass was removed, portions of it were examined, and it was pronounced to be medullary cancer, with some melanotic deposit; it was then thrown away. Finding after some months that there was no tendency to recurrence, and that with the exception of the small seed-like deposits, before mentioned, the surfaces remained healthy, I began to doubt whether the tumour had really been malignant. Mr. Woolcott had, however, preserved the eye, and he very kindly presented it to me. At one small point the sclerotic was a little rough and dull. Elsewhere, the exterior of the globe and the optic nerve looked healthy. The interior shewed the usual conditions of intra-ocular cancer. Mr. Hulke was so good as to make a careful microscopic examination of the specimen. The deposit within the eye presented the ordinary characters of medullary cancer. The optic nerve appeared healthy on section; but extending between the inner and outer sheath in the loose connective-tissue were small diffused patches of cancer elements (as seen in Fig. 24), lying in the meshes of the healthy tissue. The same appearance was seen in the meshes of the fibrous tissue of the sclerotic of the part where it seemed dull externally. The tunic at this part was in no way destroyed, but it was permeated by cancer-cells—single, or in clusters—(see Fig. 25). A beautiful exemplification was presented of the fact, first pointed out by Schrœder van der Kolk, that the germs of cancer extend far beyond the limit of the apparent seat of the disease, and that they get scattered and diffused in the surrounding, and seemingly healthy, tissue. At the first operation, numbers of these germs had been left behind in the remaining part of the optic nerve, and in the tissue in the neighbourhood of the infiltrated part of the sclerotic. But, I believe they were not merely left behind, but many had been set free, and had implanted themselves in the

loose tissues in the depth of the orbit. They multiplied rapidly, as is

Woodcut 24.

Section shewing some bundles of optic nerve-fibres, with cancer-cells deposited in the loose connective-tissue external to their sheath.

Woodcut 25.

Fibres of sclerotic with cancer-cells in their meshes.

generally the case in recurrent cancer: this, probably, is due, in a great measure, to the increased activity pervading all the parts involved in the operation, but also to the wider dissemination and freer room for growth of the cancer-germs; for actively growing cancers will almost always be found to increase most rapidly in the direction of least resistance, and in direct proportion to the diminution of resistance. Thus, for example, an intra-ocular encephaloid will grow slowly, so long as the tunics of the eye are entire; but if they once give way, the disease will sprout with great rapidity.

There can, I think, be little doubt then that, in the first operation, cancer elements were left behind in the structures in which they were developing—the connective tissue of the optic nerve, and that around the infiltrated part of the sclerotic. Probably, too, many germs were set free, and implanted themselves in the adjoining tissue. I cannot too much insist on this latter point, which I believe will be found to explain many of the phenomena observed in the recurrence of cancer after operation. As the new growth took place on free surfaces, there was little tendency for the cancer to involve the deeper parts; outward-growth could go on without resistance. Hence, enormous as was this outward eruption of cancerous growth, the disease was within reach of operation. That the operation has been so far effectual, however, is due to the means resorted to after the mass had been cut away, namely, the application, of the actual cautery, and then of the chloride of zinc, to the whole frame-work of the orbit. This operation has been done at the Middlesex Hospital many times, and with the most satisfactory results.

Perhaps, in the whole range of external malignant growths, there were none which the surgeon looked upon as more hopeless than recurrent encephaloid of the eye, or of parts within the orbit. Until recently, indeed, very few cases could be found of the effectual removal of primary intra-ocular cancer. But the disease is now recognised in its earlier stages, and earlier operations are resorted to. The success, which has attended these, is well marked.

Dr. von Häsner, of Prague, has published a series of cases, in many of which no recurrence had taken place after six years.

Mr. R. B. Carter has recorded a case in which a healthy condition was still maintained a year and a-half after operation. I do not know that any instance is on record of the effectual removal of so formidable a *recurrent* cancer as existed in the patient, whose case is now brought before the Society; and this case, while it may encourage surgeons to

attempt operations which have been regarded as hopeless, points out the all-importance of thorough and complete extirpation.*

CAMPBELL DE MORGAN, *6th of February*, 1866.

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3. *A lacrymal gland excised for epiphora.*

The gland was removed under the following circumstances. The patient from whom it was taken, was a man, æt. 25. Three years ago he was chipping caustic soda, when a particle flew into his left eye. Violent inflammation ensued, and from that time he suffered from overflowing of tears. When the patient was seen last December at the Ophthalmic Hospital, Southwark, there was no trace of either punctum lacrymale in the left eyelids, and the inner third of each lid was united to the ocular conjunctiva by white fibrous frænа. A vain attempt was made to discover the lower canaliculus by excising a portion of the skin and mucous membrane over its presumed situation; at the same time the frænum was divided. It having been found impossible to restore the excreting lacrymal passages, Mr. Laurence determined to remove the lacrymal gland. An incision, about an inch and a-quarter in length, was made immediately below the outer two-thirds of the supra-orbital ridge, when, upon retracting the parts, and after a little careful dissection, the gland, together with its accessory lobe, came into view, and was, without any difficulty, separated from its attachments by the handle of a scalpel and removed. The edges of the wound were united by two points of suture, and cold water was applied to the wound. This healed by the first intention. The excessive flow of tears observed previously ceased immediately and permanently; the moisture of the two globes was equal. Mr. Laurence suggested excision of the lacrymal gland as a general method of treating intractable cases of fistula lacrymalis. Mr. J. Z. LAURENCE, *6th of February*, 1866.

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4. *A funnel-shaped detachment of the retina in an eye-ball.*

This specimen was removed from a female, aged 32 years. She attributed the affection of her eye to a "bad confinement" five years ago. Whilst pregnant with the child, she had suffered from epileptiform fits, and for three days during her confinement she was convulsed, and lost a large quantity of blood by flooding. Three months afterwards she

* This patient has since died. The appearances found on *post-mortem* examination are of great interest, and will be communicated to the Society at an early meeting.—C. De M., 15th of September, 1866.

experienced, for about twelve hours, a complete loss of sight, preceded by severe pain in the left side of the head. Similar attacks recurred at intervals of three months, up to three years ago, when she began to lose her sight every night and regain it on the following morning. A few days afterwards, she lost all consciousness, and remained in that condition for a fortnight. Upon again becoming conscious, she discovered that she was "stone-blind" of the left eye; she had severe pain in and around it; the pupil was widely dilated, and the globe was very hard. She was then admitted into a Metropolitan Ophthalmic Hospital, and iridectomy was performed, which was followed by relief from pain, but by no restoration of vision. In this state she remained until November 12th, 1865. She then had a severe headache, which lasted two days, followed by pain and redness of the left eye. She applied a month later at the Ophthalmic Hospital, Southwark. At that time there was a general vascularity of the tunics, and congestion of the rectal vessels; the lens was opaque, the pupil was widely dilated, with a coloboma upwards. The globe was quite soft and exquisitely tender, there was also profuse lacrymation of the left eye and slight photophobia of the right. The patient suffered great pain at the vertex, and along the left supra-orbital ridge; she had no perception of light with the left eye, but with the right her vision was perfect, although it was subject to transient obscurations. Ineffectual attempts having been made to relieve permanently her sufferings by medical treatment, the eye-ball was removed. Upon making a section of the globe, a reddish-brown fluid flowed out which contained cholesterine-plates in abundance. The retina was completely detached from the choroid and was funnel-shaped, the apex of the cone being attached at the optic entrance, and its base around the margin of the lens.

The removal of the disorganized eye has had the good effect of arresting all pain and the threatened sympathetic irritation of the right eye. Mr. J. Z. Laurence, *6th of February*, 1866.

B. EAR.

5. *Vestibule, cochlea, and semi-circular canals extruded during life.*

The patient, about 40 years of age, suffered long from discharge. Some months since extreme pain in the ear manifested itself, together with pain in the head and giddiness. These symptoms terminated in the expulsion from the external meatus of a piece of necrosed bone, which

proved to be the entire vestibule, cochlea, and semi-circular canals. The patient is now in good health.

Mr. Toynbee, *2nd of January*, 1866.

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6. *Twenty-three specimens in which the incus and stapes were disconnected.*

The causes which separate the incus from the stapes are twofold: ulceration of the ligaments which connect the orbicular process to the head of the stapes, and the absorption of the orbicular process with or without absorption of a portion of the long process of the incus. The practical interest attached to these specimens arises from the fact that the artificial membrana tympani, whatever may be its nature, as a rule, operates beneficially and at once restores hearing, by bringing the incus and the stapes into contact, when they had previously been disconnected by disease. Mr. Toynbee, *2nd of January*, 1866.

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7. *Disconnection of the incus and stapes.*

Bearing upon the specimens of incus and stapes shewn at a previous meeting, Mr. Toynbee exhibited a dissection in which he had disarticulated the incus from the stapes in a healthy ear; he shewed that so long as the tensor tympani ligament remained healthy, the incus and stapes were retained in contact, and during life, doubtless, simple disconnection of the incus and stapes would not be attended by deafness; indeed so great a power has the tensor tympani ligament in drawing inwards the drum and the chain of bones, that a thin layer of India-rubber, placed between the incus and stapes, was tightly held there.

Mr. Toynbee, *6th of February*, 1866.

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8. *Disconnection of the incus and stapes.*

The specimen was the petrous bone of a man, 24 years of age, in which the bony process of the incus was reduced almost to a thread, and had no attachment to the stapes. The membrana tympani had fallen in, and its central part was adherent to the promontory; it lay in contact also with the atrophied portion of the incus and with the head of the stapes, which appeared to be thus maintained in its natural position.

The spicula were freely mobile. In this case the hearing, which had been tested shortly before death, was very slightly impaired. There was no history of discharge from the ear.

Mr. J. Hinton, *6th of February*, 1866.

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9. *Hairs in the mastoid cells.*

Mr. Toynbee said that, according to his experience, this case was unique. The hairs were firmly embedded in the mastoid cells and surrounded by masses of epidermis. Dr. Tilbury Fox, who examined them, agreed that the hairs could not have been introduced from without, but were nourished in the cells.

Mr. Toynbee, *6th of February*, 1866.

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10. *Exfoliation of the tympanic bone.*

The ring of bone was nearly complete. It had been removed from the right meatus of a girl, aged 5 years. A discharge had existed since an attack of scarlatina two years before. The deafness was not very extreme, and the exfoliation was attended with little irritation. The left membrana tympani was also perforated.

Mr. J. Hinton, *6th of February*, 1866.

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11. *Preparations of the petrous bone, shewing the cavity of the ear filled with ink, thrown in through the Eustachian tube, by means of the Eustachian catheter.*

It is important to know if medicinal substances can be introduced into the internal ear by means of a silver catheter. If this is possible, injections into the Eustachian tube, for therapeutic purposes, should only be undertaken with the greatest caution.

A few preparations submitted to the Society prove that the assertions of Dr. Kramer, made within the last few years, are entirely wrong. Dr. Weber has made some experiments here as well as in Berlin, which likewise prove their futility.

The first preparation is taken from a woman, 37 years of age, in whom the auscultation of the ear indicated an unobstructed passage of

the Eustachian tube. As the bougie could not be introduced, liquids had to be injected into the drum of the ear, in the same manner as in living persons. In this case ink was the liquid employed. The ink has entered the drum, and has coloured it and the lower part of the tympanum, black.

The second preparation is from a woman, 80 years of age. In this case the bougie was first introduced, and then, the same as in living persons, the injection of ink followed. The ink has entirely filled the drum of the ear.

The third preparation is from the body of a man, where no bougie was employed, but where the injected liquid has filled the drum of the ear to such an extent that its black colour is distinctly visible through the cover and the tympanum. Repeated experiments, which were made in the presence of Mr. Ernest Hart and Mr. Hinton, at Guy's Hospital, always produced the same result.

Dr. Murchison *for* Dr. Weber, *of Berlin, 6th of February*, 1866.

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12. *Sebaceous tumour and hairs in the tympanum of a boy.*

The specimen was taken from a boy, aged 12, who died in the Hospital for Children, under the care of Mr. Cooper Forster. When admitted, three weeks before death, he was evidently very ill; but there were no other symptoms besides extreme dulness, sleepiness, and absence of appetite, and this condition continued unchanged till death. There was no history of convulsions; but it was said there had been a discharge from the ears. On examination, no morbid condition was found, except that of the tympanic cavities. The right tympanum was full of a dark tenaceous purulent matter; the lining membrane was thick and red. The left tympanum, besides being full of a similar fluid, presented also two small sebaceous tumours, each of which had infringed somewhat on the walls of the meatus,—the larger, in front of the head of the malleus, to about the size of a grain of wheat, the smaller, to a somewhat less extent behind it. The larger tumour was about half the size of a pea; each was of a dull-white glistening colour; the contents were laminated cells. The membrana tympani was wanting for about a third of its extent, inferiorly. Embedded in the thickened lining membrane of the tympanum, near to the mastoid cells, were several short incompletely developed hairs.

Mr. J. Hinton, *29th of March*, 1866.

VIII.—TUMOURS.

1. *Fibro-plastic tumour removed from the buttock of a woman, growing from between the rectum and vagina.*

Lucy C., æt. 40, a married woman, the mother of two children, residing at Norwood, was brought to me by Mr. Chapman, of Lower Norwood, with a large tumour occupying the anterior portion of the right buttock, which had been growing for nearly two years, but had given very little pain. It was deeply seated, and globular in its outlines, and on palpation was indistinctly fluctuating. On passing a finger up the bowel, the tumour was found to press against its walls, and the vagina was also much encroached upon. A trocar and canula had been introduced on several occasions, but a few drops of blood alone escaped.

On October 7th, the tumour was excised, the whole mass being readily enucleated from its bed, on making a free incision through its coverings and capsule. There was much bleeding after the operation from many vessels ramifying on the walls of the rectum and vagina, all of which were ligatured. A steady convalescence has followed, and the woman is now well.

The tumour, when removed, was of an oval form, and was quite six inches in length. It was firm and elastic. On making a section of its structure, a quantity of albuminous fluid exuded from its surface. This fluid was very characteristic of a fibroid growth; microscopically, it also revealed the well-known features of the fibro-plastic tumours. In parts the structure was evidently breaking down.

Mr. Thomas Bryant, *7th of November*, 1865.

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2. *Case of hydatid of the breast.*

Mary A. H., æt. 30, a widow, was admitted into Guy's Hospital, under the care of Mr. Bryant, on the 3rd of October, 1865. She was a healthy woman, the mother of three children (the youngest being eight years old), all of whom she had suckled. She had resided at Camberwell, and had lived well, rarely eating other than fresh and well-cooked meats.

She had had a tumour in her left breast for five years, the growth having made its appearance as a small hard swelling, the size of a nut, above the nipple, and apparently deeply seated in the gland. Since

that date the swelling had gradually increased in size, its increase having been more rapid during the last twelve months. It had never caused her any pain, and had troubled her chiefly on account of its size; it had also always been movable, the tumour and breast being apparently one.

When admitted, the left breast presented a swelling, the size of a cocoa-nut, in its upper part; this appeared to be in the gland, it being quite impossible to separate the two. The swelling was smooth, and globular in its outline, and in it fluctuation was distinctly detected on manipulation. The skin over it was healthy, the nipple normal, and the axillary glands were also sound; free manipulation also failed to produce pain.

The diagnosis, in this case, was not easy; the swelling was evidently cystic, for all the symptoms indicating a cyst were well marked. The history of the case, and the almost total absence of pain, and of all such symptoms as generally indicate suppuration, went far to prove that the swelling was not due to the presence of a chronic abscess. The nature of the swelling and the apparently perfect healthiness of the uninvolved portion of the mammary gland contra-indicated the presence of ordinary cystic disease of the breast, and yet there were no positive signs of the swelling being due to the existence of an hydatid.

The origin of the swelling, as a small tense tumour, and its gradual and painless enlargement, unaccompanied by any definite symptoms of disease of the mammary gland, were indications enough to create a suspicion of its true nature; but the extreme rarity of such an affection of the breast forbade any positive opinion of its nature being formed.

On the 11th of October, 1865, Mr. Bryant, therefore, punctured the cyst with a trocar and canula, drawing off a few drops only of a thin fluid containing flocculi of a delicate membrane, such as lines an hydatid cyst. He then made a free incision into the tumour, and drew out the large parent hydatid cyst and its contents, the whole measuring seventeen fluid-ounces; the parent cyst contained several smaller ones, and, under the microscope, echinococci were clearly seen in its contents.

Since that date the cavity left has been rapidly contracting, and on the 6th of November, the woman was convalescent.

The case is interesting, from its extreme rarity, but few such having been recorded. The Museum at Guy's Hospital contains only one other similar specimen.

Mr. Thomas Bryant, *7th of November*, 1865.

3. *Case of hydatid cyst developed in the pelvis, causing retention of urine and constipation; successful removal of three quarts of hydatids. Death of the patient on the ninth day.*

On the evening of the 5th of November, 1865, I was asked to see Mr. J. L., a farmer, aged 50, by Messrs. Haslop and Death of Buckingham, for retention of urine of four days' standing, when the following history of the case was obtained:—

He was a single man of steady habits, and of a good constitution, never having suffered from any illness till 1851, when from an inability to pass his urine for many hours, he was troubled with retention. Being in London at the time he applied to a Hospital Surgeon, who who made many attempts to pass a catheter, but without success. This retention lasted for one week, futile attempts being made to draw off the urine with the catheter by many men, when the bladder suddenly resumed its functions, and several pints of water were passed naturally. He suffered no further inconvenience from this attack for seven years,—his urine passing during this period in a good stream and without trouble,—when he had a second. This second attack came on from no other known cause than a longer retention of urine than he usually allowed; it was attended with the same difficulty in catheterism as the former, and terminated in a like satisfactory manner, the bladder at the end of the week again acting and expelling its contents. He recovered rapidly from the effects of this retention, and found no subsequent difficulty in micturition, but thinking these attacks were due to stricture, he was induced to seek the advice of a London surgeon, who readily passed an instrument into his bladder and sent him home, saying he had nothing wrong. Many years passed on without his experiencing any great difficulty in the passage of his urine, although it was subsequently found out from him "that he had never passed more than two tablespoonfuls of urine at a time for a great many months, and that he often felt as if the lower part of his bowels was paralyzed." It was not till the 1st of November that he again felt it, this seizure being also apparently induced by the compulsory retention of urine during a long railway journey. It must be added that for several years he had suffered from constipation, for which powerful medicines had been required. On the 1st of November this retention had commenced, and on the noon of that day he had sought the advice of Mr. Death. Catheterism was attempted and completely failed; subsequent attempts were also made by Mr. Haslop and another practitioner up to the

evening of the 5th of November, but without success; although it was asserted that some little urine had been drawn off, this urine was quite *pale* and *clear*; strong medicines had also been given to produce some action of the bowels, with opium and warm baths. There had been but little constitutional disturbance or spasm of the bladder; the patient, indeed, thought less of his retention of urine than of his constipation.

When I saw him at 9 P.M. of the 5th of November, I found him in bed, in a tolerably quiet state. He was not suffering much pain, only inconvenience; his skin was moist and cool, tongue natural, and pulse of good power and normal frequency. He had passed only a few drops of urine for five days, and his bowels had been confined for a longer period.

On examining his abdomen, it was found to be very tense, from the presence of a cystic tumour, which evidently arose from the pelvis and reached nearly to the scrobiculus cordis; this tumour was smooth in its outline and clearly fluctuating; it was very hard; on the *right* side it projected oddly forwards, and on the *left* it passed up higher in the abdomen than on the right; altogether it had assumed an unusual shape. The external aspect of the tumour at once led me to suspect that there was something more than distended bladder giving rise to the symptoms, and the history of the case went to support this opinion, for the previous attacks of retention of urine were unlike those usually met with as a result of the ordinary urethral or vesical diseases, and suggested the presence of some unusual condition. On examining the pelvis through the rectum, it was found to be completely blocked up, a tense hard swelling filling the whole cavity, upon which it was impossible to make the slightest impression. I attempted to pass a catheter, and, as I expected, failed, the end of the instrument turning readily towards the left side; neither large nor small, silver nor elastic, instruments proved of any use, and it was consequently determined to puncture the bladder through the rectum; it was observed that a somewhat forcible passage of the instrument, in the direction of the bladder, drew off a teaspoonful of a clear fluid. The instrument required for this operation not being at hand, many hours were unfortunately lost, but at 8 A.M., on the 6th of November, they were procured.

On visiting him at this hour, a marked change for the worse had taken place; it seemed that at about three A.M., vomiting had set in with some severity, a quantity of bilious fœtid stuff having been thrown up, but this vomiting was believed to have been due to the powerful purgatives

which he had taken, croton-oil being amongst them, and it had not recurred for several hours. His face was anxious and eyes hollow; his voice was feeble and pulse low. The abdominal tumour was not much altered in shape, but the projection in the right side of the abdomen appeared to be less marked. The man was brought to the edge of the bed, and the legs flexed, as in lithotomy, Messrs. Haslop and Death kindly rendering every assistance; a puncture was then made with the trocar and canula through the rectum, in the presumed direction of the bladder, but nothing came; a second puncture was then made backwards towards the sacrum, as it was deemed probable that the tumour had pressed the bladder backwards, but with no better success; a *little clear fluid*, however, was drawn off, with *fine membrane*. A third puncture was then made forwards with a similar result; and, under these circumstances, it was at once determined to cut down upon the pelvic tumour through the perinæum. In doing so the incision was at first guided by the introduction of the catheter into the urethra, and having opened this canal, incisions were made, guided by the index-finger of the left hand, backwards towards the tense tumour, which was felt deeply seated; this was then punctured with the trocar and canula, and its contents were at once recognised as hydatid. Knowing that a free outlet would be required for the escape of such a quantity as the cyst evidently contained, I at once laid open the perinæum backwards into the rectum, thus leaving one deep wound, bounded by the urethra at its upper border, by the posterior surface of the bowel behind, and by the cyst, at its base; with a bistoury I then made a free incision into the hydatid cyst, and by means of my finger, forceps, and spoon, evacuated upwards of three quarts of hydatid cysts; some were firm and globular, many were broken, whilst others had evidently been dead for some time. The cavity occupied by the cyst was then well washed out.

My attention was next directed to the bladder, which could be distinctly felt through the abdominal walls, as a large cyst in the left iliac fossa; it was at the same time remarked that the large abdominal tumour had disappeared, and that the intestines had partially floated over its site as indicated by the resonance; from the perinæal wound, however, the bladder could not be reached. Some little time was expended in an attempt to introduce a catheter through the urethra, but without success; consequently, other means had to be employed.

With the assistance of Mr. Haslop, who placed his hands firmly upon the bladder over the abdomen, the distended viscus was pressed

somewhat downwards, and with a simultaneous firm pressure upwards, with the finger introduced through the perinæal wound, the distended bladder could be distinctly felt, having been pushed completely out of its natural situation into the left iliac fossa; the prostate gland could not be clearly made out. The bladder was then punctured with the trocar and canula, and upwards of a quart of dark-coloured urine drawn off. An elastic catheter was then passed through the canula into the bladder, to avoid the chance of the latter becoming displaced, and both were fastened in. The patient expressed himself as being at once relieved. Some warm brandy-and-water had been freely given during this tedious operation, for chloroform was refused, and before we left the patient appeared to be very comfortable.

Directions were given that the patient should be well supported by good food and stimulants, and that the hydatid cavity should be washed out twice daily with a weak solution of the hypo-sulphite of soda. The man went on very well for three or four days when his powers began to fail, and he sank on the ninth day after the operation, the constipation of the bowels still existing.

At the *post-mortem* examination, the cause of death was at once revealed, for his kidneys were large, coarse, and granular.

There was no evidence of peritonitis or of any other disease, but the colon was much distended with indurated fæcal matter. The hydatid cyst had considerably contracted, but still contained a few hydatids. It was developed, as had been suspected, between the bladder and the rectum; its walls were thick and fibrous. The bladder was found, in the left iliac fossa, completely raised out of the pelvis, and the prostate gland appeared smaller than natural.

The preparation, as shewn to the Society, demonstrated many of these points, but the cyst had still further contracted from immersion in spirit, being then no larger than a large cocoa-nut.

Remarks.—The first point which strikes the attention, on reading the history of this case, is the peculiar character of the two first attacks of retention of urine; both came on after a more prolonged urinary retention than the patient usually allowed; in both, skilled surgeons failed to afford relief by means of the catheter; and in both, the bladder resumed its functions, and the urethra its patency, without assistance. The stream of water before and after each attack was of a normal nature, and it is to be remembered that after the second attack the urethra was carefully examined and declared to be sound. Under these

circumstances it was somewhat difficult to explain the cause of the retention, although from the subsequent history of the case, it is now tolerably clear that it was produced by the presence of the hydatid cysts; but in what way could such a retention be brought about? I would suggest the following explanation as the most probable:—It is tolerably clear that the hydatid cyst had pushed the bladder well up into the left iliac fossa, elevating the whole viscus and the prostate from the pelvis, and thus stretching the urethra and misplacing it completely to the left side. It is also clear that for many years the bladder had never been, as a rule, well filled, and that for many months it had never held more than an ounce of urine. Under such circumstances it seems probable, that on the expansion of the bladder so placed against the bone in the iliac fossa, the urethra would be bent sideways at an angle towards the centre, and thus retention would be produced. The natural relief also seems to admit of a somewhat similar explanation, for let this distended bladder become still further distended, the pressure upon it from the cyst would be comparatively greater, and as a result, the bladder would be pressed still further upwards, and the urethra again made straight by stretching, the natural channel would be again re-opened and relief secured.

Respecting the last seizure, it is to be noticed that it had been induced by the same cause as had brought on the former—compulsory retention,—and that the passage of a catheter into the bladder was likewise impossible, many careful attempts having been made with both silver and elastic instruments. It was accompanied with no great constitutional disturbance, nor with much local distress, although it was tolerably clear that both the retention and constipation were produced by the same cause—mechanical obstruction.

The peculiar aspect of the abdominal tumour, its prominent projection on one side, and its unequal enlargement were points of striking interest, and appeared to indicate the presence of something more than an enlarged bladder (although a distended bladder is not always symmetrical), while the history of the case went to prove that there had been a gradual encroachment of a pelvic tumour upon the organ. This opinion was also strengthened by the statement of the patient, which was extracted from him during the treatment, "that he had never passed more than two tablespoonfuls of urine at one time for a great many months, and had often felt as though the lower part of the bowels was paralyzed."

In the treatment of the case, there is nothing worthy of special comment; it was suggested by the necessities of the occasion; the diagnosis of a pelvic and abdominal tumour having been made, it was deemed the wisest course to open it through the perinæum; the true position of the bladder was most uncertain, for although the passage of a catheter down the urethra appeared to indicate that the bladder had been pushed up into the left iliac fossa, there was no certainty in that conclusion, and even if such a fact could have been made out, it is questionable whether another form of practice would have been preferable. There was not much difficulty in finding the cyst through the perinæum, nor any in emptying it when once opened, a free outlet having been made for the escape of its contents, a point of practice which appeared to be a necessity. The difficulty in finding the bladder through the perinæal wound was very great, but when surmounted the propriety of puncturing it could not have been doubted. The immediate relief to the patient was very marked.

It was unfortunate that the patient had diseased kidneys, for his death was, doubtless, attributable to this cause; still no other result could have been expected from the presence of an obstructive disease, which had existed for so many years.

Mr. Thomas Bryant, *7th of November*, and *19th of December*, 1865.

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4. *Case of adenoid tumour of the breast, in a woman, aged* 71.

Catherine K., æt. 71, a healthy-looking woman, the mother of three children, was admitted into Guy's Hospital, under the care of Mr. Bryant, on August 7th, 1865. She had always enjoyed good health, and had been able to suckle her three children. About last Christmas, some months before her admission, she accidentally discovered a lump, the size of an egg, in the outer side of her right breast; it was painless, and grew very slowly for three months, when it suddenly began to increase rapidly in size, and to cause pain. She applied to Mr. Bryant for relief, and remained under his care till she was admitted. On her admission, the right breast presented a large tumour, the size of a cocoa-nut, closely connected with, if not in, the breast. It was irregular in its outline, and evidently in part made up of cysts, for, in its projecting portions, distinct fluctuation was clearly felt. There was, however, much solid matter. The tumour was quite movable, and the skin

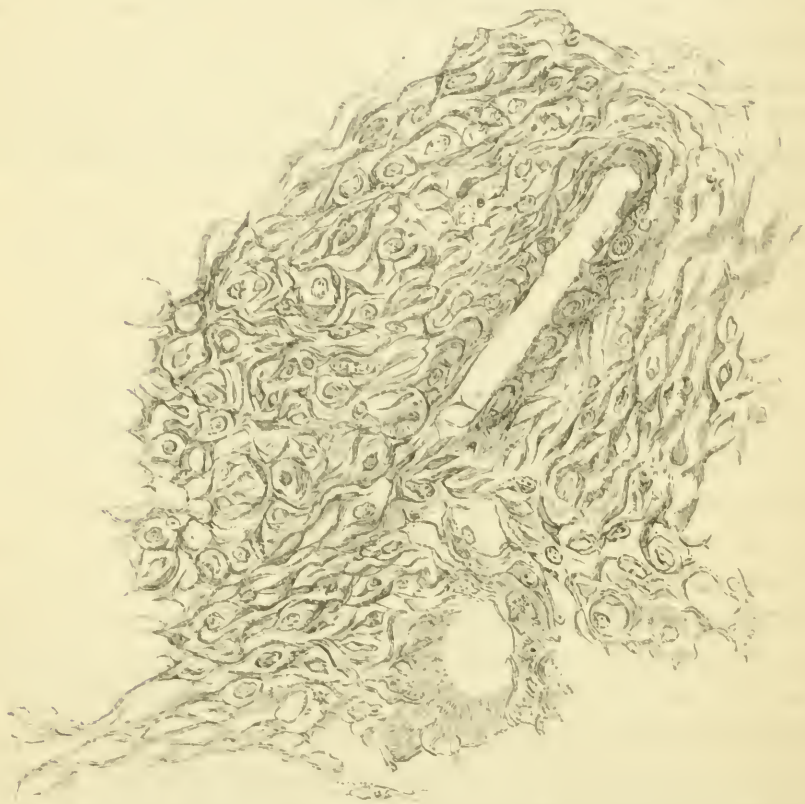
over it was only stretched; the axillary glands were also healthy; the nipple was natural.

Nothing but excision promising to be of any use, the operation was performed on August 30th, and a rapid recovery took place; the old woman leaving the Hospital in one month perfectly well.

On examining the tumour it was found to be made up of a firm solid material, which contained several large cysts. These cysts contained a blood-stained, glairy fluid; and in parts the solid growth seemed to threaten to degenerate and break up.

The tumour measured seven inches by six; it was very firm in its consistence, and to the eye appeared of a fibro-plastic nature; it was tough, and with difficulty broken down; in parts, however, it had more the aspect of the looser kind of adenoid tumours.

Woodcut 26.



Thin section of the tumour magnified. Shews fibrous tissue, well-formed cell-structures, and sections of tubes.

By the microscope the opinion formed by the naked-eye examination was confirmed (Fig. 26); for the structure generally was an admirable specimen of the more fibrous kind of adenoid structures; tubes

were here and there visible, and, as the drawing by Dr. Moxon indicates, well-developed cell-structures. As an example of adenoid tumour in an old woman, the preparation must be regarded with great interest. Mr. Bryant, *7th of November*, 1865.

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5. *Cartilaginous growth removed from the deep flexor tendon of the ring-finger. Measurements of muscular contractility.*

Jane L., aged 13, had a small cartilaginous tumour developed in one of the flexor tendons of the ring-finger. Surgeons, especially French surgeons, and markedly Malgaigne, have deprecated any operation which should open the large sheath of the flexor tendons. However, the little growth in question rendered the girl's hand useless; she was in very good health, and some former cases had convinced me of the feasibility of safely opening the sheath, under certain circumstances and with certain precautions; I therefore determined to remove the growth. Making a small incision over the tumour, I exposed the superficial tendon, and, finding it quite healthy, turned it aside, and deepened the cut down to the tumour. The finger of my left hand, outside the wound, steadied the little growth sufficiently for me to thrust a small tenaculum through it and bring it to the surface. I found it quite embedded among the fibres of the tendon, and dissected it away by separating those fibres, but of course, without dividing them. The wound was accurately and quickly brought together with wire, and covered with collodion.

On the fourth day the wound was healed, except a very small opening, whence synovia oozed on the eighth day; this also closed. For a fortnight afterwards, the skin at the wound was puckered when the fingers were straightened, but rubbing upwards and downwards removed this. The piece of cartilage was the shape of, and about as large as, a horse-bean.

The case was more especially interesting to me, as affording a measure of muscular contractility. Thus when the fingers were straight, and the wrist fully extended, the tumour lay under the annular ligament of the wrist, the distance between it and the inner condyle measured eight inches and a-half. When the fingers and wrist were bent to their full, the tumour moved up the arm and became placed at the distance of six inches and a-half from the inner condyle. Thus, supposing the tumour to have been fixed to a superficial tendon, the

muscular structure must have contracted very nearly a quarter of its length. As, however, the tumour was afterwards found affixed to a deep tendon, whose muscular origin is lower in the arm, it follows that the contraction was in a higher ratio to the length; in fact, by proximate measurement, it must have amounted to about one-third of the length of the muscular fibres. Mr. Barwell, 21*st of November*, 1865.

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6. *Specimen of a firm bi-lobed fatty tumour, weighing ten ounces, removed from a little girl, æt.* 5.

The tumour had existed since birth, as far as the mother was aware. It projected posteriorly into the buttock, and in front it was felt on the inner side of the thigh, between the adductor longus and the femoral vessels; it was firmly attached to the ramus of the ischium at one spot. It was removed from behind, where it lay beneath the ham-string muscles, and was found to extend through the adductor magnus—to the front and inner aspect of the thigh; the part which passed through the muscle is marked by a deep constriction, and its two lobes, lay—the one in front, and the other behind that muscle. The only muscle which required division in the operation was the semi-membranosus, which was spread so thinly over the tumour as to render its complete preservation impossible. Mr. Thomas Smith, 5*th of December*, 1865.

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7. *Cutaneous tumour.*

This slightly pedunculated fleshy tumour projected about an inch and a-half posteriorly from the upper part of the thigh of a woman, aged about 40, and was removed at the Westminster Hospital. The surface generally presented the aspect of skin, except at one point where there was a small dark-coloured projection, about the size of a large pea, in which lancinating pain was frequently experienced. The tumour had been growing about twelve months, and a few weeks before her admission the patient had irritated the surface at that point by pricking it with a large pin, and subsequently pressing it against the edge of a hard seat, in the hope of squeezing out some supposed fluid contents. Under the microscope, the general substance presented only the appearance of ordinary connective-tissue; but at the dark spot, large nucleated cells were much more abundant. This fact, coupled with the

pain experienced, probably points to the supposition that some kind of malignant change had commenced.

Mr. Brooke, 19*th of December*, 1865.

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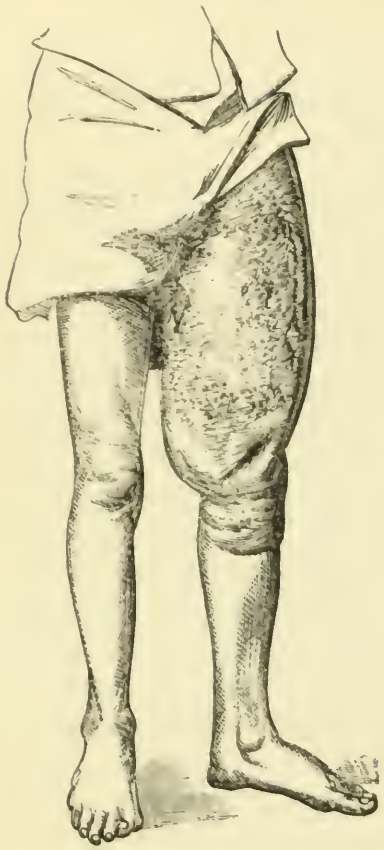
8. *Large fibro-areolar* (?) *tumour, with hypertrophied, varicose lymphatics, in the thigh.*

A. P., aged 17, from Flimwell, in Sussex; father and mother alive, both over 50. Three brothers and one sister living; twelve children have died; causes of death not known. This patient, one of the youngest, is tall, flabby and pallid, has light hair and blue eyes—the "strumous aspect." He declares himself to have been quite well up to the onset of his present ailment, which dates from six years ago; his mode of life up to that time was that of the poorer class, his diet consisting of bread, butter, and cheese, meat about twice a-week, and a fair share of beer. The first unusual circumstance was referred to the lower part of the belly. Here a large abscess formed, which laid him up three months in bed, and was attended with much constitutional disturbance, the local symptoms not being very marked as regards pain. The abscess extended right across the bottom of the belly, from one superior spinous process of the ilium to the other; it has left traces of scars, one in the median line, two inches long, and about two inches above the level of the pubes, and two minor ones on the left side about the same level. The abscess discharged abundantly, leaving the boy extremely weak. Two or three days after the abscess got well, the left thigh began to swell from the knee to the groin. This enlargement has been steadily increasing ever since; it has not been attended with any particular pain, and only, on about three occasions, for two or three days together, has it laid him up, and then owing to pretty severe pain in the region of the groin. For nearly a year it has, to use his own words, "run, and the bunches come then." The sensibility has been, and is now, almost equal to that of the healthy limb. He works on a farm, hop-digging, cattle-tending, &c., and the enlargement does not at all interfere with his getting about, nor does it otherwise inconvenience him from its weight.

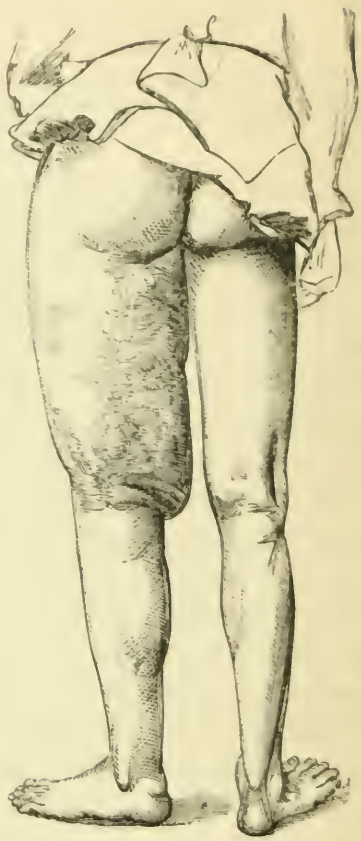
The left limb is considerably enlarged in its whole circumference, (Woodcuts 27 and 28), being much arched in front; from behind, the thigh appears square; it does not taper off towards the knee, on the inner side, like the healthy thigh; but the tissues, just above the internal condyle of the femur, are so very much hypertrophied, as to widen out this part of the

limb greatly. The swelling is well defined by Poupart's ligament above.

Woodcut 27.



Woodcut 28.



Measurements of healthy limb.

1. Circumference over the most fleshy part of rectus, 18 inches.
2. Just above patella, 12 inches.
3. From Poupart's ligament to upper border of patella, 14⅓ inches.
4. Below the knee, 11 inches.
5. Ankle, 7¾ inches.

Measurements of diseased limb.

1. Circumference over the most fleshy part of rectus, 25 inches.
2. Just above patella, 18 inches.
3. From Poupart's ligament to upper border of patella, 18 inches.
4. Below the knee, 14 inches.
5. Ankle, 8½ inches.

He is quite certain that the swelling of the leg, below the knee, is recent, and states that the limb has measured twenty-eight inches in its circumference.

There is a notable difference in colour, and some redness, in part due to straining, in part to actual congestion, and a much larger amount of hair on this, as compared with the healthy limb. The inner and front

aspects of the thigh are dotted over closely with what appears to be a pustular eruption in the stage of crusting. Over a space which would be covered by the palm of the hand, are the little bunches before spoken of. They are groups or clusters of white points, about the size of a millet-seed, containing opaque fluid.

On closer examination, smaller ones may be traced scattered all over the thigh, suggesting to the mind varicose lymphatics filled with lymph; on puncturing them, a milky fluid exudes, which coagulates, and, under the microscope, exhibits all the characters of true lymph. Delicate raised tortuous lines can also be detected, which are produced by some distended vessel running in a serpentine direction, and which are apparently due to hypertrophied lymphatics. It is evident that the pustular eruption results from inflammation of the distended lymphatics, at the prominent points, for the pus is mixed with lymph.

The limb feels elastic and firm, and the irregularities are more apparent than real; still there is rather more hardness in some places than others. The surface is cool. The swelling is very freely movable over the femur, and if any one part be handled, the whole moves. This also is apparent when the muscles are made to contract. There is no tenderness or enlargement of the glands in the groin, and not a *vestige or trace of varicose veins* or of œdema of the limb. The tortuous lymphatics occasionally burst naturally and discharge freely. The boy states that he has collected pints of it. The limb has considerably decreased in size, since the lymphatics came to the surface and have disgorged their contents from time to time.

Mr. T. Carr Jackson, 20*th of February*, 1866.

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9. *Cystic tumour of the face.*

This case was a cystic tumour, taken after death from the face of a lady who had consulted Mr. Smith eighteen months previously. At that time the tumour pulsated considerably, and it was diagnosed to be vascular: it was injected with tincture of perchloride of iron, with the effect of partially arresting the pulsation; but the tumour did not disappear. On examination after death, it was found to extend from the under-surface of the malar bone to the base of the lower jaw, part of the body of which had been destroyed by the growth. The walls of the cyst were

very thick, and in the cavity was found a large quantity of grumous material, but there was no evidence of malignancy about it.

Mr. Henry Smith, *3rd of April*, 1866.

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10. *Cast of compound ganglion of the wrist, with cartilaginous bodies extracted.*

The cast was from the arm of a patient, under Mr. Heath's care, in the Westminster Hospital, and shewed a large swelling above the wrist, with a smaller one in the palm of the hand, due to the passage of the fluid beneath the annular ligament. It had existed for some years. It was treated by the introduction of a seton beneath the annular ligament, and the incisions necessary for this gave exit to a large quantity of serous fluid and a number of bodies, larger than melon-seeds and of cartilaginous appearance; these were found to consist of a low form of cartilage and each to contain a small cavity in the centre. The patient made a good recovery.

Mr. Christopher Heath, *1st of May*, 1866.

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11. *Recurrent tumour after amputation at the hip-joint.*

Mr. Holmes exhibited some specimens removed from the body of the woman, whose case was related on the 7th of November, when the tumour in the thigh was exhibited, which had been removed by amputation at the hip (see p. 217). The patient had remained in good health for some time (about two months) after the operation; she had then begun to complain of pain, at first localised at the nape of the neck, then in various parts of the body, and of anomalous symptoms, for which no distinct cause could be detected. From this she recovered so far, that in the month of February an artificial limb was contrived for her, with which it was hoped she would be able to walk, and on which she was really able to stand and make a step or two. But very soon afterwards her health began rapidly to fail. She had a very bad cough, with hectic fever and night-sweats; and soon afterwards the growth of a large tumour, in the region of, or just below, the liver, became apparent. All this time the stump was quite healthy, except that on one occasion an abscess had formed in it, which, however, healed completely in a few days. The abscess was accompanied by a slight enlargement

of one of the inguinal glands, which rapidly subsided. The cicatrix of the amputation remained quite sound and linear.

After the growth of the tumour became manifest, her death was only a question of time. She suffered severely at one time from vomiting, and was jaundiced for a few days; but the cough was the most persistent and most painful symptom. A short time before her death the pain at the nape of the neck recurred, and a tumour made its appearance between the scapulæ. This was soon followed by almost total paralysis of the left arm—only some of the muscles of the upper arm retaining any power of motion. Her death was very gradual, and took place on the 2nd of May, nearly eight months after the amputation.

On *post-mortem* examination, the stump, and all the tissues covering the innominate bone, were found quite healthy. Inside the pelvis, corresponding to the inner wall of the acetabulum, was a large round tumour, about the size of an orange. Another tumour, somewhat smaller, was adhering to the left side of the fourth and fifth lumbar vertebræ, deeply infiltrating the intervertebral disc. There was a very large tumour adhering to the under surface of the liver and penetrating some distance into its substance. In the lungs were numerous deposits, some in the substance, and others on the pleural edge of the viscera. One of the ribs (third on right side) was so infiltrated by the disease that it had given way before examination, near its head.

On examination of these tumours, they all had much the appearance of that originally removed, being of a uniform creamy colour and hard consistence, free from any juice, and much resembling fat in external appearance, though somewhat firmer. On the outside of the bone, where they had been subjected to the pressure of the thoracic parietes, the tumours were harder, almost cartilaginous in consistence; but their essential characters were the same.

The tumour in the pelvis, however, was of a different external character, being much softer, mottled with blood on section, and full of a creamy juice which adhered to the knife.

The opinion of a Committee of the Society was requested, as to whether this was a pure example of the recurrent fibroid or fibro-plastic tumours, or whether the disease was really malignant. The recurrence of fibro-plastic tumours in the viscera and interior of the body, while the parts concerned in the operation remain perfectly sound is, if not unknown, at any rate, extremely rare.

Mr. Holmes, *15th of May*, 1866.

Report on the above specimen.—The tumours in the lungs, though differing somewhat from one another, presented, in general, the following characters:—They were distinctly circumscribed, of soft consistence, yellowish-white, and semi-transparent; the section of the larger ones was somewhat reticulated. They bore a close resemblance to the elastic decolorized masses of fibrine, often found in the heart. Some were more opaque, and of firmer consistence than others.

The tumour in the liver, which was of very large size, and occupied the greater portion of the right lobe and part of the left, presented much the same characters, but was less transparent, and of a more yellow colour; its section was also somewhat reticulated. None of these tumours exuded any milky juice from their cut surfaces.

The pelvic tumour, which was about the size of a small orange, consisted of a soft, pulpy, broken-down mass, which lay in the right iliac fossa, on the brim of the pelvis. Sections of the various tumours were submitted to microscopical examination. The tumours in the lungs were found to consist almost entirely of elongated fusiform cells, tapering off at each end into fibres, with very distinct round and oval nuclei. These fibre-cells formed broad tracts, which, at

Woodcut 29.

Shews structure of tumour from lung.

different levels, crossed each other. There were also many roundish

and rectangular nucleated cells, which had no fibrous processes; these were found among the fibre-cells, and were not collected into areolar spaces. There were also several compound granular bodies formed of aggregations of oil-globules. (Woodcut 29). The tumour in the liver presented very similar characters, but the round nucleated cells were more abundant.

The tumour in the pelvis differed somewhat from the others. It presented cells of a variety of forms (Woodcut 30). 1st. Oval and round cells, some with double nuclei. 2nd. Rounded cells with one or more processes. 3rd. Elongated fusiform fibre-cells, like those in the other

Woodcut 30.

Shews structure of tumour from pelvis.

tumours. 4th. Large numbers of aggregations of oil-globules, and much scattered broken-down material. Where the pulpy mass was of sufficiently firm consistence to allow of sections being obtained, the general disposition resembled that of the other tumours, the cells and fibres being arranged in broad tracts.

It would thus appear that the tumours in the lungs and liver presented well-marked fibro-plastic characters, and may undoubtedly be so classed. The tumour in the pelvis shewed some indications of a transition-form between medullary cancer and fibro-plastic sarcoma. But, taking into consideration the relation of the cells to the inter-cellular sub-

stance, it must also be classed with the latter form of tumour, as it shewed no trace of the alveolar structure, with alveoli filled with cells, which forms one of the characteristics of true carcinoma.

Mr. W. Adams,
Dr. Dickinson,
Dr. Cayley,
Mr. Holmes, *May*, 1866.

IX. DISEASES, ETC., OF THE DUCTLESS GLANDS.

A. SPLEEN.

1. *Enlarged spleen excised during life.*

This was a specimen of simple hypertrophy of the spleen. It is now in the Museum of the Royal College of Surgeons. It weighed on removal six pounds five ounces avoirdupois; but nine ounces of blood drained out of it, leaving the weight five pounds twelve ounces. It measured eleven inches in length, eight in breadth, and between three and four in thickness.

As this is the only enlarged spleen which has been removed in Great Britain, during the life of the patient, the following particulars are appended:—The patient, as Mr. Wells stated, was evidently dying from a large spleen, and, so far as he could discern, had no other disease. She was a married woman, 34 years of age, who had been married at the age of 19. She had three children, the youngest of whom was born eleven years ago. She had never miscarried. The catamenia had been regular, but very scanty for the last five years. Leucorrhœa was constant. She had always been very weak after her confinements, but had never had any serious disease. Her father and mother were both insane, and she had lost a brother and two sisters from phthisis. She had been as well as usual till the latter part of 1864, when she began to feel ill and weak, and continued to do so; but it was not till April, 1865, that any swelling in the abdomen was noticed. This was first observed beneath the left false ribs, and grew downwards and to the right. At his first visit on October 12th, 1865, Mr. Wells found the spleen extending as high as the seventh rib, and so low in the pelvis that it could be felt by the vagina in front of the uterus. The notch was distinctly perceptible a little above the umbilicus. On the right

side below the umbilicus it extended within three inches of the anterior superior spine of the ilium. On the left side the posterior border was felt quite free and well defined in the loin. It was impossible to ascertain by palpation or percussion where the enlarged spleen and left lobe of the liver met, nor could any enlargement of the liver be detected. Some dilated superficial veins ran over the tumour and the left side of the thorax to the left axilla. There was no œdema of the legs, nor any sign of dropsical effusion or glandular enlargement. The complexion was rather pallid, but the lips, gums, and conjunctivæ were of a good colour, indeed, rather florid. She had been confined to her bed for nearly a month, owing to the pain in the abdomen and general uneasiness; but the appetite was tolerably good. There was a tendency to constipation. Mr. Wells explained the nature of the disease to the husband, and said that nothing but an operation, which had never been done in England, and only twice abroad unsuccessfully, offered a hope of saving life; and he prescribed bromide of potassium and quinine once a-day. He saw her again in a fortnight. She had been unable to take the quinine, as it caused headache, but she had taken the bromide. The tumour had increased a little; otherwise, there was no change. Iron was ordered, and Mr. Wells saw her again a fortnight later, on November 11th. The catamenia had appeared twice within the month. Her nights had been more disturbed by pain; she had a little cough, but air entered both lungs freely; the heart was pushed a little upwards, and to the right. The urine was acid, deposited urates, and was free from albumen. The spleen was rapidly increasing in size. Dr. Jenner saw the patient with Mr. Wells on the 14th of November; he detected a soft anæmic cardiac murmur, and a small tumour just above the umbilicus, to the right of the notch in the spleen, which was supposed either to be a spleniculus or a part of the pancreas. The blood was carefully examined, and a slight excess of white corpuscles was observed, but not greater than is often seen in pale persons.

Dr. Jenner expressed his opinion that the patient could not live long if left to Medical treatment only, but that excision of the spleen did give the "*shadow of a chance*" of saving life. The patient and her husband considered the matter, and Mr. Wells performed the operation, by their desire, on the 20th of November, 1865. Mr. Clover administered chloroform, and Drs. Bowen, Ritchie, and Wright assisted. An incision was made along the outer border of the left rectus abdominis, which extended five inches above and two inches below the umbilicus. Two arteries were tied before the peritoneum was opened. In opening the

peritoneum rather a large artery was cut across in a piece of omentum, which was loosely adherent between the surface of the spleen and the abdominal wall: the vessel was tied. The adhering portion of omentum was separated, and by putting in one hand and turning the lower edge of the spleen first through the opening, the whole of it was easily removed. The intestines were prevented from escaping by Dr. Wright, who kept the edges of the opening carefully together behind the spleen, which was held only by the vessels and the gastro-splenic omentum. Mr. Wells was beginning to twist the spleen round to bring the vessels into a sort of cord preparatory to applying a ligature, when the splenic vein, which was as large as a small finger, gave way, and blood ran freely from the spleen; but none was allowed to enter the abdomen, and he at once enclosed the vessels in a large clamp, and cut away the spleen. Before tying the vessels temporarily secured by the clamp, he passed eight silk sutures to keep the edges of the incision well together. The peritoneum was thus protected and the viscera retained while he was dealing with the vessels. These were tied in two bundles above the clamp, which was then loosened, and two arteries and a vein were also separately tied before it was finally removed. On taking it off, he found that a part of one end of the pancreas, as large as the end of a thumb, had been bruised by it. All the ligatures, except those on vessels in the abdominal wall, were cut off close and returned with the included tissues. The sutures were then tied, and the abdomen was well supported by plaster, pads of lint, and a bandage.

Mr. Clover reported that the patient was thirty-five minutes under the influence of chloroform, that she had borne it with less evidence of shock than he had often observed during ovariotomy, and that her pulse throughout was between 80 and 90.

Mr. Spencer Wells, 21*st of November*, 1865.

Addendum.—As the patient died on the seventh day, and after the spleen had been exhibited, Mr. Wells has supplied the following notes of the progress of the patient after operation, for which he is indebted to Dr. Bowen and to the late Dr. C. R. Ritchie, who watched her alternately or together with the most anxious care, night and day:—

"During the first twelve hours the pulse varied from 84 to 88, and was very weak, in spite of the administration of brandy by the mouth, and brandy and beef-tea by the rectum. Pain was by no means a prominent symptom. The stomach was very irritable, but the kidneys secreted abundantly. At least sixteen ounces of brandy were given

during the first twelve hours. The surface of the body was kept warm. Thirst was complained of, and relieved by sucking ice.

"Twelve hours after the operation the pulse rose to 100, and the right radial pulse was observed to have a smaller volume than the left. The patient became restless. Stimulants were required as much as before. There was some bilious vomiting, and nothing could be retained in the stomach. During the whole of the first day after the operation, the pulse remained at 100, the skin continued warm and moist, the urine was abundant, and free from albumen. Early in the day the patient was fed by the rectum, but towards evening she retained in the stomach some milk and soda-water. She slept from time to time. About ten o'clock there was a slight fæcal motion. There was no tympanites, and flatus passed readily both by mouth and rectum.

"In the morning of the second day (22nd of November), the rectum had become very irritable; small doses of brandy-and-water were given by the mouth. She sucked ice greedily. About seven o'clock there was violent spasm of the diaphragm, causing her to cry out with pain. This was relieved by hot brandy-and-water. The pulse gradually rose to 112; the skin was hot and dry, and there was a troublesome wheezing in the chest with spitting up of mucus. In the afternoon abdominal pain was complained of, which was relieved by ten drops of laudanum given by the mouth.

"The patient slept quietly from nine P.M. of the 22nd to 3.30 A.M. of the 23rd (the third day after operation), only waking up at intervals to take food and brandy. At 3.30, A.M., there was a violent rigor, commencing suddenly with a feeling of cold in the back. The rigor lasted only a few minutes, but reaction did not take place for half an hour, and was followed by profuse perspiration. During the day the patient was able to take milk and soda-water; but at four o'clock in the afternoon a second rigor, in every respect similar to the former one, took place. The rest of the evening the pulse remained at 120 to 130, and the urine continued to be secreted in large quantity, notwithstanding the violent perspiration.

"On the morning of the fourth day six grains of quinine were given before the expected attack. There was no rigor, and the patient slept well. In the morning the pulse was only 96. During the day, egg beaten up and mixed with milk was given, and relished. In the afternoon Mr. Wells removed the stitches, and found the wound was perfectly united. Some more quinine was ordered and given, but as it produced buzzing in the head it was discontinued.

"During the fifth day the patient was remarkably well. She was able to enjoy the milk and rusk. The pulse continued about 108, rising at night to 120. Some fluid fæces were passed. The patient also continued wonderfully well during the sixth day. Urine in abundance was secreted, and the bowels acted naturally in the morning. Milk was given freely. In the afternoon the bowels began to be irritable, and port wine, with ten drops of laudanum, was injected into the rectum. A good deal of flatus passed. At night she was very cheerful and comfortable, and there was some colour in the cheeks. About ten at night she ate some beaten eggs, milk, and rusks, with appetite, and slept; but about one on the morning of the seventh day she awoke, complained of cold and of a pain in the back, which she had felt at each of the previous rigors. The bowels acted very freely. The pulse was very feeble and rose to 150, and the respirations to 44. The patient said she was sure she was going to die; she rapidly became weaker and weaker, although brandy was given freely both by mouth and rectum, and she died in about four hours after the sudden change,—158 hours after the operation."

The body was examined, twelve hours after death, by Dr. Bowen, assisted by Dr. Ritchie and Mr. Wells. Decomposition had advanced with unusual rapidity. Fluid blood and air bubbled from the superficial veins as they were opened. The wound was perfectly united, but the cutaneous edges were separated without difficulty; the peritoneal edges adhered much more firmly. Two ligatures on superficial vessels came away with a very slight pull. A few drops of pus were observed in the track of one of the ligatures. There were no signs of general peritonitis, scarcely any serum, and not a trace of blood, being found in the abdomen. Redness and effusion of lymph were entirely limited to the seat of operation. The ligatures on the blood-vessels were found with difficulty, being overlapped by the pancreas, which was large. The liver was also large. The kidneys were healthy. Both pleural cavities and the cavity of the pericardium contained a large quantity of dark-red serum. The lungs were healthy, except that there were old pleural adhesions at each apex. The heart was large and flabby, and contained soft clots which extended along the pulmonary artery to the second divisions. This was the only clot found in the body, the blood elsewhere being thin and fluid, and air bubbling out wherever a vein was opened.

Mr. Spencer Wells, 21*st of November*, 1865.

2. *Rupture of the spleen from external violence.*

Rupture of the spleen and hæmorrhage from this organ, as results of external violence, are of common occurrence. The following case, however, is peculiarly interesting, as well in a pathological as in a medico-legal point of view, from the fact that symptoms of serious internal injury did not manifest themselves until the fourth day after the accident, when the patient sank somewhat rapidly; from the appearances presented by the ruptured organ after death; and, lastly, from the pathological explanation of these circumstances afforded by the autopsy, which tended to the conclusion that, although the substance of the spleen had doubtless undergone laceration at the time of the accident, it was probably not until a much later period in the progress of the case that its capsule gave way, and thus permitted the blood to make its escape into the abdominal cavity.

A dustman, æt. 63, while walking in the street, missed his footing and, falling upon his back, was severely crushed between a cart-wheel and the kerb-stone. He was forthwith taken to King's College Hospital where he was admitted under the care of Professor Partridge. Although no wound or external injury could be detected in any part of the body, with the exception of a bruise on the left knee, it was at once discovered that the patient had sustained fracture of several of the lower ribs on each side. He was immediately put to bed, the chest was supported by means of a suitable bandage, and, except in respect of the number of ribs broken and the patient's age, the case was not deemed by any means hopeless.

The day after admission vomiting came on, and the patient rejected his food and medicines during this and the following day. The vomiting then ceased, and the patient seemed altogether better; he kept down his food, sat up in bed, spoke cheerfully, and his case was regarded hopefully. But on the night of the third day his breathing became quicker, and an attack of bronchitis was feared. He remained, however, tolerably well through the fourth day until ten o'clock at night, when he rapidly got worse; his breathing now became very hurried, and he gradually sank and expired on the morning of the fifth day, having retained his consciousness to within a quarter of an hour of his decease. He did not become at all blanched, nor did he exhibit such symptoms as to lead those around him to suspect that he was dying from loss of blood; but a few hours before his death he expressed his own conviction that he had sustained some internal injury in the left hypochondriac region.

Upon examining the body after death, the following were the appearances observed :—The body was emaciated and somewhat blanched, and large patches of bruise-discoloration existed over the right side of the abdomen and the left side of the chest. The cartilages of the ribs were ossified; and, on the right side, the fourth, fifth, sixth, seventh and eighth ribs were fractured (but not displaced) anteriorly, near the junction of the ribs with their cartilages. On the same side, behind, the ribs, from the seventh to the twelfth inclusive, were also broken. On the left side, both ribs and cartilages in front were intact; but posteriorly on this side, the sixth, seventh, eighth, ninth, and tenth ribs were fractured, though, on this side likewise, without any displacement. The pleural membrane, pulmonary and costal, on both sides, was uninjured, and entirely free from all traces of recent or former inflammation. The lungs were congested, but freely crepitant throughout; the heart and its valves were healthy; the aorta was slightly atheromatous immediately above the semi-lunar valves.

On opening the abdomen, about a quart of blood-coloured fluid escaped, and a large quantity of clotted blood—to the amount of at least three pounds—was found in the left hypochondriac region, chiefly around and enveloping the spleen. This organ, indeed, was almost embedded in thick coagula, and there was also a thin layer of clotted blood lying along the under surface of the liver, between this viscus and the stomach. The coagula were strictly limited to the region above-mentioned, but the blood-stained serum occupied the more dependant parts of the abdominal cavity, being in a great measure situate within the pelvis. The spleen was found torn longitudinally on its outer aspect by a considerable rent, the laceration extending somewhat deeply into the proper tissue of the organ; its capsule was extensively separated in parts from the splenic substance, the interspace being filled by bulky coagula. In more than one place the blood appeared to have forced its way between the capsular and peritoneal investments of the organ, so as to split these up, as it were, into two distinct layers. Not the slightest indication of peritonitis could be detected, nor did the stomach, intestines, or any other abdominal viscus, present any traces of injury. The liver was pale, its surface smooth, and its structure somewhat fatty. The kidneys were rather small (the two weighing together nine ounces and a-half), pale, and anæmic; the cortical substance was slightly shrunken, but under the microscope no abnormal appearance in any of the renal tissues could be discovered.

In connection with this case it may be remarked, that there can be

little doubt that the spleen suffered internal injury or laceration at the time of the accident, and that, although blood continued to be effused into it during the three subsequent days, it was probably not until the evening of the fourth day, when from extreme distension of the organ, or from some movement of the patient, such as that consequent on a fit of coughing, that its capsule gave way. This view is supported by the clinical history of the case, and it is also materially confirmed by the after-death appearances, and especially by the circumstance that the coagula were strictly localized in the region of the injured organ, and that they had not gravitated downwards into the lower part of the abdominal cavity, as would in all probability have happened if the capsule had broken down at an earlier period.

Dr. Conway Evans, 20*th of February*, 1866.

B. SUPRA-RENAL CAPSULES.

3. *Diseased supra-renal bodies and bronzing of the skin.*

Catherine S., æt. 15, a domestic servant, was admitted into the London Hospital, under the care of Dr. Parker, on November 15th, 1865. Her mother states that she was always rather delicate, but she does not recollect any special attacks of illness. The catamenia appeared at fourteen; they have been rather scanty, but never interrupted. Four weeks ago she felt very weak, used to vomit, and had to leave her "place" after a week. Since then the vomiting has continued, and she has repeatedly fainted. She is a well-made girl, fairly nourished, but very anæmic; she is extremely deaf, but of this deafness there is no history. The conjunctivæ are pearly-white; she has a brownish discoloration on the forehead, and a similar patch on the right cheek; there are very dark spots on the mucous membrane of the cheeks inside, just within the commissures of the lips. The axilla, the flexures of the elbows and wrists, the groins, the insides of the thighs and of the legs and the knees, are particularly swarthy. There are very dark areolæ, about an inch in radius, round each nipple, but there is no turgescence of the nipples, nor venous engorgement of the breasts, nor follicular enlargement. Where her petticoats hung upon her hips, and where her garters girt the legs, there are bronzed patches. No change was effected in their colour by baths or washing with soap and water. Her pulse is small, feeble, and irregular, about 100 per minute. There is great tendency to syncope, and she has fainted several times on being

got out of bed. She passes a good deal of water, of specific gravity about 1010; no albumen can be detected in it. There is a bruit with the first sound of the heart, heard at both apex and base, upwards in the course of the aorta, and doubtfully at the angle of the scapula.

November 23rd.—Vomiting, from which she had been nearly free since admission, set in with great urgency, and she had pain in the right hypochondrium. A blister was ordered and effervescing mixture, etc. These appeared to relieve her. It may be noted that the blistered surface became very dark.

November 27th.—She seemed a good deal better, but on the 3rd of December vomiting recurred, with sudden collapse, (cold surface, pale and pulseless, but intellect clear). From this state she never rallied, but died exhausted, after continued bilious vomiting, on the 6th of December, at 11 P.M.

The *post-mortem* examination was made sixteen hours after, and the following appearances were noted. Rigor mortis persistent. Bronzing, etc., as before, except that spots were seen also on the nymphæ and inside the labia majora. Brain rather bloodless; heart small; mitral valves a little thickened; a clot, pale, tough, and channelled in right heart, branching into the pulmonary arteries and their ramifications. Lungs congested at bases; a few small patches of tubercle and cretaceous matter in their apices, mostly sub-pleural; some portions collapsed, and others emphysematous. Stomach had capillary extravasations, and the follicles were unusually prominent, as were those of the tongue, pharynx, etc. There was nearly an inch of fat in the abdominal walls. Liver weighed two pounds, four and a-half ounces; it was rather pale on section. Spleen four ounces, apparently healthy. No enlargement of mesenteric glands. The kidneys weighed three ounces and a-half (right), and two ounces and three-quarters (left), respectively; one was slightly granular at the apex. Each of the supra-renal capsules weighed four drachms and one scruple and were of large size (two inches by one inch and five-eighths.) They were unusually hard, presented hardly any distinction between cortex and medullary portion, and appeared in great part infiltrated, or made up of a material of yellowish colour and cutting like hard cheese, with here and there a little gritty matter. Thin sections examined with the microscope appeared to resemble most what is called "waxy tubercle." When fresh, or moistened with water, they were translucent, and, when broken up, they appeared to be made up of granular matter and irregular bodies, about the size of ordinary tubercle-corpuscles, without nuclei,

and of many granules which were dissolved by acetic acid, and which, on the addition of sulphuric acid, furnished copious crystals of the characteristic appearance of sulphate of lime.

In all I examined, I found no trace of normal structure.

It should be mentioned that the blood exhibited a very large proportion of white corpuscles.

I am indebted to Dr. W. B. Woodman for the above notes, and have only to add that microscopic examination shewed that there was marked pigmentary deposit in the true skin.

On careful examination, I came to the conclusion that there was no disease in the liver or kidneys.

Mr. L. Stromeyer Little, 16*th of January*, 1866.

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4. *Cancer of both supra-renal capsules.*

The specimens were kindly sent to me for examination by Dr. Dickinson, with permission to exhibit them to the Society. They were taken from the body of a man, aged 56, who was admitted into St. George's Hospital, on the 27th of September, 1865, and died on the 27th of January, 1866.

He suffered from pain down the course of the right sciatic nerve, and from other symptoms which were attributed to malignant disease of the vertebræ. Subsequently, partial paraplegia came on, and some hard nodules, supposed to be cancerous, appeared on the surface of the chest. The skin was everywhere of natural colour, and there were no symptoms indicative of supra-renal disease.

At the *post-mortem* examination a large mass of malignant matter was found lying around, and replacing, the lumbar vertebræ, and also surrounding, and partly replacing, the pancreas. Similar formations were found in the substance of the heart, in the cellular tissue of the chest, under the pleuræ, in the liver, in both psoas muscles, and in the cellular tissue surrounding the pelves of the kidneys.

The supra-renal capsules were both similarly infiltrated. The two weighed seven drachms; they were nearly of normal shape, but almost entirely composed of firm encephaloid matter. Scarcely any of the proper structure remained, but in one or two situations a little brownish matter indicated its former presence.

Dr. Greenhow, 20*th of March*, 1866.

5. *Addison's disease of the supra-renal capsules.*

M. D., aged 55, labourer, was admitted into the Middlesex Hospital, under the care of Dr. H. Thompson, on the 6th of February, 1866.

He had had syphilis early in life, followed by buboes in either groin. Twice also he had had severe falls. He was strong and hearty until about three months previous to his admission into the Hospital, but could not fix any precise date for the commencement of his illness. He first of all became weak and unable to work, was breathless on exertion, had nausea and pain in the epigastrium, and frequently vomited after taking food. The debility progressed rapidly, so that by Christmas he was obliged even to give up taking a short walk in front of his house.

On admission, his skin was of a dusky-brown hue, which was most obvious on the face, but more or less pervaded the whole body. The penis and scrotum were almost black, as were likewise the cicatrices of some burns received in early life upon the left arm and the inner aspect of the right elbow. This discoloration, however, was limited to the less deeply injured parts, and inside the left elbow in the midst of the dark surface was a well-defined, glistening, perfectly white cicatrix, where the burn had destroyed the deeper layers of the skin. There were several cicatrices on the back, of which the more superficial were discoloured, while the deeper ones remained of normal hue. The cicatrices of the buboes in both groins were stained dark brown. On the upper surface of the tongue, near its edges, were several bluish-black stains, with well-defined margins, neither harder nor more raised than the surrounding parts. The lips and buccal mucous membrane also presented distinct brown stains. The pulse was 60, very small and compressible, and varied little while he was under observation. The heart-sounds were faint, but free from murmur. The percussion resonance was slightly deficient over the upper and anterior part of the chest, especially below the right clavicle; the respiration was feeble, and accompanied by slight rhonchus and sibilus, and a few moist sounds; but there was nothing to indicate active pulmonary disease.

Whilst in the Hospital the patient suffered much from retching and vomiting, and complained of pain in the loins and epigastrium, frequently accompanied by tenderness on pressure over the latter region. He often had cramps in the muscles of the abdomen and legs, especially when he retched, and he found it easier to lie with the knees drawn up, the cramps becoming more troublesome when his legs were stretched out. A few days after his admission the matters vomited

became of a greenish colour and bitter taste. On the 14th of February, a faint systolic murmur was heard at the apex of the heart, and the pulse fell to 52 and became extraordinarily weak, but a day or two later, it rose again to 60. On the 19th, he was so weak, that he fell down when he attempted to get out of bed, and on that day the matter vomited consisted of mucus streaked with blood. He now slept badly, and by the 22nd, had quite lost his appetite, the retching continued, and there was a distinct cadaverous odour about his person. On this day there was marked dulness on percussion over the upper part of the chest posteriorly; rhonchus and sibilus were heard all over the posterior part of the thorax, with fine crepitation below the left clavicle. He had raised some thick dark green sputa, several of them tinged with blood, and he complained of sharp pain in the region of the diaphragm on the right side. From this time he gradually sank and died on the 2nd of March, death being preceded by retention of urine, great restlessness, wandering of mind, and groaning as if from pain.

Post-mortem examination.—The lungs on both sides were firmly attached to the ribs by old fibrous adhesions; they were very dark coloured, and in the upper lobes of both, were several deposits of yellow cheesy matter, around which the pulmonary tissue was consolidated and intersected by fibrous bands. There were no recent tubercles, and elsewhere the lungs were crepitant. There had been recent pericarditis; the pericardium contained an ounce of turbid fluid, and patches of granular lymph were scattered over the heart. The right cavities of the heart were filled with firm, yellow, semi-transparent clots of fibrine, adherent to the musculi pectinati and chordæ tendineæ, and extending into the pulmonary artery as far as the second division. The left ventricle also contained a clot, which passed for a short distance into the aorta. The great omentum turned up over the liver, and was firmly attached to the under surface of the diaphragm; there were also fibrous adhesions between the gall-bladder and small intestine. The under surface of the diaphragm was thickly studded with greyish-yellow, semi-transparent, tubercular granules, and scattered over the mesentery and on the peritoneum in front of the spine were likewise several little patches of similar granules, each surrounded by a deposit of black pigment. There were no traces of recent peritonitis. The mucous membrane of the stomach was somewhat congested. The surfaces of the kidneys were slightly granular.

The right supra-renal capsule was much enlarged and weighed one ounce and a-half; its fibrous envelope was considerably thickened, firmly

adherent to the capsule, and attached by fibrous bands to the diaphragm. It was nodulated, and on section no distinction appeared between cortex and medulla. The greater part of the organ was converted into an opaque substance of the consistence of soft cheese, in some parts of a pale yellow, in others of an orange colour. Near the anterior end, and extending inwards from the hilus, was an irregularly shaped semi-transparent, grey-coloured patch, which sent off prolongations partially separating the yellow cheesy substance into circular masses. This semi-transparent portion was itself studded with opaque yellow nodules. At one point in the yellow substance was a small cavity filled with puriform fluid. The left supra-renal capsule weighed about half-an-ounce; its envelope was much thickened, but did not adhere to the surrounding parts; its surface was much nodulated. On section, there appeared no distinction between cortex and medulla, the organ consisting of irregular roundish opaque masses of a yellow colour, separated by semi-transparent, grey, fibrous tissue. These masses were of a crumbling consistence, and in many places broken down into puriform fluid and granular detritus. Portions here and there were less opaque, and of an orange colour similar to that found in parts of the right supra-renal capsule.

Microscopical examination.—Thin sections of various portions of the right capsule were submitted to careful microscopical examination by Dr. Cayley, who has kindly furnished me with the following report:—

The grey semi-transparent substance presented tracts of connective tissue, with numerous fibre-cells and nuclei, interspersed with masses composed almost entirely of nuclei, and of irregular roundish cells, generally about the size of a white blood-corpuscle, and distinctly nucleated. These were mixed up with little irregular roundish or oval corpuscles and much granular matter, and presented the ordinary characters of tubercle. Here and there these portions were tinged with yellow colouring matter. Portions from the yellow substance presented, in parts, the tubular spaces of the cortex filled with cells containing much yellow pigment and oil; these, in many cases, formed islands, surrounded by tracts of connective-tissue. In other parts were tracts of opaque, oily, and granular matter, which sometimes shewed indications of filling the tubular spaces, and sometimes appeared disseminated without any structural arrangement. The fluid from the cavity consisted almost entirely of oil and granular debris, and did not appear to be true pus. The characters of the left capsule were very similar, but the tubular structure was much more obscured.

Microscopical examination of slices from the discoloured patches on the tongue, shewed deposits of pigment in the form of irregular brown masses deposited in the papillæ, the superficial layers of epithelium covering them being quite free from colouring-matter. (See Plate XV., Fig. 2.) Dr. GREENHOW, 20*th of March*, 1866.

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6. *Addison's disease of the supra-renal capsules.*

C. S., aged 32, coal-porter, was admitted into the Middlesex Hospital, under the care of Dr. Stewart, on the 13th of Feburary, 1866.

He stated that his health had been good until it began to fail, about eight or nine months previous to his presenting himself at the Hospital for admission. Upon inquiry, however, it was subsequently elicited that somewhat more than three years before he had sprained his back severely in pushing a loaded coal-truck, and had experienced at the same time a sensation of something giving way. He had ever since suffered more or less constantly from pain in the region of the lower dorsal vertebræ, for the relief of which he had tried various remedies including blisters. Eight or nine months before his admission he had begun to suffer from debility, sweating, headache, loss of appetite, and sickness, with breathlessness on exertion, followed by severe pain in the right lumbar region. Four or five months later, his wife had observed a change of colour, which she thought appeared first upon the face and hands, and which gradually deepened, and spread over the whole body. He had been compelled to give up work for about two months.

On admission, his skin was of a general olive-brown hue, especially on the face and neck. On the face were several almost black specks; there was a stain on the right side of the tongue, and the lips and buccal mucous membrane were mottled with brown. The upper part of the chest and the legs were lighter in colour than the rest of the body; the abdomen was darker than any part except the sites of blisters, which had been applied over the right flank and lumbar vertebræ some months previously. The nipples and areolæ, and the penis and scrotum were very dark; the hands, and especially the knuckles, were much darker than the arms. The hair and beard were said to have become visibly darker during his illness. The white pearly hue of the conjunctivæ contrasted strongly with the dusky colour of the skin. The pulse was exceedingly feeble; he was breathless on the smallest

exertion; had frequent retching and vomiting after food, and complained much of pain in the epigastrium. He was exceedingly weak, and had such a sense of stiffness and weakness in the back that when he sat down he felt almost unable to rise again; in fact, he said that his back felt broken. There was tenderness on pressure, and well-marked pain on percussion, over the lower dorsal and upper lumbar vertebræ, and he complained of a sense of tightness round the abdomen, from the flanks to the groins, and of pain and difficulty in stretching out the legs, when he had been lying for some time on his back with his knees raised. The percussion resonance was somewhat deficient over the front of the thorax, especially below the right clavicle, and the respiration, which was everywhere a little harsh, was distinctly tubular in the apex of the right lung, but no moist sounds nor other evidences of active pulmonary disease were at any time discoverable.

From the time of his admission he very slowly, but steadily, declined. The retching and vomiting continued with brief intermissions. He suffered from vertigo when raised up in bed, became somewhat deaf and dim-sighted, and some days before death fell into a drowsy semi-comatose state, though still perfectly able to answer questions when roused. He sank, and died on the 28th of March.

Post-mortem examination.—Body moderately nourished, colour much as during life. Both lungs were firmly attached by old adhesions to the ribs, and at the base of the right side of the thorax a cyst the size of a walnut, filled with putty-like matter, was found in the adhesions, which contained also in several places calcareous deposits. In the apex of each lung was a dense solid mass, consisting chiefly of fibrous tissue, apparently the cicatrix of a former cavity. Embedded in these masses of consolidated lung were several opaque yellow nodules, partly cheesy and partly calcareous. The lungs were elsewhere crepitant, but dark-coloured and emphysematous around their free borders. The pericardium contained about an ounce of yellow serum, and presented other traces of slight recent pericarditis. The heart was small and flabby, but its muscular tissue was normal. The right auricle and ventricle were filled by a large partially decolorized fibrinous clot. The left cavities contained a little fluid blood.

The right supra-renal capsule was much enlarged, and embedded in thick fibrous tissue which was firmly adherent to the vena cava and diaphragm. The exterior was nodulated, and on section all distinction between cortex and medulla was lost. The surface of the section presented an intermixture of a greyish, semi-transparent, somewhat fibrous

tissue, and of opaque yellow roundish masses of cheesy consistence, some of which shewed little calcareous patches. The left capsule was much smaller than the right, but was like it embedded in thick fibrous tissue and adherent to the diaphragm, and, indeed, closely resembled its fellow in all respects, except that it contained a larger proportion of crumbling calcareous matter.

The other abdominal organs were healthy, excepting that the kidneys were much congested and that the mucous membrane of the duodenum was studded with minute patches of injection.

Extending in front of the vertebræ, from the seventh dorsal to the third lumbar, was an abscess confined by fibrous investments, containing about two ounces of somewhat curdy pus. The bodies of the vertebræ covered by the abscess were bare and somewhat rough. The intervertebral substance between the last dorsal and first lumbar vertebræ, was separated on the left side from the upper surface of the latter vertebra for two-thirds of its depth, but the separation did not extend to the spinal cord. The upper surface of this vertebra was bare and rough, but the bone within seemed to be quite healthy. The spinal canal and cord were normal.

Dr. Cayley compared the nerves of the diseased capsules with those of healthy capsules from two other bodies, and found the nerves passing to the diseased organs from the semi-lunar ganglion, and especially a branch of the great splanchnic which joined the posterior surface of the capsules and was very conspicuous, at least twice the size of the corresponding nerves of the healthy organs. On microscopial examination of these enlarged nerves, however, after they had been for some time in spirit, the only difference discoverable was an increase in the fibrous investment of the nerve-bundles.

Under the microscope, the greyish semi-transparent substance of the diseased capsules presented a fibrous basis, which was more or less obscured by dark granular matter, with irregular shrunken cells and nuclei. In places there were distinct deposits of masses of small granular cells and nuclei resembling tubercle. The opaque yellow portions consisted in parts of granular and oily débris, and in parts presented the tubular spaces of the cortex filled with dark oily and granular matter.

Sections of skin from the right flank, where a blister had been applied, were also examined by Dr. Cayley under the microscope. The deepest layers of the epidermis were found to be of a rich dark-brown colour from the deposit of pigment in the form of little granular

masses in the epidermic cells. The upper layers became gradually less coloured, until quite at the surface the colour was altogether absent. In some places similar pigment-granules were found in the true cutis, immediately below the epidermis. (See Plate XV., Fig. 1.)

Dr. Greenhow, 17*th of April*, 1866.

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7. *Report on diseases of the supra-renal capsules.*

The three cases above described afford good illustrations of the difference in the effects produced on the constitutional health by different kinds of disease of the supra-renal capsules. In the first case, both the constitutional symptoms and external signs of Addison's disease being absent, no disease of the supra-renal capsules was diagnosed during life, and yet these organs were found after death to have been destroyed by cancer. In the two latter cases Addison's disease was at once diagnosed when the patients came under treatment, by the peculiar train of constitutional symptoms with discoloration of skin, and the correctness of the diagnosis was verified after death by examination of the supra-renal capsules. There are now a great many instances on record in which the same circumstances have occurred as in these two latter cases; but yet it appears, from occasional discussions and publications, that there are members of the profession even in England, and apparently a much larger number abroad, who still entertain doubts on the subject, and who regard the occurrence of symptoms leading to the diagnosis during life of a certain morbid condition and the discovery of that identical morbid condition after death as mere coincidences, rather than as evidences of any definite relation between the symptoms and the disease. In support of this scepticism two classes of cases have been adduced, viz., first, cases in which there had been discoloration, termed "bronzing of skin" during life, and in which, nevertheless, the capsules were found healthy after death; and secondly, cases in which discoloration of skin did not exist during life, and yet the capsules were found diseased after death.

In order to remove the doubts mainly fostered by misapprehension of these two classes of cases, it seemed necessary to investigate the sources of error in both of them, and to determine why, when in so many instances disease of the supra-renal capsules had been correctly diagnosed during life, in others it had been diagnosed and had not been found after death, and in others, again, it had remained unsuspected until revealed by *post-mortem* examination. With the view of endeav-

DESCRIPTION OF PLATE XV.

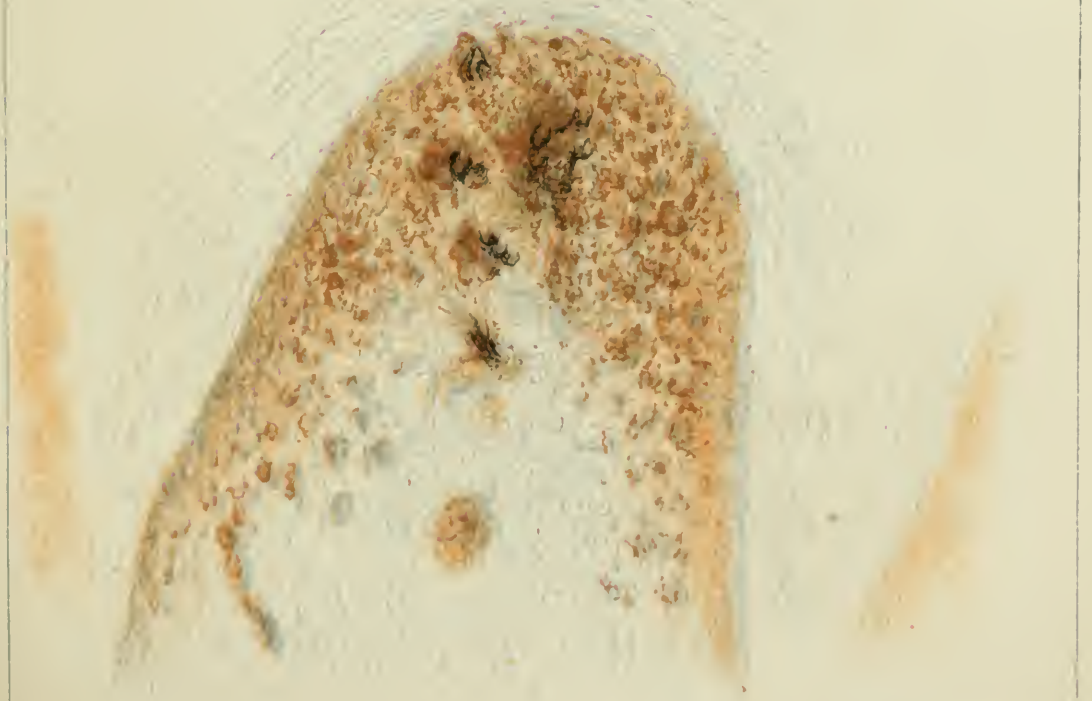
The plate illustrates Dr. Greenhow's descriptions of Dr. H. Thompson's and Dr. Stewart's cases of Addison's Disease (p. 307).

Fig. 1 shews the distribution of brown colouring-matter in the deeper layers of the epidermis, and here and there in the true cutis, as seen under the microscope, in a section taken from the right flank, where a blister had been applied (p. 310).

Fig. 2 shews the distribution of pigment in a papilla of the tongue, as seen in a vertical section under the microscope (p. 307).

Fig. 1.

Fig. 2.



ouring to answer these questions, I resolved, after a debate on the subject which took place at a meeting of the Pathological Society about two years ago, to collect and examine all the cases I could find of any kind of disease of the supra-renal capsules which had been verified by *post-mortem* examination, and also all the cases of so-called bronzed skin without any disease of the supra-renal capsules. Collections of cases of disease of the supra-renal capsules had indeed been made, shortly after the publication of Dr. Addison's work, by Mr. Hutchinson in the *Medical Times and Gazette*, by Dr. Copland in his *Medical Dictionary*, and by a Committee of this Society; but these, of necessity, contained only a very small proportion of the cases now on record. Dr. Wilks had also published, in the eighth volume of the present series of *Guy's Hospital Reports*, a most interesting and important paper on Addison's disease of the supra-renal capsules, containing a digest of twenty-five true cases in all of which he had himself examined the capsules; but this paper, although of the highest scientific value, did not fulfil the purpose which I had in view. After I had collected and arranged all the cases in the British and Irish medical publications, Dr. Louis Martineau, a French physician, published a monograph containing a collection of eighty-five cases of all the various descriptions I have mentioned, some drawn from foreign and some from English sources, but many of them not verified by *post-mortem* examination. A few months later Dr. Hayden published a paper on the same subject in the *Dublin Quarterly Journal of Medical Science*, giving a case of his own and a digest of thirty-four already published cases. Finally, my attention was drawn to an important new work by M. Virchow on tumours, containing a dissertation on diseases of the supra-renal capsules, which referred to collections of cases made by him and published in Canstatt's *Jahresbericht* during the years 1856-60, inclusive.

On consideration of all these publications, however, I remained of opinion that a much wider survey of facts than was comprised in any of them, and one made, moreover, from quite a fresh point of view, was required in order to throw more light upon the true character of Addison's disease, and upon the different characters of the diseases, which have been confounded with it. If this could be accomplished, there seemed a reasonable prospect of finally setting at rest the doubts regarding the reality of Addison's discovery, which have been mainly kept alive by the confusion between genuine and spurious cases. I, therefore, persevered in my intention, and added to my Tables all the foreign cases, with autopsies, quoted by Dr. Martineau and M. Virchow;

but, in order to avoid the inaccuracies and omissions inseparable from second and third-hand reports, I have taken them all direct from the original sources, except a very few published in journals to which I could not obtain access. In many instances the same case has appeared in different publications, with different names attached to it, and sometimes with slight discrepancies of age and other circumstances; but, by a scrutiny which involved great labour, I believe that I have succeeded in excluding all duplicate reports, and at the same time have avoided the appearance of omissions by supplementing the names of the reporters to societies or journals with those of the medical men, who had charge of the cases, and who had sometimes published them independently elsewhere. Whenever cases have been brought under the notice of the Pathological Society, I have quoted from the report in the *Transactions* rather than from any which may have been made in other publications.

I have now collected, so far as I can discover them, all the cases of disease of the supra-renal capsules of whatever kind, and all those of bronzed skin without any supra-renal disease, which have been brought forward from the time of the publication of Addison's discovery up to the end of 1865, making in all one hundred and ninety-six cases, which I have abstracted on a uniform plan and arranged in a tabular form. The first column in the tables shews the number of the case for convenience of reference, together with the name of the reporter, of the publication from which the report is taken, and also that of the medical attendant on the case when not himself the reporter. Then follow in order, in the subsequent columns, the sex, age, and occupation of the patient, the previous history and duration of the illness, the symptoms, the colour of skin, and lastly, the results of the *post-mortem* examination, both as to the state of the supra-renal capsules and the condition of other organs.

On carefully analyzing the whole number of cases collected, I found that they naturally fell into two groups; viz., first, those cases which presented a certain train of constitutional symptoms almost always attended by discoloration of skin, and, secondly, those cases in which these constitutional symptoms were absent. It becomes necessary, therefore, in the first place, to describe the said constitutional symptoms, and also the discoloration of skin whose peculiar features may be regarded as the external signs of Addison's disease of the supra-renal capsules. These symptoms and signs are so characteristic that, when both have been well developed, they have repeatedly enabled the physician to diagnose the disease accurately long before death; indeed,

in some cases, in which the discoloration of skin has been but very slightly marked, the constitutional symptoms alone have sufficed for the diagnosis, and would have done so, I believe, in many more cases, had greater attention been generally paid to them and less exclusive stress been laid upon the more obvious and striking, but also more variable, external signs.

Constitutional symptoms.—These are gradually progressive asthenia, great languor and indisposition for exertion, shallow, easily-hurried breathing and irritability of stomach, which latter is a marked feature of the disease, sometimes causing only nausea, at others frequent retching and vomiting, it may be after everything that is taken, or only after particular meals. In some cases spontaneous and uncontrollable vomitings occur, which either alternate with periods of remission, or end only with life. There is, also, frequently pain in the epigastrium, loins, or hypochondria, vertigo and dimness of sight, with flagging of the heart's action on assuming an erect position. In the later stages of the illness there is often much sighing and yawning, generally faintness in attempting to move, and almost invariably feebleness of the heart's action and thready compressible pulse. Towards the close of life the patient most frequently lies in a dreamy, apparently semi-comatose state, from which, however, he can be roused by questions, and to these he often gives pertinent though slow and reluctant answers; in some cases, however, there is a tendency to incoherence or delirium, and in others perfect consciousness to the last. Death takes place from asthenia, for the most part very slowly, though the end is sometimes rather sudden.

I need scarcely say that none of these symptoms can be considered as indicative of disease of the supra-renal capsules, if there be any other apparent disease to account for them, such, for instance, as organic disease of the stomach to account for the vomiting, which is otherwise one of the most characteristic and constant symptoms of Addison's disease. But I should perhaps not omit to observe that it is only in the more chronic cases of the true disease that we find the peculiar train of constitutional symptoms, as I have described them, fully developed, and that, even in many cases of this description, only the most striking and best-known of the symptoms of this remarkable disease appear to have been noticed or reported.

External signs.—These are produced by abnormal deposits of colouring-matter in the skin and in some of the mucous membranes, causing a discoloration varying in hue and intensity according to its situation and to the stage and circumstances of each particular case, but still

preserving, in almost all cases, a sufficiently striking similarity of features to have formed the main ground upon which Addison's disease has been hitherto diagnosed. The discoloration is generally of a dusky-brown or smoky hue, though sometimes rather of an olive or greenish-brown colour, and imparts to the patient the appearance of belonging to one of the darker races of mankind, but, as far as I may judge from the observation of a very considerable number of cases, it is by no means accurately described by the term bronzed skin. The discoloration begins, as a rule, on the face, neck, hands and fore-arms, and the shade is usually deeper on these parts than on the general surface of the body. The axillæ and groins are also usually darker than the surrounding parts, the nipples and areolæ as dark as in advanced pregnancy, and the penis and scrotum frequently almost black. I should, *prima facie*, reject as spurious any discoloration in which these characteristic features were all decidedly wanting; but I believe they have been omitted in the descriptions of many of the genuine cases, by observers unaware of their significance. Small, well-defined specks or patches, resembling black freckles, may also frequently be seen upon the face, neck, arms, or trunk, but they would seem, from my experience, only to make their appearance upon the already discoloured skin. If the patient have suffered superficial abrasion of the skin from blistering, or any other cause, or have borne pressure from any tight ligature, the injured or compressed surfaces are always darker than the surrounding parts, but the cicatrices of deeper injuries remain pale, though bounded sometimes by a discoloured ring. Except in the case of these discolorations after injuries or local irritation, the margins of which naturally correspond with those of the affected parts, there is rarely or never any definite line of demarcation between the darker and paler parts of the skin, and even when, as not unfrequently occurs, certain parts of the body are deeply discoloured while others are nearly or quite of normal hue, the discoloured fade imperceptibly into the normal surfaces. In many cases the discoloration extends to the lips and buccal mucous membrane, and sometimes also to the gums and tongue; it appears in the form of irregular blackish streaks on the lips, in dark brown patches on the buccal mucous membrane, and in mottled stains of a brownish-purple or bluish-black hue on the gums and tongue. On the other hand, the conjunctivæ always remain uncoloured, and their pearly whiteness, contrasting strongly with the dusky hue of the skin, forms one of the most striking features in the aspect of this peculiar discoloration.

Analysis of cases.—In a very large number of the cases I have collected, the chief of the above-detailed constitutional symptoms are reported as having existed together with more or less of the characteristic discoloration, and in a very small number as having been present without any of the external signs. In many other cases they have evidently existed, although less fully reported. In all these cases, and, with a few explainable exceptions, in no others, the capsules are reported to have undergone a morbid change entirely analogous to that described in the two cases of Addison's disease preceding this Report. This further fact renders the whole number of cases finally divisible into two large classes, the one comprehending all those cases, 128 in number, in which there had clearly taken place in the capsules the change characteristic of Addison's disease; the other including all the remaining cases of disease of the capsules of whatever description, also those of bronzed-skin without any disease of the capsules and, lastly, a number of cases in which the state of the capsules is so imperfectly described, or the description is of so doubtful a character, that it was impossible fairly to class them with the genuine cases. These miscellaneous groups amount, in the aggregate, to 68 cases, and I shall first briefly deal with them before proceeding to the consideration of the true cases of Addison's disease. They are comprised in the four tables A. B. C. and D.

Bronzed-skin without disease of capsules.—Table A. comprises *ten* cases in which there was bronzing of skin during life, but in which the supra-renal capsules were found to be healthy after death. *One* only of these (No. 5) presented any resemblance to the train of constitutional symptoms characteristic of Addison's disease. It is remarkable in this case that the *post-mortem* appearances in other organs afford no sufficient explanation of the cause of death, and, moreover, the defective description leaves the real character of the discoloration of skin doubtful, so that no legitimate deduction can be drawn from the case as it stands. Of the other *nine* cases it may suffice to say, what a reference to the Table will shew, that not one presented the constitutional symptoms without which the discoloration is of small value in diagnosis, and that the discoloration itself appears in no case to have presented the really characteristic features, whilst in several of the cases it was of a totally different character, and in some appears to have arisen from deposits of bile in the skin or from syphilitic eruptions. In one case the discoloration obviously arose from uncleanliness and vermin, and strikingly resembled that seen in

a living case exhibited by myself to the Pathological Society and recorded in its *Transactions* (Vol. xv., p. 226). The discoloration in this latter case was so deep and extensive that it might readily have been mistaken at first sight for that of Addison's disease; but, from the absence of almost all the constitutional symptoms, and of all the characteristic features of the discoloration, I was able at once to pronounce with certainty as to the case not being a true example of that disease, and, in fact, after a few months, the patient recovered almost entirely from her illness and her skin became much paler. The above being all the cases I have been able to find of bronzed-skin without disease of the supra-renal capsules, in which the discoloration was sufficiently analogous to that characteristic of Addison's disease to have been quoted with reference to it, I think I am justified in concluding that such cases are extremely rare, and that, when they do occur, a careful investigation of their history and symptoms and a close examination of the discoloration itself would enable any physician, conversant with Addison's disease, at once to discriminate them from genuine cases.

Cancerous disease of the supra-renal capsules.—Table B. includes *twenty-four* cases reported as cancer of the supra-renal capsules; but, of these, the *two* last (Nos. 33 and 34), reported by Drs. Mettenheimer of Frankfort and Duclos of Tours were manifestly, from the descriptions, cases of Addison's disease and not of cancer. In neither of these cases does there appear to have been any microscopical examination to determine the character of the morbid product, and Dr. Mettenheimer, at least, was so little clear on this point as to state that there were "either tuberculous or cancerous indurations in the left lung." He merely reports that the places of the supra-renal capsules were occupied by cancerous deposit; but, in the fuller description of Dr. Duclos, the condition of the supra-renal capsules exactly coincides with that characteristic of Addison's disease and by no means with that usual in cancer of those organs. They are said to have been hard and nodulated, to have grated in places against the scalpel, and to have presented precisely the appearance of lardaceous tissue. Moreover, in order to accept as correct the report of cancer in these cases, we must admit that primary cancer had commenced simultaneously, and proceeded, *pari passû*, in the two symmetrical organs, which is certainly a most unusual, if not an absolutely unknown, occurrence in the history of cancer. Finally, these are the only *two* out of the *twenty-four* reported cases of cancer which were accompanied either by the train of constitutional symptoms or by

the peculiar discoloration of skin characteristic of Addison's disease, an incredible circumstance, if cancer of the supra-renal capsules could really produce the same effects as Addison's disease of those organs. Of the *twenty-two* other cases of cancer not one presented anything resembling the train of constitutional symptoms of Addison's disease; seven only, including the four reported by Dr. Addison himself, are said to have been more or less discoloured, and, even in these, such discoloration as there was, appears to have been quite uncharacteristic. The history of many of these cases is most imperfectly given, and they have, apparently, been published with no other view than that of shewing, that in cases of cancer of the supra-renal capsules there either was, or was not, discoloration of skin supposed to be analogous to that characteristic of Addison's disease. The accumulated evidence of these *twenty-two* cases proves, in my opinion, conclusively, that cancerous disease of the supra-renal capsules does not produce either the aggregate of symptoms or the peculiar discoloration of skin incident to Addison's disease of those organs. That Dr. Addison himself should have been mistaken on this point, and should at first have believed that any morbid change in the structure of the supra-renal capsules would suffice to produce the symptoms and appearances he had observed in connection with one particular change, can be no matter of surprise, if we reflect that when he published his work, he had seen but five true cases of the disease which bears his name, and had had no opportunity of watching the cancerous cases during life, so as to ascertain, what much additional evidence renders patent to us, that some degree of very different discoloration of skin was all that they had in common with cases of the genuine disease.

Miscellaneous diseases of the supra-renal capsules.—In Table C. are placed all the cases of reported disease of the supra-renal capsules, which are clearly neither cancer nor yet true Addison's disease. These are but *ten* in number, and on reference to the Table it will be seen that only two (Nos. 35 and 39) presented any discoloration of skin, and that the very reverse of characteristic, whilst in a single case only (No. 38) did the symptoms at all resemble those of Addison's disease, accompanied however by extreme pallor instead of by discoloration. I am, however, strongly of opinion that in this latter case the capsules were really healthy—the appearances described in them strongly resembling those produced by *post-mortem* change—and that the real cause of death was not discovered at the autopsy. I think it may fairly be inferred from the small number of cases I have been able to find

referable to this Table and from the facts connected with them, that diseases of the supra-renal capsules which are neither cancerous nor yet true Addison's disease are of very rare occurrence, and that none of the few recorded, which appear to be chiefly apoplexy, amyloid disease, or fatty degeneration, are found to be attended either by the constitutional symptoms or external signs of Addison's disease.

Imperfectly described, or doubtful cases.—It was to be expected that among so large a number of cases, reported by observers of such various degrees of experience and with such different opportunities for observation, there would be some so imperfectly described, and others of so doubtful a character, as to render it impossible to determine their true places in such a classification as I have attempted. All such cases, *twenty-four* in number, I have thrown together in Table D. In several of these the characteristic nature either of the symptoms or of the discoloration of skin convinces me that they were really cases of Addison's disease of the capsules, and that the description alone was at fault; but I was, nevertheless, compelled to set them aside as unsatisfactory subjects for discussion and unsafe grounds on which to base any conclusions.

These four Tables comprise, as I have said, the sixty-eight cases which, upon a careful analysis of the whole number collected, I was obliged to exclude from the category of genuine and reliable cases of Addison's disease.

Addison's disease of the supra-renal capsules.—I now proceed to the consideration of the 128 cases in which there appears no doubt, from the description of the condition of the supra-renal capsules, that they had undergone the peculiar morbid change characteristic of Addison's disease, and in almost all of which the characteristic constitutional symptoms and external signs were also more or less fully developed. In a very considerable number of these cases the disease in the supra-renal capsules is said to be have been entirely, or almost entirely, uncomplicated, and in a few cases undoubtedly of genuine character, the other organs had not been examined. In a large majority of the remaining cases the disease in the capsules was found to be complicated only with tubercle in the lungs or other organs, in a considerable number with vertebral or lumbar disease frequently associated also with tubercle, and in a small residue of cases with non-tubercular diseases of a serious nature. These circumstances have afforded data for corresponding subdivisions of the genuine cases, each of which I have formed into a separate Table.

Uncomplicated cases.—Table E. comprises *twenty-four* cases in which the only disease found on *post-mortem* examination was that of the supra-renal capsules, the other organs being reported all healthy. In *twenty* of these cases the constitutional symptoms and discoloration of skin characteristic of Addison's disease coexisted in a well-marked form; in *one* case (No. 72) the constitutional symptoms were well-marked, but there was no discoloration, and in *three* cases (Nos. 70, 86, 91,) there were some of the constitutional symptoms and more or less discoloration of akin, but neither apparently fully developed.

Almost uncomplicated cases.—Table F. contains *seventeen* cases in which the lesions found in other organs were of a very trifling nature. In four the mucous membrane of the stomach was congested or otherwise altered, in seven the glands of the small intestines were enlarged and prominent, and in six the mesenteric glands were enlarged, or contained cheesy deposits. In *eleven* of these cases the constitutional symptoms and the characteristic discoloration of skin coexisted, in *three* cases (Nos. 96, 98, 101,) the constitutional symptoms existed together with more or less discoloration of skin, and in *one* case (No. 102), with no discoloration at all. In *two* cases (Nos. 104, 109,) the distinctive constitutional symptoms appear to have been absent, but there was in both a certain degree of characteristic discoloration of skin.

Cases without evidence of complication.—In Table G. are placed *five* undoubtedly genuine cases which must be classed as uncomplicated, the state of other organs not having been examined. *Four* of these presented both the train of constitutional symptoms and the characteristic discoloration of skin, and although in one case (No. 113), which came under observation only on the day of death, no symptoms are reported, the characteristic discoloration is recorded in general terms.

Subtracting the forty-six virtually uncomplicated cases in these three Tables from the hundred and twenty-eight cases of Addison's disease, there remain eighty-two cases complicated with some other organic disease.

Cases complicated with vertebral disease or lumbar abscess.—In Table H. are shewn *fifteen* cases complicated with disease of the vertebræ or lumbar abscess, which, in nine out of the fifteen, was associated with tubercle in the lungs or other organs; in three of the remaining six cases the state of other organs is not reported. *Eleven* of these cases presented both the constitutional symptoms and the discoloration of skin characteristic of Addison's disease; in *one* case (No. 128) the constitu-

tional symptoms existed without discoloration; and in *three* cases (Nos. 125, 126, 127) no symptoms but those of the complicating diseases are reported, in one instance, associated with discoloration of skin, and in the two others with no discoloration at all. In two of the uncoloured cases there were open lumbar abscesses, which doubtless hastened the termination of the illness; in the third case no details are given of the vertebral disease, except that it was known during life, and therefore was probably severe.

It is almost certain that vertebral disease existed in many more than these fifteen cases in which it was diagnosed during life, or discovered after death. In twenty-two other cases there was severe pain in the vertebræ or loins, associated, in several instances, with tenderness over the vertebræ, or with such symptoms of spinal disease as incontinence of urine, sense of tightness round the abdomen, and numbness, loss of power, or spasmodic twitchings in the lower limbs.

Cases complicated with tubercle.—Tables K., L., and M. comprise, in all, fifty-seven cases complicated with tubercular disease only, and classed according to its various degrees of development and severity, from a little quiescent tubercle in the apices of the lungs, to the most general and advanced tuberculosis.

Table K. contains *twenty-five* cases in which the disease of the supra-renal capsules was complicated only with tubercle in the lungs, except in two cases, in one of which there was slight disease of the mitral valve and in the other disease of the bones of the left foot. In none of these cases was the tubercle in the lungs sufficient to account for death; in two cases only were there cavities in the lungs, but without symptoms of phthisis during life and, in at least twenty cases the tubercular complication was too slight to have produced any effect on the course of the illness. Many of the cases in this Table might, in fact, have been classed with the virtually uncomplicated cases, had it not been my object to shew clearly the nature of the complication most frequently associated with Addison's disease. In *fifteen* of the twenty-five cases, the constitutional symptoms and the discoloration of skin were both characteristic. In *three* cases (Nos. 138, 139, 146) the constitutional symptoms were accompanied by more or less discoloration and in *two* cases (Nos. 137, 148) they seem to have existed without any discoloration at all. One of these last, however, occurred before the time of Addison's discovery. In *three* cases (Nos. 131, 132, 150) the constitutional symptoms, though imperfectly described, were probably characteristic and were attended by characteristic dis-

coloration of skin. In *one* case (No. 153) no symptoms could be reported as the case was seen only after death, but discoloration of skin was noted. In *one* other case (No. 152) neither constitutional symptoms nor discoloration are reported; but this case also occurred before the publication of Addison's work.

Table L. includes *nineteen* cases in which Addison's disease was complicated with more general tuberculosis, than in the previous Table. In *eleven* of these cases, the constitutional symptoms and characteristic discoloration of Addison's disease were distinctly marked, and it will be observed on examination of the Table, that these are, generally speaking, the cases in which the tubercular disease was least severe or acute. In *two* cases (Nos. 165, 171) the constitutional symptoms probably existed, though imperfectly described, or perhaps partially masked, for there was characteristic discoloration in the first, and sufficient discoloration for diagnosis in the second, of the two cases. In *seven* of the more severe tubercular cases no symptoms are recorded but those of the complicating disease. There was, however, characteristic discoloration in two of these (Nos. 158, 162), more or less discoloration in two others (Nos. 166, 174), and only in one case (No. 160), is it positively said that there was no discoloration at all, though in one other (No. 164) which occurred before Addison's discovery, no discoloration was noticed.

In Table M. I have placed *thirteen* cases in which the disease of the supra-renal capsules was complicated with phthisis and its constitutional symptoms were apparently masked by those of the predominant disease. In *three* only of these cases (Nos. 179, 181, 183), some of the distinctive constitutional symptoms of Addison's disease are reported to have existed in conjunction with those of phthisis, and in all the three there was more or less characteristic discoloration of skin. In the *ten* other cases no symptoms are mentioned but those of the complicating disease. In five of these, however, some discoloration is reported; in one case (No. 180), of date previous to Addison's discovery, no discoloration was noticed; and, in three only (Nos. 174, 177, 186), is there said to have been no discoloration at all.

Cases complicated with non-tubercular diseases.—There remain only *ten*, of the whole number of cases to place in Table N. under my last head, viz., that of serious non-tubercular complications, such as disease of the heart, liver, kidneys, or brain. In *six* of these cases some of the constitutional symptoms of Addison's disease were present in conjunction with those of the complicating disease, and in five of

this number (Nos. 187, 192, 194, 195, 196), there was characteristic discoloration of skin, in one (No. 191), no discoloration at all. In *two* cases (Nos. 189, 193) the only symptoms recorded are those of the predominant disease, with some discoloration in the first, and none in the second, of the two cases. Lastly, in *two* cases (Nos. 188, 190), no symptoms were known or reported, and no discoloration of skin existed.

Summary of analysis.—The results of the foregoing analysis of the one hundred and twenty-eight cases of Addison's disease may be seen at a glance in the following Table:—

Number of Cases.	Classes of Cases.	Degrees of Discoloration.	No. of Cases with Constitutional Symptoms well-marked.	No. of Cases with some Constitutional Symptoms.	No. of Cases with no Constitutional Symptoms.	No. of Cases with Characteristic Discoloration.	No. of Cases with some Discoloration.	No. of Cases with no Discoloration.
46	Addison's Disease virtually uncomplicated (*see* Tables E., F., G.).	Characteristic.	35		1	36		
		Some.	3	3	2		8	
		None.	2					2
59	Addison's Disease complicated with Vertebral and Tubercular Disease (*see* Tables H., K., L.).	Characteristic.	37	4	3	44		
		Some.	3	1	3		7	
		None.	3		5			8
23	Addison's Disease complicated with Phthisis and other serious diseases (*see* Tables M., N.).	Characteristic.		5		5		
		Some.		3	7		10	
		None.		1	7			8
128			83	17	28	85	25	18

It will be observed that the constitutional symptoms of Addison's disease existed in a well-marked form in eighty-three cases, and the characteristic discoloration of skin in eighty-five cases. In seventy-two cases the well-marked constitutional symptoms and characteristic discoloration co-existed. There remain eleven cases in which the constitutional symptoms were well-marked, but which presented only slight discoloration or none at all. On the other hand there remain thirteen cases which presented the characteristic discoloration, but in which only some or none of the constitutional symptoms are reported. Of this whole number of ninety-six cases, which presented, in a fully developed form, either the constitutional symptoms or peculiar discoloration of skin characteristic of Addison's disease, or both, only five

occur among the cases with serious non-tubercular complications, and not one is found among the cases complicated with advanced phthisis. This last fact would seem to be a sufficient refutation of the theory propounded by M.M. Virchow, Bazin and other foreign authorities, that the discoloration of skin characteristic of Addison's disease is the result, not of the morbid change in the supra-renal capsules, but of the general tuberculosis, which is occasionally associated with it.

Subtracting these ninety-six cases, all of which presented characteristic symptoms, or discoloration, or both, from the total number of one hundred and twenty-eight, there remain thirty-two cases, of which twenty presented some of the constitutional symptoms, or some discoloration of skin, and, in many instances, both, leaving only twelve cases which presented neither any of the constitutional symptoms nor any discoloration of skin. In two of these latter the case was not observed during life, and the other ten were all complicated with phthisis, open lumbar abscesses, or other predominant diseases, which were apparently the causes of death, rather than the co-existing disease in the supra-renal capsules.

When due allowance has been made for the inexperience of many of the observers with regard to this little-known disease; for the want of opportunities of observation in many of the cases; and, for the difficulty in many others of recognising the symptoms of this disease in the presence of some more obvious complaint; I think it must be admitted that rarely, has a more overwhelming array of facts supported any scientific hypothesis, than is presented by the results of this analysis, in support of the relation between a certain train of constitutional symptoms, attended by discoloration of skin, and one particular organic lesion of the supra-renal capsules.

Nature of Addison's disease.—By the great majority of reporters this particular organic lesion has been described as tubercular or scrofulous; but Dr. Wilks appears to regard it as an idiopathic or peculiar disease, and Dr. Burdon Sanderson, in reporting upon a specimen of this disease in the capsules which he kindly examined for me, says that no structure was to be found having any resemblance to tubercle. Dr. Dickinson also speaks of the disease as something *sui generis*. On the other hand, my friend, Dr. Cayley, who has carefully examined specimens from four of the cases I have reported to the Pathological Society, considers the deposit in the capsules to be essentially of a tuberculous nature, as do likewise Dr. Child, of Oxford, and Dr. Hayden, of Dublin. Rokitansky, Virchow, Trousseau, and other foreign authorities also

agree in applying the term tubercular to this particular deposit in the supra-renal capsules; and certainly its very frequent occurrence in persons affected with tubercle in the lungs or other organs, taken together with the rarity of its association with any other disease, cannot fail to indicate some intimate relation between this particular lesion characteristic of Addison's disease and the tubercular diathesis.

Whatever differences of opinion may exist as regards the nature of the morbid deposit in cases of Addison's disease, none exist as to the general and microscopical appearances of the diseased capsules. These are generally enlarged, hard, and nodulated. On section they scarcely ever present any trace of the distinction between cortex and medulla, or any remains of the natural tissue. It is evident that there has been an exudation which has obliterated the original structure. In a large proportion of the accurately-recorded cases, the appearance of the capsules on section is said not to have been uniform but marbled by the admixture of two different looking deposits. One of these is semi-transparent, firm, and, when first cut into, of a greyish colour, rapidly assuming a pinkish hue on exposure to the air; the other is generally seen in the form of irregular roundish, opaque, yellow or cream-coloured masses, of more or less friable consistence, embedded in the translucent portion. Often, on careful examination, various gradations will be met with, intermediate between the translucent tissue and the opaque friable nodules, and sometimes there are harder portions of cretaceous character, either in the form of granules or of larger masses. Sometimes, also, collections of thick, creamy fluid, called abscesses by some observers, are found occupying larger or smaller portions of the diseased organs, which, in exceptional, probably older, cases, are shrivelled instead of being enlarged, and contain only this fluid with a little cheesy matter, or else are hardened throughout into cretaceous masses.

Under the microscope the translucent portion is generally found to consist of a more or less fibrous basis, mixed with much granular matter, containing shrunken cells and nuclei, some of the nuclei being occasionally elongated into spindle-shaped bodies. The yellow opaque nodules consist, in differing proportions according to circumstances, of amorphous granular matter mixed with irregular-shaped shrunken cells, nuclei, and oil. When the creamy liquid from cavities, or so-called abscesses, has been examined, it has been found not to be true pus, but to consist mainly of oily débris.

In a large but uncertain proportion of the cases there were evidences of inflammation in the cellular envelopes of the capsules, such as

thickening and firm adhesions to neighbouring organs — the diaphragm, liver, pancreas, vena cava, kidneys or stomach—and it is probable that these have existed more frequently, but have been overlooked in making the *post-mortem* examinations. In some cases it appears evident that the inflammation has originated in neighbouring tissues, and has spread from thence to the cellular tissue surrounding the supra-renal capsules, as in a case (No. 117) in which the patient had suffered from right lumbar abscess some years before his last illness, and after his death from Addison's disease a white fibrous-looking obliterated sinus was found to proceed upwards from the cicatrix of the former wound to the structures in which the right capsule was embedded. In this case, as well as in another (No. 115), in which the illness had originated in right lumbar abscess, the right capsule was obviously in a more advanced stage of disease than the left. Sometimes, at least, the history of the case seems to show that the mischief producing the inflammation had arisen from some external injury. In the last of the three cases prefixed to this paper (No. 129) the patient, some three years previous to the apparent accession of Addison's disease, had sustained an injury in the back, from which he had continued to suffer more or less pain during the whole intervening period. In this case, on the other hand, the injury was done to the left side of the spine, and the disease was clearly of oldest standing in the left capsule. In one of my own cases (No. 155) the patient had strained her back while turning a mangle, several years before her death, and dated the failure in her health from that injury. In a third case (No. 119) the patient had hurt his back by a fall eight years before, and caries of several vertebræ was found after death. In these and other similar cases it appears impossible to avoid the conclusion that the supra-renal disease was secondary to the mischief produced by the local injury.

Extent of disease—one or both capsules involved.—In all the hundred and twenty-eight cases, with the exception of *eleven*, both capsules are reported to have been found diseased; but the disease was by no means always in the same stage. On careful study of the reports it appears clear that in twelve cases the disease was most advanced in the right, and in thirteen cases in the left, capsule; and it is probable that similar inequalities may have existed in other instances, though unreported. It seems, however, quite unimportant as regards the symptoms and progress of the case, whether the one or the other capsule be in the most advanced state of disease, for the constitutional

symptoms and characteristic discoloration were equally present in both sets of cases. This may be verified on examination of the Tables; but I may adduce here, as examples, two cases (Nos. 130 and 117) in which the constitutional symptoms and discoloration of skin were equally characteristic and well-developed, but in one of which the disease was evidently older in the right capsule, and in the other, in the left. In *eleven* cases, as I have said, it is not definitely reported that both capsules were diseased; but in *two* of these (Nos. 74, 125), one capsule is not mentioned; in *two* more (Nos. 108, 180), one of the capsules was not examined; in *one* (No. 81), the right capsule is said to have been absent, and in *two* (Nos. 172, 179) the second capsule is described as softened in texture, so that there remain only *four* cases in which it is positively reported that one capsule was diseased, while the other remained healthy. In one of these four (No. 86), in which no other disease whatever was found in the body, the constitutional symptoms and discoloration of skin both existed, though not fully developed; in two others (Nos. 164, 175) only the symptoms of the complicating disease were noticed, and there was only slight or no discoloration, and, in the remaining case (No. 188) nothing could be known beyond the absence of discoloration, the person having been found dead. The insignificant number of the exceptional cases proves that, as a rule, both capsules are involved in cases of Addison's disease; and, so far as any inference can be drawn from such scanty data, it seems probable that neither symptoms nor discoloration are fully developed in those rare cases in which only one organ is diseased, and that it is immaterial whether the right or the left capsule be the one involved, for there were two cases of each in the four cases of disease of only one capsule.

Supra-renal nerves.—Dr. Habershon and one or two other observers have drawn special attention to the relations between the vaso-motor and pneumogastric nerves and the supra-renal capsules, and to the condition of the supra-renal branches of these nerves in cases of Addison's disease. In the cases quoted by them the nerves, passing to the diseased capsules from the semi-lunar ganglia were enlarged; in one case the semi-lunar ganglion itself was embedded in the enlarged capsule; and it is to the implication of these nerves that the chief symptoms of Addison's disease, in their opinion, are due. Little evidence on this point is furnished by the cases I have collected, as the state of the nerves is mentioned only in a very few instances, and in one or two of these there is said to have been no discoverable change. In the two last of the three cases at the head of this paper I witnessed the examination of the supra-renal

nerves; in the first case they appeared to be normal, while, in the second, the nerves passing to the capsules from the semi-lunar ganglia, and especially a branch from the great splanchnic, which joined the posterior surface of the capsules, were found to be at least twice the size of the corresponding nerves of healthy capsules. Microscopical examination of these enlarged nerves, however, discovered only an apparent increase in the fibrous investment of the nerve-bundles. That the vomiting and even some of the other symptoms of Addison's disease may be induced by a morbid condition of the supra-renal nerves seems, nevertheless, the most probable supposition; but it must not be forgotten that this is, after all, a secondary question, as the condition of the nerves is a consequence, not a cause, of the disease in the supra-renal capsules.

Pigmentary deposits.—Microscopical examination of the discoloured skin of Addison's disease shews the discoloration to be due, as a rule, to deposit of pigment in the rete mucosum, the more superficial layers of the epidermis and the true skin remaining generally uncoloured. This distribution of pigment in certain layers of the skin only is not peculiar to Addison's disease, but resembles that found on examining the skin of the darker races of men, and Mr. Hutchinson found exactly the same distribution of colouring-matter in the skin of a man who had suffered from yellow fever, in the Crimea, and who was bronzed, without disease of the supra-renal capsules. In one case, however, the epidermis is reported to have been loaded with pigment, which in many places was collected in greater quantity in its deeper layers, but in others was equally distributed throughout it. In the third case prefixed to this paper I found, in addition to the usual deposit in the rete mucosum, slight traces of colour in some of the superficial scales of the epidermis, others being perfectly normal; there were also small masses of pigment deposited here and there in the cutis. Whether in the rete mucosum, or in other parts of the skin, the pigment is arranged in granular masses; and the margin between the pigmented layers of skin and the super- and sub-jacent layers is always abrupt and well-defined, and follows the undulations of the rete mucosum, even when, as in the case just referred to, there are scattered deposits in other parts of the skin. In a very small number of cases pigmentary deposits have been found in the peritoneum, or other internal organs, as in Case 173, fully reported above, but it is very doubtful whether these can be regarded as in any way connected with the disease in the capsules, seeing that precisely similar deposits are found in chronic

tubercle of the peritoneum (which was one of the complications in Case 173) and in some other chronic diseases. In many cases the hair has become visibly darker along with the darkening of the skin, as it did in Case 129, and, on microscopical examination after death, pigment has been found in the hair as well as in the rete mucosum. I may add that the naturally brown hair of a young woman, who is still under my care, suffering from Addison's disease, has become of a raven-black colour and coarser in texture, since she first came under observation more than a year ago.

State of the blood.—The blood seems to have been very rarely examined in cases of Addison's disease. In one case pigment is said to have been found in the blood, and, in the same case, it was found also in the spleen; in a few cases the white corpuscles of the blood are said to have been in excess; in one or two, the blood is reported to have been normal, and in one or two others the red corpuscles were certainly not deficient. Dr. Hayden says that the white corpuscles have been found in excess in all the cases in which the blood has been examined, but in support of the assertion he only adduces two cases, and my experience certainly does not confirm his view. Professor Dr. Buhl, on the other hand, considers that in Addison's disease, there is always great deficiency of fibrine in the blood, but he has evidently founded his opinion on cases in which there was also disease of the spleen, and his experience as to the fluid state of the blood and the entire absence of clots after death is altogether opposed to the general evidence on this point. Upon the whole, however, no satisfactory conclusions can be drawn from the hitherto insufficient investigations into the condition of the blood in cases of Addison's disease.

Duration, progress, and termination of illness.—The commencement of Addison's disease can but rarely be referred to any particular date, and patients can seldom fix any definite time for the commencement of their symptoms, so that in the present state of our knowledge it is scarcely ever possible to determine, with accuracy, the actual or comparative duration of the local disease and its external manifestations. Moreover, even in those cases in which the duration of the illness is exactly specified, no great reliance can be placed upon the correctness of the reports, for the disease is infinitely most frequent among the labouring classes, who usually date the commencement of an illness only from the time when it disables them from work; whereas Addison's disease being essentially a chronic complaint is often so insidious in its advances, that patients are able to continue their ordinary occu-

pations until some external depressing cause upsets the tottering balance, and they break down altogether only a few weeks, or even days, before death.

It has been supposed that a very considerable length of time is necessary for the development of the discoloration of skin, but the evidence I have collected does not confirm that assumption, although, for the reasons I have stated, it has not sufficient weight to negative it. The characteristic discoloration as well as the constitutional symptoms existed in thirteen cases, in which the illness is stated not to have lasted above four months. On the other hand, the discoloration was absent in two cases (Nos. 102, 148) in which the illness had lasted more than six and twelve months respectively. It is, however, undeniable that the discoloration seems to have been most intense and universal in very slow chronic cases which had been under observation for periods of from one to seven years. The progress of the disease is by no means always that of a steady advance. There have been remarkable remissions in some of the best-marked cases, during which the patient has been able temporarily to resume his ordinary occupations, and these have even occurred two or three times in the same case, and yet the patient has eventually died of the disease. Speaking from my own observation of several cases which I have carefully watched for considerable periods of time, the discoloration has seemed to me to become less deep during the intervals of improvement, but I have never seen it disappear after it had once been distinctly marked. Notwithstanding the extreme debility, breathlessness on exertion, feeble pulse and general exhaustion, neither emaciation nor anæmia, properly speaking, exist in simple cases of Addison's disease. The blood in all the *post-mortem* examinations I have witnessed was dark-coloured and rather thick, and the muscles generally firm, well-nourished, and of a deep-red colour. Emaciation is, indeed, sometimes mentioned as existing during life, but, unless where there was also wasting disease, such as phthisis or lumbar abscess, the *post-mortem* reports do not confirm this statement; on the contrary, in many cases a large amount of yellow fat has been found under the integuments, especially of the abdomen, and also in the omentum and around the heart and other organs.

The existence of an unpleasant odour about the person in the last stage of Addison's disease has been observed in a certain number of cases, including three of those recorded by myself, and it has been considered by some to be identical with the peculiar exhalation from the Negro-skin. As far, however, as my own observation goes, the fetid odour in these cases partakes rather of the cadaverous character, and

may possibly be the result of commencing decomposition during the very slow death common in this disease. None of the three patients whom I watched survived its appearance many days. Death for the most part takes place slowly from gradual sinking, and in only eleven cases is it reported to have been at all sudden. In every case in which I have witnessed the *post-mortem* examination, firm, discoloured fibrinous clots were found in the right cavities of the heart, attached to the musculi pectinati and chordæ tendineæ, and passing sometimes for a considerable distance into the pulmonary artery. Similar clots in the right ventricle are reported in a large number of the cases, and less frequently as existing also in the left ventricle, but I regard them, at least in this disease, as mere consequences of the usually slow mode of death.

Sex, age, and occupation.—Males appear to suffer much more frequently than females from Addison's disease; ninety-two of the true cases having belonged to the former, and only thirty-six to the latter sex. The disease seems not to occur in childhood, the earliest age at death having been eleven years in a boy (No. 105) and thirteen in a girl (No. 156), one of my own cases; and, it appears to be equally rare in advanced life, only seven males and four females having died above the age of fifty, and of these only two males and one female were beyond the age of sixty years. But whilst among males the mortality is pretty evenly distributed over the hard-working years of life, among females the greater proportion of deaths takes place between the ages of fifteen and twenty-five, and, again, between those of thirty-five and fifty. The occurrence of Addison's disease seems to be in a great measure limited to the classes engaged in active manual labour; only eight males and three females, so far as can be gathered from the reports, having belonged to the middle or higher classes of society. The facts thus brought out are, the almost exclusive occurrence of this disease among the classes most liable to local injuries from accidents or over-exertion; its much greater comparative prevalence among persons of that sex which is most exposed to these causes of injury; and the pretty equal distribution of the mortality caused by it over the active period of life, to which it is almost entirely confined. These facts appear, at least in some degree, confirmatory of the opinion I have already expressed, based on the history of individual cases, that the origin of Addison's disease of the supra-renal capsules is due, in a hitherto quite unexpected degree, to the extension of inflammation to those organs from diseased or injured adjacent parts in persons of a tubercular diathesis.

TABLE A.

CASES OF BRONZED SKIN, WITHOUT DISEASE OF THE SUPRA-RENAL CAPSULES.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
1. Mr. Hutchinson, Path. Trans., vol. viii., p. 341, 1857, Mr. J. Allen, Liverpool.	Male, 25, sailor.	Had had yellow fever in Crimea; never well afterwards; skin much tinged at time of fever, and had latterly got darker. Last illness, fourteen days.	Dyspnœa; pain in left side; dusky, bloated countenance, anxious and disturbed expression.	Entire surface more or less bronzed—face, arms, and hands least; areolæ dark, colour deepest on lower part of trunk, on scrotum and penis, and inside thighs. Under microscope, large deposit of pigment in rete mucosum.	Both quite healthy.	Pneumonic consolidation of both lungs.
2. Dr. Harley, Path. Trans., vol. x., p. 264, 1858, Dr. Parkes.	Male, 66, cabman.	Jaundice seven years before, followed by darkening of skin on face, neck, and other parts; for five years, colour remained unaltered, and health good. Illness, six months.	None recorded; patient had ascites.	Face, neck, and arms dark; over trunk, and especially abdomen, colour diversified with irregular white patches; conjunctivæ slightly yellow, with a little dark pigment; a dark patch on mucous membrane of lips.	Healthy.	Hob-nail liver; spleen greatly enlarged.
3. Dr. Quain, Path. Trans., vol. ix., p. 412, 1858, Dr. Bucknill.	Female, 45, sempstress.	Had been insane five months prior to commencement of discoloration. Discoloration, nine months.	Convulsive movements of body and legs; mind weak and childish, appetite voracious; progressive emaciation. Three attacks of apoplexy; the third fatal.	Discoloration began with sallowness of face; the skin of face, arms, hands, and body, became as dark as a Mulatto's, but with a yellow tinge; conjunctivæ very clear.	Committee of Pathological Society reported that they did not look upon the supra-renal capsules as diseased.	Healthy, excepting brain and skull.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
4. Dr. Sloane, Med. Times and Gazette, vol. xxxvi., p. 221, 1857, Dr. Barclay.	Female, 21.	Had suffered from liver complaint, with permanent discoloration of skin. Duration uncertain.	Those of phthisis, with pain in left lumbar region, gastrodynia, occasional vomiting, and diarrhœa; progressive weakness and emaciation. Died from sinking.	Whole surface bronzed; abdomen, loins, hips, inner part of thighs, and arm-pits darkest; mammæ round nipples much lighter than surrounding skin; many white spots on breast and back; eyeballs pearly white.	Both appeared normal, and free from any morbid deposit.	Lungs, mesenteric glands, and peritoneum tuberculous; left kidney filled with cysts containing whey-like fluid and curdy matter; right kidney contained one walnut-sized mass of tubercle.
5. Mr. G. May, Brit. Med. Jour. 1856, p. 819.	Male, 46.	Congenital blindness; slight attacks of gout, but otherwise good health. Duration uncertain.	Pulse feeble, breathing hurried, rest disturbed; debility, cough, vomiting, diarrhœa. Death in a convulsive, comatose state.	Discoloration most marked on face, neck, axillæ, arms, and legs; small brown spots scattered over body.	Both perfectly normal.	Lungs emphysematous; left ventricle of heart dilated.
6. M. Luton, Comptes Rendus de la Société de Biologie, 1856, p. 241, M. Gubler.	Female, 57.	Cough and spitting of blood for many years. Duration uncertain.	Those of the last stage of phthisis, with emaciation and copious diarrhœa.	Bistre patches on forehead and cheeks; backs of hands and wrists dirty brown; over rest of surface, earthy hue common in last stage of phthisis.	Both normal.	Lungs disorganized by tubercular degeneration; cavities filled with pus.
7. M. Puech, Gaz. Hebdomadaire, 1856, p. 706.	Female, 28.	Several attacks of syphilis. Duration unknown.	Sank under cerebral attacks, which supervened on phthisis.	Earthy colour of face; large brown patches nearly covering breast and abdomen, darkest round umbilicus; no desquamation of cuticle.	Both normal.	Emaciation; tubercle in lungs and intestines; effusion into brain and ventricles; liver enlarged.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
8. M. Puech, Gaz. des Hôpitaux, 1857, p. 190.	Male, 54.	Long constitutional syphilis; otherwise tolerable health. Discoloration, eighteen months.	Loss of strength, nausea, pain and tenderness in iliac region, dysentery. Death from peritonitis, following intestinal perforation.	Face brownish; chest, abdomen, and thighs of a sepia tint; crusts of ecthyma on chest, beneath which normal coloured skin contrasted with surrounding parts.	Both healthy.	Liver contained many sharply-defined masses of yellow matter, from size of a walnut downwards; some of them purulent in centre.
9. Dr. Martineau, De la Maladie d'Addison, p. 40, Dr. Vernois.	Female, 77, rag collector.	Had been very poor and uncleanly. Last illness a few weeks.	Œdema of one foot, ecchymosis and gangrene of the other; depression, diarrhœa, and gradual sinking.	Skin of a very dark hue; chest and abdomen darkest, face and hands lightest; epidermis covered with small scales.	Both quite normal, and free from adhesions.	Healthy, excepting slight effusion into the pia-mater, pleuræ, and pericardium.
10. Dr. Fremy, Bulletins de la Société Anatomique, 1863, p. 42	Male, 59.	None given. Duration unknown.	None reported, but cancer of the œsophagus.	Some days before death, the skin assumed in places a very evident bronze hue.	Both quite healthy. Microscopically examined.	Cancer occupying the lower portion of the œsophagus.

TABLE B.

CASES OF CANCEROUS DISEASE OF THE SUPRA-RENAL CAPSULES.

11. Dr. Addison On Disease of the Supra-Renal Capsules, p. 30.	Female, 60.	Neither known.	None recorded.	Skin of face, arms, and chest of a peculiar light-brown swarthy hue.	Both contained a considerable amount of cancerous deposit invading their whole structure, and almost obliterating their cavities.	Cancer of mamma, left lung, and surface of liver.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
12. Dr. Addison, loc. citat., p. 32.	Female, 53, servant.	Had enjoyed good health until last illness; duration, four months.	Eruption on body, soon cured, after which, pain in abdomen and back, with vomiting.	Tawny discoloration on sides of neck, with three marked patches, one on sternum, others under axillæ; skin on dark parts somewhat raised and corrugated.	Right capsule healthy; left infiltrated with malignant material, and closely adherent to kidney.	Stomach, and some of the mediastinal glands, cancerous.
13. Dr. Addison, loc. citat., p. 38.	Female, 28.	Neither known.	None recorded.	Skin of peculiar dingy appearance; not very strongly marked.	Right capsule healthy; in left capsule, a malignant tubercle had caused rupture of a vein, and effusion into the capsule, which had not otherwise undergone much deterioration.	Not mentioned, except cancer of the uterus.
14. Dr. Addison, loc. citat., p. 39.	Male.	Neither known.	None recorded.	Patient's face of a dingy hue, though he was naturally of a fair complexion.	One capsule very much enlarged, and converted into a hard mass of apparently cancerous disease.	Cancer of thorax and lungs.
15. Dr. Kirkes, Med. Gazette, vol. xxxv., p. 35.	Male, 43, stone-mason.	Had been of intemperate habits. Illness, two years.	Chronic pulmonary symptoms, and hemiplegia. Died in coma, succeeding to a fit.	No bronzing noticed. (N.B.—This case occurred several years before the publication of Addison's work).	Right capsule healthy; left capsule the size of a pear, hard, and nodular, composed of dry, yellowish material, resembling degenerated tubercle.	Cancerous deposits in brain, lungs, and kidney.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
16. Mr. Sibley, Med. Gazette, vol. xxxiii., p. 189, Mr. Moore.	Female, 58.	None given. Illness, five years.	A fit at beginning of illness; ulceration of tumour in breast last nine months. Died partially hemiplegic.	The sallow hue of cancer.	Right capsule enlarged, and most of the organ converted into a mass of firm, scirrhous cancer; in left capsule, several small cancerous nodules.	Cancer of skull—softening of left hemisphere; cancer of breast, liver, and of lumbar glands.
17. Dr. Haldane, Edin. Med. Jour., vol. vii., p. 586, 1861.	Male, 36.	None given.	None recorded.	No bronzing of skin.	Both cancerous, and much enlarged; a little glandular structure remained in right capsule.	Cancer of bronchial glands, of left lung and pericardium, of kidneys, pancreas, omentum, and abdominal lymphatic glands.
18. Dr. Falconer, Brit. Med. Jour., 1861, vol. ii., p. 662.	Male, 49, groom.	None given. Illness, four months.	Skin dry and harsh, appetite bad, bowels confined, occasional vomiting, great debility; pain, on pressure, in left hypochondrium. Death sudden.	General colour pale, and somewhat sallow; conjunctivæ pearly white.	Both enlarged by cancerous deposits.	Cancer of stomach, kidneys, &c.
19. Drs. Peacock and Bristowe, Path. Trans., vol. viii., p. 333, 1856.	Female, 18, tent-maker.	Said to have had a fall some time previous to illness. Duration, at least six months.	Fever; pain in left knee and thigh; progressive debility and emaciation; latterly, dorsal and first lumbar vertebræ prominent — eventually, bronchitis.	Complexion unusually pale and clear.	Deposit of cancer occupied their place.	Cancerous disease of lungs, bronchial glands, liver, kidneys, pelvic peritoneum, lumbar and left inguinal glands, and shaft of left femur.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
20. Drs. Peacock and Bristowe, Path. Trans., vol. viii., p. 337, 1856.	Male, 55, copper-smith.	Had enjoyed good health until last illness. Duration, some months.	Gradual loss of flesh and strength; pain in shoulders, back, and limbs; cough and expectoration; finally phthisis.	Skin of normal colour; deep purple line along margin of gums.	Both enlarged, and their original substance replaced by encephaloid deposit.	Cancerous deposits in lungs, heart, ribs, and left kidney.
21. Dr. Murchison, Path. Trans., vol. ix., p. 400, 1857.	Female, 62.	None given.	None recorded.	Pale and anæmic; no bronzing.	Right capsule four times the normal size, consisting chiefly of a mass of medullary cancer; left capsule healthy.	Extensive cancerous deposits in liver and right lung; tumour size of an orange in right side of neck.
22. Mr. Sibley, Path. Trans., vol. x., p. 272, 1859.	Male, 66.	None given. Illness, sixteen months.	Small hard lump near base of tongue, which ulcerated; glands under jaw became enlarged. Died of exhaustion.	No discoloration.	Right capsule much enlarged, and converted into a firm, cream-coloured substance, partially broken down; under microscope, showed fibrous structure and fusiform cells, also many cells closely resembling epithelial cancer-cells; left capsule healthy.	Epithelial cancer of tongue and of glands beneath the jaw, verified by microscopical examination; other organs healthy.
23. Dr. Wilks and Mr. Hutchinson, Path. Trans., vol. viii., pp. 255 and 340, Dr. Gibb.	Female, 33.	Nine years ago, pain at catamenial period, followed by tumour size of fœtal head in left side of abdomen.	Severe pain in loins, vagina, &c., consequent upon the gradual growth of tumour.	Two years before death, distinct brownish discoloration of abdomen, especially below navel; chest also brown, particularly over sternum.	Right capsule converted into a brown tumour the size of a goose's egg, consisting throughout of very vascular medullary cancer; left capsule healthy.	Cancer of abdomen.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
24. Dr. Cayley, Path. Trans., vol. xvi., p. 250.	Female, 45.	None given.	Those of cancer of the uterus.	Skin dusky and sallow, especially on face and neck; areolæ, axillæ, and groins not darker than usual, and no dark patches anywhere.	A pea-sized nodule of medullary cancer projected from the surface of the right capsule, but did not invade the medullary portion of the organ.	Cancer of uterus, with secondary deposits in peritoneum, liver, kidneys, and in lumbar and mesenteric glands.
25. Dr. J. Ogle, Path. Trans., vol. xvi., p. 250.	Female, 3.	Had been in good health until eight months before death.	Last few days of life constant vomiting and extreme exhaustion.	The whole skin of a gipsy, coppery hue, but nowhere at all of that colour termed bronzed.	Left capsule the seat of a large encephaloid cancerous growth, weighing over two pounds.	Body very stout, with abnormal development of hair on face and body; a cancerous mass in liver; other organs healthy.
26. Dr. L. Martineau, De la Maladie d'Addison, p. 67, M. Second-Fereol.	Male.	None given.	Never those of Addison's disease.	No bronzing of skin.	Cancerous.	Cancer of stomach and liver.
27. Dr. L. Martineau, loc. citat., p. 67, Dr. Letenneur, Nantes.	Male.	None given.	Cancer of the parotid gland.	No bronze discoloration.	Right capsule replaced by a mass of encephaloid cancer; left capsule contained four small tumours, showing between them a small portion of normal tissue.	Cancer of the pancreas; cancerous nodules in both kidneys.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
28. Dr. Delpierre, Gazette des Hôpitaux, 1856, p. 393.	Female, 81.	None given.	Multiple cancer, which had commenced in clitoris.	No bronzing of skin.	Capsules had become masses of cancer.	Nothing reported.
29. M. Virchow, Canstatt's Jahresbericht, 1857, Bd. iv., p. 267.	Female.	None given.	None recorded.	No trace of discoloration of skin.	Both entirely cancerous.	Cancer of the uterus, of the lymphatic glands, and kidneys.
30. M. Ball, Bulletins de la Société Anatomique, 1858, p. 423. M. Becquerel, Hôp. de la Pitié.	Male, 36.	Twelve years in Africa; failing health since cholera in 1855. Five weeks in hospital.	Jaundice, with fever and enlargement of the liver; cough, hot skin, vomiting, prostration, copious and fœtid diarrhœa; sweat, tears, and urine deeply jaundiced.	Face deeply sun-burnt, but a large number of small spots, apparently ecchymotic, visible on forehead, head, and neck; nothing on other parts of the body.	Cancer of the left capsule; right capsule healthy.	Cancer of the smaller curvature of stomach; liver and spleen enlarged.
31. M. Besnier, Hôp. Beaujon, Bulletins de la Société Anatomique, 1857, p. 85.	Male, 48, carpenter.	Health good until two years before death. Two months in hospital.	Gradual loss of strength, flesh, and appetite; pain in epigastrium and in hepatic region, increased by pressure; numbness, formication, and sensations of cold in lower extremities; lumbar pains extending along the course of sciatic nerves.	Uniform pale sallow colour of the whole surface; discoloration of sclerotics, and of buccal mucous membrane.	In place of capsules, two large tumours of softened encephaloid tissue; left capsule the smaller of the two, size and shape of a hen's egg. No traces of normal structure.	Cancerous nodules in base of right lung, in duodenum, and kidneys; liver and spleen enlarged.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
32. Dr. Greenhow, Path. Trans., vol. xvii., Dr. Dickinson.	Male, 56, leather-dresser.	None given. Duration uncertain; four months in hospital.	Pains down course of right sciatic nerve, partial paraplegia, and other symptoms of malignant disease of vertebræ; hard nodules on chest, supposed to be cancerous; no symptoms pointing to supra-renal disease.	The skin was of natural colour all over the body.	Both nearly of natural shape, but almost entirely composed of firm encephaloid tissue; in one or two places, a little brownish matter indicated the remains of the proper structure.	A mass of malignant matter lying around and replacing the lumbar vertebræ and pancreas; similar formations in the adjoining organs, and also in the heart and chest.
33. M. Mettenheimer, Frankfort, Deutsche Klinik, 1856, p. 483.	Male, 47.	None given. Illness several years.	Depression, total want of appetite, and continual pain in loins; heart's action feeble, debility extreme. Death almost sudden.	Face and hands of a Mulatto-like brown colour, with a smoky or metallic hue; rest of body coloured more like jaundice.	Both capsules had completely disappeared, their places being occupied by cancerous deposits.	Some tuberculous or cancerous indurations in the left lung; pulmonary tissue softened, and full of black pigment; nutmeg liver.
34. Dr. Duclos, Hôp. St. Gatien, Tours, Bulletin Général de Thérapeutique, p. 98.	Female, 36.	Failure of health dated from a time of heavy work as laundress, in the open air. Illness, ten months.	Progressive debility; gradual disappearance of catamenia, fixed and constant pain in loins. On day of death, sudden prostration, followed by vomitings, under which the patient sank quite unexpectedly in a few hours.	Whole surface smoke-coloured like a Mulatto; Negro-black patches on back of neck, elbow, thighs, and instep, also in left axillæ and right groin; conjunctivæ normal; buccal mucous membrane marbled with blackish stains, as in some dogs.	Both capsules in a state of complete cancerous degeneration, forming tumours of the size and shape of eggs, very hard, and much nodulated; on section, they grated against the scalpel, and presented precisely the appearance of lardaceous tissue; perfect scirrhus.	Lungs perfectly sound; no trace of tubercle; other organs all quite healthy.

TABLE C.

CASES OF MISCELLANEOUS AFFECTIONS OF THE SUPRA-RENAL CAPSULES.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
35. Mr. H. Thompson, Path. Trans., vol. ix., p. 411.	Female, 81.	None given.	None recorded except chronic bronchitis. Death in a comatose state.	Last year of life, skin bronzed, except on face and hands; colour deepest on lower part of trunk. Under microscope, whole skin permeated by colouring matter.	Right capsule yellow, and, when laid open, scarcely distinguishable from surrounding fat. Under microscope, abundant oil-globules, some granular matter, and a little fibro-cellular substance.	Healthy, excepting congestion of kidneys.
36. Dr. Brinton, Path. Trans., vol. ix., p. 414.	Male, 51.	None given. Illness many months.	None recorded, excepting dropsy and desquamative nephritis.	Skin not bronzed, but having the pallor of Bright's disease.	Medullary substance of capsules had disappeared, and here and there cortical substance was much thinned; central cavity contained some small fatty and calcareous masses.	Not described.
37. Dr. Wilks, Path. Trans., vol. xi., p. 280.	Male.	None given.	None recorded except general cachexia and syphilitic disease of frontal bone.	Not described.	Both large and remarkably firm, resembling lardaceous liver. Under microscope, seen to be infiltrated with the glistening material peculiar to that disease. This infiltration did not much affect the structure.	Lardaceous disease of liver, spleen, and kidneys.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
38. Dr. Goolden, Lancet, 1857, vol. ii., p. 266.	Male, 46, surgeon.	Had twice had rheumatic fever. Last illness about eight months.	Extreme anæmia; pulse quick and compressible; pressure on epigastrium produced distress and vomiting; latterly, breathlessness, palpitation, vomiting, and numbness of hands and feet.	No discoloration, but extreme pallor aud bloodlessness.	Right capsule a large flaccid bag; cuticle very thin and grey; centre, a large cavity lined with chocolate-coloured granular matter; left capsule smaller, presenting similar appearances, but containing some medullary substance.	All healthy; brain not examined.
39. M. Charcot, Comptes Rendus de la Société de Biologie, 1857, p. 146.	Male, 57.	Habitual ill-health. Acute illness, fourteen days.	Emaciation, coldness of skin, pulse almost imperceptible, loss of appetite, thirst; sero-sanguinolent diarrhœa, albuminuria. Death almost sudden, from exhaustion.	Large brown patches on most parts of body; slight but almost general lichenoid condition of skin; face, hands, and feet of normal colour.	Normal in size and appearance. Under microscope, an abundance of fat granules.	Tubercle in lungs and intestines; Bright's disease; other organs healthy.
40. Dr. R. Bennett, Path. Trans., vol. xv., p. 224.	Male.	None given.	Those of broncho-pleuro-pneumonia.	No discoloration.	Hydatid cyst, size of small orange, occupied the place of left capsule, all trace of which had nearly disappeared; right capsule healthy.	Chronic disorganization of lung.
41. Dr. J. Ogle, Path. Trans., vol. xvi., p. 252.	Male, 61.	Admitted to hospital for injury to back from a fall.	Paralysis of all the limbs, dilatation of one pupil; delirium preceding death.	No unnatural appearance of skin.	A cyst, size of a marble, in left capsule, with almost transparent parietes, and containing turbid serum; both otherwise healthy.	Spinal cord in cervical region softened with ecchymosed spots.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
42. Dr. Cayley, Path. Trans., vol. xvi., p. 252.	Female, 72.	None given.	Those of chronic bronchitis.	No discoloration.	A firm, yellow tumour in right capsule, the size of a walnut. Under microscope, seen to consist almost entirely of oil-globules.	Nothing reported.
43. Dr. J. Ogle, Path. Trans., vol. xi., p. 280, Dr. Boyd.	Male, 43.	Had been for some time an idiot, and epileptic. Duration unknown.	Epileptic seizures; death in comatose state.	No discoloration.	Both highly congested, and central parts occupied by extravasated blood, which had completely broken down their proper texture.	Veins of scalp, and cerebral veins, much congested.
44. Dr. Dickinson, Path. Trans., vol. xiv., p. 256.	Male.	None given.	The usual symptoms of phthisis; end hastened by diarrhœa.	No discoloration.	Right capsule large, distended with black coagulated blood, which could be washed out of sections, leaving the organ healthy; left capsule normal.	Lungs phthisical.

TABLE D.

CASES IMPERFECTLY DESCRIBED, OR OF DOUBTFUL NATURE.

45. Dr. Addison, On Disease of the Supra-Renal Capsules, p. 19.	Male, 22 stone-mason.	None given. Illness a few months.	Pain in stomach, vomiting, and tic-douloureux; latterly soreness in hypogastric region, and vomiting of bilious matter. Day	Face of a dingy colour; also the axillæ and hands.	Both atrophied and adherent to surrounding parts by dense areolar tissue; on section, presented a pale homogeneous aspect,	A little iron-grey consolidation and calcareous deposit in apices of both lungs; mucous membrane of

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
			before death, extremities cold, hands blue, and pulse almost imperceptible.		showing fibrous tissue, fat, and cells about the size of white blood corpuscles.	stomach in parts ulcerated, in others injected; Brunner's glands prominent; Peyer's and solitary glands hypertrophied; spleen enlarged; other organs healthy.
46. Dr. Addison, On Disease of the Supra-Renal Capsules, p. 35, Dr. Barlow.	Male, 58, sailor.	General health had been good. Illness about two months.	Tightness over epigastrium, loss of appetite, and feeling of sickness, without actual vomiting; almost blindness of left eye; latterly, increased sickness and debility.	Complexion naturally dark, but was thought to have grown darker.	Tubercular deposit found in one of the capsules.	Considerable softening of the brain; kidneys enlarged, fatty, and a few tubercles on surface—also on spleen and on part of peritoneum; other organs not examined.
47. Dr. Markham, Path. Trans., vol. x., p. 268.	Male, 36, painter.	None given.	None recorded except pericarditis.	No bronzing of any part of skin.	One five times the natural size, and infiltrated with low fibrinous matter; the other, smaller than natural, contained several masses of calcareous and cheesy matter.	Not described.
48. Mr. R. Hall, Bakewell, Med. Gazette, vol. xxxiii., p. 62.	Male, 28.	None given.	None recorded.	Bronzed, especially about the thighs.	Both atrophied, and had undergone calcareous degeneration; no trace of healthy structure discoverable.	Lungs emphysematous; layer of fat, an inch thick, over abdomen.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
49. Surgeon-Major Wyatt, Med. Gazette, 1865, vol. i., p. 113.	Male, 25.	Previously healthy. Illness, six months.	Extreme depression and debility, loss of appetite, frequent retching and vomiting; dyspnœa on exertion. Death from exhaustion.	Face and whole body dusky brown; colour almost black round nipples and umbilicus.	Both very dark, irregular in form, and quite hard on section.	All healthy; fat deep yellow.
50. Dr. Popham, Dublin Quart. Jour. of Med. Science, Aug. 1865, p. 220.	Female, 50.	Jaundice two years before death, when discoloration and illness commenced.	Appetite entirely lost; uncontrollable vomiting towards close of life; depression of spirits, phthisis; before death, delirium, moaning, and screaming.	General olive-coloured hue, darker on back than on front of body; back of neck negro-black; nipples and areolæ dark, as in pregnancy; dark stains inside lips, and on buccal mucous membrane.	Right capsule but little changed; left capsule pulpy and diffluent, wasted, and containing a cavity the size of a pea, filled with unhealthy pus.	Tubercles in lungs; liver fatty.
51. M. Bazin, Léçons sur la Scrofule, 1861, p. 45.	Male.		Scrofulous.	No peculiar colouring of skin.	Complete change of capsules into masses of tubercle.	Not mentioned.
52. Mr. Harrinson, Brit. Med. Jour. 1861, vol. ii., p. 578.	Female.	None given. Duration uncertain.	Debility, feebleness of heart's action, nausea, vomiting, hiccough, and anorexia; ten days before death, almost total loss of speech, lasting two days; labour was artificially induced the day before death; last day, diarrhœa and delirium.	Had had a muddy skin for three or four years; whole surface bronzed for some months before death.	Both in an advanced stage of disease. (No description).	Other abdominal organs healthy; rest of body not examined.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
53. Mr. Harrinson, Brit. Med. Jour. 1863, vol. ii., p. 605.	Female, 44, lady.	None given. Illness, about five months.	Great and progressive weakness, constant nausea, occasional vomiting, variable appetite, frequent lumbar and abdominal pains. Death from asthenia.	Swarthy discoloration of skin, most marked on forehead and face, and at flexures of elbows and knees.	Interior of left capsule softened and broken up; right capsule in a similar, but less advanced condition.	Other abdominal organs healthy. Rest of body not examined.
54. Dr. Martin, Brit. Med. Jour. 1858, p. 389.	Female, 50.	Healthy from infancy. Illness, about eighteen months.	Pain in loins, breathlessness and palpitation on exertion, loss of appetite, nausea, vomiting; pulse feeble; consciousness to the last.	Skin generally of a dark, bronze colour, especially over face, shoulders, and hands; conjunctivæ pearly.	Right capsule converted into a cyst, filled with sero-purulent fluid; left shrivelled into a mere membrane, without glandular structure.	Nothing reported.
55. Mr. Barton, Dublin Hospital Gazette, 1859, p. 203.	Female, aged.	Ailing for two years. Last illness, six weeks.	Great enlargement of liver; loss of flesh and strength; death from sinking.	Face, shoulders, sides, and especially axillæ, deep-brown; colour very deep over abdomen and thighs; breasts of normal colour, looking very pale by contrast.	Both enlarged, deep yellow, and entirely infiltrated with matter not resembling the cancerous matter in the liver or lymphatic glands, being harder and more granular than either.	Lungs healthy; liver twice the natural size, and thickly studded with malignant tubercle; glands along the aorta filled with cancerous deposit.
56. Dr. Bell Fletcher, Assoc. Med. Jour., 1856, p. 1011.	Male, 43, writer.	Had had good health until about two years before death.	Debility, faintness, and depression; loss of appetite and vomiting; dimness of sight, with giddiness; urine slightly albuminous. Died from	From commencement of illness, colour gradually changed to yellow, and then to a dusky-brown hue; darkest in arm-pits; conjunctivæ pearly white.	Right capsule enlarged, hard, and of a deep red colour; left capsule not so large, but in same condition.	Effusion into membranes of brain; fatty degeneration of heart; Bright's disease; great excess of white globules in blood.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
			sinking; latterly wandering of mind.			
57. Dr. Gibbon, Med. Gazette, vol. xxxiv., p. 62.	Male, 52, cabman.	None given. Illness, six months.	Slight cough, general weakness, loss of appetite, pulse soft and weak. During last days of life, low typhoid condition.	Yellowish-brown appearance; conjunctivæ normal.	Both enlarged, and consisting of mere membranous bags, containing shreds of disintegrated tissue; right capsule still showed some healthy cortical structure; normal tissue of left entirely destroyed.	All healthy.
58. Dr. Barclay, Lancet, 1863, vol. i., p. 117.	Male, 25, baker.	Had suffered for years from epistaxis. Illness, fifteen months.	Pain in abdomen; slight œdema of legs, and ascites; emaciation and exhaustion.	Slight bronzing of skin over abdomen, chest, and fronts of thighs.	Both enlarged, and of a mottled, red colour.	Small abscesses in right lung; liver, spleen, and kidneys enlarged.
59. Dr. Isaac Taylor, New York, Med. Gazette, vol. xxxv., p. 36, Amer. Jour. of Med. Science.	Male, 42.	Had never had syphilis. Illness, six months.	Progressive feebleness; constipation, slight albuminuria, convulsions. Died in coma.	Sun-burnt appearance over whole face; spots, resembling faded syphilitic eruption, over whole body.	Both atrophied, and broken down into grumous masses, of a chestnut colour; in left capsule, a thin portion of healthy tissue.	Miliary tubercles in upper lobe of left lung; in apex of right lung, old cicatrices; liver and kidneys fatty.
60. Dr. Crisp, Path. Trans., vol. xiii., p. 248.	Male, 60.	None given. Illness, eighteen months.	Lassitude, general debility, frequent sickness. Death from gradual sinking.	Skin of a peculiar colour, but not bronzed.	Only a small portion of one appears to have been removed.	Said to be healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
61. Mr. J. Kent Spender, Brit. Med. Jour. 1858, p. 768.	Female, 53.	Health had always been good. Illness a few months.	Lassitude, diarrhœa, and exhaustion.	Had the pallor, with dark earthy tint usually associated with malignant disease; darkness much increased over flexures of joints.	Supra-renal capsules absent.	Black pigment in mesenteric and bronchial glands; also in parenchyma of lungs.
62. Dr. Murney, Dublin Hosp. Gazette, 1858, p. 228.	Male, 34.	Good health until two years before death, when he had a sudden fit.	Heart's action feeble; pulse, 50; debility, loss of flesh, and constant nausea. Died from a fit.	Bronzing of face, neck, and hands; areolæ deeply tinged, dark ring round umbilicus, and dark line along linea alba; rest of body of normal colour.	Right capsule chocolate-coloured, of firm, fibrous texture, with a small, yellow, pea-sized tubercle in centre; left capsule absent.	Brain not examined; heart fatty; left kidney small, and full of scrofulous matter; right kidney hypertrophied.
63. M. Dayot, Bulletins de la Société Anatomique, 1857.	Male, 35.	Nothing reported.	Abscess on upper side of lowest right rib. Death from congestion of lungs.	No bronze colouring.	Both enlarged and hard, reddish in centre, yellow outside. (Professor Robin found an amorphous granular matter deposited between the cells in the yellow layer.)	Nothing reported.
64. Prof. Dr. Buhl, Wiener Med. Wochenschrift, 1860, p. 21.	Male.	None given.	Pulse small and quick, heart sounds weak; pneumonia in right lung, and pleurisy on both sides; later, hoarse voice and laboured breathing. Death rapid.	Bronze colour of face, hands, and genital organs. (After death blood fluid; no trace of fibrine.)	Both hollow, filled with brownish liquid; within cavities, some remains of medullary substance; cortex thickened and tough.	Pleuræ and liver studded with miliary tubercles; grey hepatization of right lung; croupous membrane in larynx; spleen enlarged; kidneys granular.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
65. Prof. Dr. Buhl, Wiener Med. Wochenschrift, 1860, p. 22.	Female, 29.	None given.	None reported.	Colour especially strongly marked on the abdomen. (After death, blood thin and fluid.)	Cortex of both in same condition as lymphatic glands.	Emaciation; œdema of lungs and feet; abdominal glands large tough masses which, under microscope, showed thick fibrous bands, and deficiency of cells, but no sign of cheesy degeneration.
66. M. Brehme, Deutsche Klinik, 1857.	Male, aged.	Had been dead two or three days when examined.	Unknown.	Deep bronze hue of skin, some round whitish scars; on abdomen, penis, and inner parts of thighs, colour deepest, and shining like metal.	Both small, with thickened cortex, and presenting cavities with brownish, bloody fluid; in cortex, some yellowish-white, millet-sized deposits.	Emaciation; œdema of feet; emphysema of lungs, and pleuritic effusion; fatty heart and kidneys.
67. Dr. Hardy, Union Médicale, 1858, No. 90.	Male, 45.	Several times intermittent fever; ulceration of glands in neck; frequent pneumonic affections. Three months in hospital.	Prurigo pedicularis; emaciation, with ravenous appetite; phthisis.	Most of body covered with small blackish crusts; skin generally Mulatto-coloured; face, fore-arms, penis, and scrotum scarcely tinged; sclerotics, scars of blisters, and cupping quite white.	Abnormally shaped, and studded with small yellow tuberculous granules, surrounded by a yellow envelope, which contrasted with the reddish tissue beneath.	Tubercle of lungs and intestines; infiltration of mesenteric, portal, and lymphatic glands.
68. M. Second Fereol, Gaz. des Hôpi-	Male, 35, floor-polisher.	Intermittent fever and jaundice at various periods; cough and expectoration,	Indigestion, weakness, loss of appetite, vomiting, and giddiness; pains in loins and epigastrium;	Discoloration began on forehead; latterly face and hands sepia-brown; membrane of lips also	Both hard, irregular, and embedded in adipose tissue; on section, merely two masses, of fatty ap-	Lungs studded with small grey tubercles; in apices also many, yellowish and soft-

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
taux, 1856, p. 406, M. Cazenave.		and latterly excesses in drinking. Last illness, twenty months.	phthisis; latterly diarrhœa, hiccough, and constant vomiting — bile in vomit. Death from exhaustion.	stained; at last, sclerotics and whole integument jaundiced; brown pigment in whole thickness of epidermis.	pearance, traversed by cartilaginous filaments, enclosing yellow lardaceous substance, partly semi-fluid; bile present. Under microscope, only fat-globules and globules of pus.	ened; bronchial and mesenteric glands enlarged, some of latter yellow and fatty; liver enlarged and jaundiced; a diseased hepatic gland had stopped biliary circulation.

TABLE E.

CASES OF ADDISON'S DISEASE OF THE SUPRA-RENAL CAPSULES, QUITE UNCOMPLICATED.

69. Dr. Addison, Med. Gazette, vol. xxxvi., p. 539, Mr. Wilks.	Female, 18, lady.	Chronic rheumatism two years before; bronzing, one year. Illness, about four months.	Great lassitude, and after a long walk, three months before death, violent sickness, lasting three or four days; pulse very feeble, skin soft, tongue clean, appetite bad; sickness returned in two months, and lasted, with short intervals, till death.	General surface bronzed; face olive-brown, chin shining like bronze; areolæ quite black.	Left capsule size of a hen's egg, and adherent to spleen and kidney; it contained a large quantity of purulent matter; right capsule also adherent, but smaller, and matter contained in it less fluid and gritty.	About an inch of fat on abdomen; body otherwise much emaciated; viscera generally quite healthy.
70. House-Surgeon to Reading Hos-	Male, 26, travelling	Had had good health; bronzing uncertain. Illness, three days.	Three days before death, was attacked with vomiting, and fell into a com-	No medical report of colour, but friends had observed a change within	Both greatly enlarged; no trace of normal structure; mostly converted	All healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
pital, Med. Gazette, vol. xxxix. p. 265.	musician.		pletely prostrate condition.	the last few months, so that he was "like a gipsy."	into a greyish, firm tissue, with patches of calcareous degeneration; but some parts in a different state.	
71. Mr. VALENTINE, Med. Gazette, 1861, vol. ii., p. 33; also, Guy's Hosp. Rep., vol. viii., p. 55.	Male, 30, marine store-dealer.	Good health until four months before death.	Gradual loss of flesh, strength, and appetite; acute pain in lower part of back; great irritability of stomach; extreme prostration towards the last.	Skin of face and body of a dusky hue; whole surface very dark after death.	Both wholly disorganized; normal structure replaced by softening scrofulous deposit.	All healthy.
72. Dr. GULL, Med. Gazette, 1863, vol. i., p. 83.	Male, 31, publican.	None given. Illness, four months.	Debility, pallor, and emaciation; appetite bad, frequent sickness, pain of back, and also nervous symptoms—*e.g.*, loss of sensation in one side of face, numbness in legs, and partial incontinence of urine.	No bronzing of skin, but face of a sallow or yellowish cast.	Both converted into large masses of an albuminous, lard-like substance (deposit had no doubt been rapidly formed); semi-lunar ganglia involved; right one actually embedded in capsule, left one merely in contact with capsule, and its nerves only involved.	All healthy; some of the lymphatic glands contiguous to the supra-renal capsules enlarged.
73. Dr. LITTLE, for Dr. MACKENZIE,	Female, 18.	Two years before death, a severe shock to the nervous system. Illness and dis-	Great feebleness, frequent fainting, and distressing vomiting; tongue moist and pale, catamenia	Universal discoloration, with some patches, almost black, colour deepest over flexures of joints and	Right capsule a mere diffluent mass, attached by strong adhesions to liver, diaphragm, and kidney;	So far as examined, healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Path. Trans., vol. xiii., p. 247, Dr. Fraser.		coloration began from that time.	irregular and scanty; progressive weakness, with, at length, inability to sit up in bed; mind clear until a few minutes before death.	lower half of trunk; labial and buccal mucous membrane brown, with some well-marked darker patches; conjunctivæ pearly—a spot of pigment on right eye.	left capsule in like manner attached to diaphragm, spleen, and kidney; under microscope, no vestige of normal structure, but a strong fibrous envelope, containing pus and a little cretaceous matter.	
74. Dr. Wilks, Path. Trans., vol. x., p. 273, Mr. Welford, Bishopwearmouth.	Male, 21.	None given. Illness, some months.	Excessive and progressive debility; rapid pulse, persistent vomiting, thirst; stupor towards close of life, from which he could be roused by loud speaking.	Complexion had been darkening for some months; colour dusky; several olive-coloured patches on shoulders, chest, and umbilical region; penis and scrotum very dark.	Right capsule wholly changed in structure by the deposition of a firm albumino-cretaceous deposit throughout its substance; centre softened. Left capsule not described.	Other organs healthy; liver enlarged from congestion; patches of black exudation, like melæna, in right and left rectimuscles, near umbilicus.
75. Dr. Wilks, Path. Trans., vol. xv., p. 218.	Female, 22.	Had had good health until her confinement about two years before. Discoloration and debility, about two years.	Exceedingly small, weak pulse; extreme debility; latterly retching, and inability to sit up.	Whole body of a greenish-brown hue, darkest on knuckles of hands, in axillæ, and on lower part of abdomen.	Both converted into yellow hard masses, apparently formed of separate masses, embedded in tough fibrous material; some cretaceous matter in parts. Right capsule smaller, left rather larger than normal size.	All healthy.
76. Dr. Hardwick,	Male, 52.	None given. Illness, two years.	Gradually increasing debility; great prostration.	Of a uniform yellowish-brown colour, with one or	About twice the normal size; on section, shewed	All healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Path. Trans., vol. xv., p. 223.				two small white patches on side of neck.	a uniform grey lardaceous deposit; no cheesy material, nor softening.	
77. Dr. Hardwick, Path. Trans., vol. xv., p. 224.	Female, 69.	None given.	Great prostration, with some emaciation, and frequent vomiting.	Uniform brown tint; lips of a dark-brown colour; conjunctivæ pearly white.	Both somewhat enlarged, and filled with masses of deposit—some grey and firm, others soft and cheesy.	All healthy.
78. Dr. Greenhow, Path. Trans., vol. xv., p. 231, Mr. C. L. Hodson, Bishop-Stortford.	Male, 21, merchant	Had suffered from strumous ophthalmia in infancy, and two years before death from supposed enteritis. Last illness, eight months.	Occasional attacks of prostration; latterly, extreme faintness, feeble action of heart, and distressing sickness.	Skin discoloured, especially on temples, cheeks, and sides of throat; several dark moles on arms and chest; areolæ very dark.	Both nodulated, and invested with firmly adherent connective tissue; on section, some parts semi-transparent, and of fibrous consistence, others opaque and of cheesy material; intermediate portions firm, but opaque.	All healthy; body fairly covered with fat.
79. Dr. Wilks, Guy's Hosp. Reports, vol. viii., p. 47, Dr. Pavy.	Female, 26.	Attributed her illness to overwork. Ailing one year; discoloration, eight months.	Twitchings resembling those of chorea; last few days of life, vomiting set in, which caused great prostration; death rather sudden.	Face, neck, and shoulders of a peculiar dirty olive hue; conjunctivæ pearly white; after death, face very dark, with still darker patches on forehead; skin of neck, axillæ, and flexures of elbow-joints, as brown as bistre.	Right capsule presented, in its interior, masses of a yellow substance in a more or less softened state; left contained a quantity of encysted puriform fluid; each was embedded in a mass of thickened cellular tissue.	All healthy; body in good condition.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
80. Dr. Wilks, Guy's Hosp. Reports, vol. viii., p. 34, Drs. Vincent and Ranking, Norwich.	Female, 59.	Married lady, affluent, mother of five children, of active habits, but very stout. Discoloration about one year; illness, eight months.	Complete loss of appetite; constant sickness; irritability of body and mind; feeble pulse; faintness; rallied once, but colour continued to deepen; muttering delirium last day of life.	Face and hands first discoloured—later, general surface, but less markedly under dress; face, neck, and hands of a dirty copper colour; peculiar sickening smell from skin about neck; conjunctivæ clear.	Both enlarged, nodulated, and composed of two substances in about equal quantity—one firm, smooth on section, of a dull-green colour, the other yellow and more friable; under microscope, morbid material appeared to be degenerate lymph.	Lungs and other organs healthy; skin loaded with yellow fat.
81. Dr. Wilks, Guy's Hosp. Reports, vol. viii., p. 59, Mr. Stedman, Godalming.	Male, 32, agricultural labourer.	Had been healthy. Illness, four years.	At first, vomiting and purging; afterwards lassitude, sense of sinking in abdomen, flatulence, and sickness, which became constant, with total prostration two days before death.	Face mulatto-coloured; back and thighs darker; penis and scrotum as dark as those of a negro; conjunctivæ pearly white.	Right capsule absent; left one large, hard, and nodulated, shewing on section a tough albuminofibrous substance, which enclosed opaque friable matter containing some chalky grains.	All healthy; no emaciation; thick layer of fat lining abdominal parietes.
82. Dr. Habershon, Guy's Hosp. Reports, vol. x., p. 80, Mr. Webb.	Female, 19.	None given. Ailing two and a-half years; illness, six months.	Slight pain in stomach; sickness and progressive weakness; amenorrhea six months; pulse feeble and compressible; three days before death, seized with pain in head, followed by drowsiness and insensibility; died comatose.	Skin resembling that of a mulatto, some parts of body being almost as dark as that of a negro; deposit of pigment in gums.	Left capsule consisted only of a small mass of white, low-organized product, surrounded by dense tissue; fatty and semi-cretaceous substance replaced the normal structure; under microscope, fibroid tissue, imperfect cell-growth, and highly-refracting granules were	Lungs and other organs normal; body plump.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
					observed; right capsule smaller, but similarly affected.	
83. Dr. Habershon, Guy's Hosp. Reports, vol. x., p. 82.	Male, 18, book-binder.	Abscess in neck from diseased glands nearly two years before death. Health began to fail from that time.	Debility, irritability of stomach, feeble and compressible pulse; abdomen contracted; appetite tolerably good; irritability of stomach, and prostration increased till he sank from exhaustion.	Generally of a deep colour; two narrow, almost black rings, on neck; axillæ also dark.	Left capsule much enlarged and infiltrated with deposit — in some parts cheesy, in others calcareous; enlargement towards semi-lunar ganglion, which, with nerve branches, was surrounded by dense fibroid tissue; right capsule rather less affected, and nerves could be traced to it more easily.	Lungs and other organs normal; very thick layer of fat on abdomen; heart covered with fat; spleen large and soft.
84. Dr. Sturges, Lancet, 1864, vol. ii., p. 569.	Male, 23, engine-cleaner.	None given. Illness, above three years.	Debility, vomiting, frequent diarrhœa, and epistaxis; improved very much at one period, but relapsed; some months before death, choreic spasms for several weeks.	Face and whole body of a copper-coloured hue, approaching to bronzing; Numerous dark-brown specks over whole surface, and some brownish specks on soft palate.	Both infiltrated with cheesy matter.	All healthy.
85. Mr. Wallace, Assoc. Med. Jour., 1856, p. 1035.	Female, 48, private patient.	None given. Illness, nine months.	Faintness, occasional vomiting, and diarrhœa; listlessness and torpor; once, on being suddenly raised, a slight convulsive fit.	Skin of a deep-brown colour, most marked on face, hands, and arms.	Organs scarcely traceable, presenting a granulated disintegrated mass of a yellowish-grey colour.	All healthy; abundance of yellow fat on chest and abdomen.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
86. Dr. Jeaffreson, Brit. Med. Jour., 1857, p. 22.	Male, 40, labourer.	None given. Illness, about one year.	Feebleness of pulse; frequent vomiting, coldness of surface; tenderness on pressure in region of duodenum and two dorsal vertebræ; heavy, depressed manner; on day of death, headache, insensibility, and slight convulsions.	Skin yellow from beginning of illness; a month before death, was noted to be universally of dark leaden hue, but conjunctivæ quite clear.	Left capsule contained an encysted tumour, whose walls were hard and almost gristly, the interior being cheesy matter, in some parts softening down to pus.	All healthy; only structural disease in body was in left capsule; little emaciation; yellow fat on abdomen.
87. Mr. J. Kent Spender, Brit. Med. Jour., 1857, p. 274.	Female, 21.	None given. Illness, one year; discoloration, three months.	Progressive debility and emaciation, with feeling of coldness; loss of appetite, and nausea; sense of weight in right hypochondrium; depression, failure of memory; death quiet, from exhaustion.	Skin of face nearly as brown as a Mulatto's; backs of hands, especially knuckles, very dark; all the covered portions of surface were of normal colour.	Right capsule very large, and adherent to liver and kidney; left capsule of normal size; on section, purulent matter exuded from both, and a number of little miliary bodies were visible, which, under microscope, were found to be cheesy masses surrounded by creamy fluid.	All healthy; cranium not examined; body greatly wasted; fibrinous coagula in heart.
88. Mr. J. Moore, Lancet, 1864, vol. ii., p. 475.	Male, 30, clerk.	Had not been in good health for two years. Discoloration, six months.	Debility and general indisposition; sickness almost constant the last few days; pulse 120, thready; great feebleness; died of exhaustion.	Face of a pale olive hue; backs of hands very dark; several patches of black pigment on lips; eyes not discoloured; discoloration on body slight.	Both converted into soft yellow cheesy masses.	Normal.
89. Dr. Wilks, Guy's Hosp.	Male, 13.	None given. Illness, four months.	Pain in back; inability to stand or sit; extremely feeble pulse; drowsiness,	Whole surface of a yellowish-brown hue, excepting palms of hands and	Both enlarged, and converted into a tough yellow amorphous matter,	All healthy; Peyer's patches in small intestine, much raised;

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Reports, vol. viii., p. 52, Dr. Addison's last case; Dr. Aldis.			prostration, loss of appetite, nausea, and vomiting; dribbling of urine; last days of life, delirium and slight convulsions.	soles of feet; colour most intense over joints of hands and feet; no definite patches; a little pigment on lips.	interspersed with some grey and translucent substance; no trace of original tissue.	solitary glands very distinct.
90. Dr. Hayden, Dublin Quarterly Journal of Science, Feb.-May, 1865.	Male, 16.	None given. Illness, six months; three weeks in hospital.	Headache for several months; severe pain in abdomen; languor and loss of appetite; heart's action feeble, sight dim, and respiration hurried on the slightest movement; frequent sickness last ten days of life; death from exhaustion.	On admission, face deep olive, with a darker patch on forehead, which had appeared when headache commenced; general surface of body less discolored; minute brown spots visible on abdomen; conjunctivæ pearly white.	Both much enlarged, hard, and nodulated; left capsule much larger than right, and presented the appearance of pale cheese, with about a teaspoonful of thick, white puriform matter in centre; right capsule not divided.	All healthy; body much wasted.
91. Dr. Wilks, Guy's Hosp. Reports, vol. xi., 1865, Dr. Strange, Worcester.	Male, 26.	None given. Illness, eighteen months.	Debility; partial loss of appetite; no vomiting; at last delirium, and death from exhaustion.	Eighteen months before death, bronzing slight, in patches; six months later, bronzing well marked all over face and hands, line across forehead very distinct; rest of body clear.	Right capsule described by Dr. Strange as large and distended with pus, the left smaller, and commencing to degenerate; one capsule, examined by Dr. Wilks, was enlarged and converted into a mass of cheesy consistence, with some cretaceous matter, the envelope enclosing it being much thickened.	Every other organ remarkably healthy; no emaciation; half-an-inch of fat on abdomen.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
92. Dr. R. Holt, Lancet, 1865, vol. ii., p. 454.	Male, 43.	Previously healthy. Illness, eight months.	Gradually increasing lassitude, with shooting pains in lower extremities; loss of appetite, sickness, giddiness, pain in epigastrium; later, aching pain in lumbar region, aggravated by straightening the back; last two days of life, semi-comatose state.	Striking discoloration of face, hands, and scrotum, and of a patch on chest where mustard plaster had been applied; rest of body of normal colour; lips and buccal membrane of same colour as face; black stains on sides of tongue, centre of normal colour.	Left capsule size of a pigeon's egg, converted into a bag containing thick yellowish fluid, and fragments resembling the white of a hard-boiled egg; right capsule adherent to liver, and presenting the appearance of a scrofulous lymphatic gland proceeding to suppuration.	Other organs healthy; right side of heart contained a fibrinous clot adherent to tricuspid valve.

TABLE F.

CASES OF ADDISON'S DISEASE, ALMOST UNCOMPLICATED. (LESIONS OF OTHER ORGANS UNIMPORTANT.)

93. Dr. Addison, On Disease of the Supra-Renal Capsules, p. 12.	Male, 35, customs' tide-waiter.	Much anxiety and exposure in his occupation; had rheumatism eight years before death, with great nervous depression; since then, general good health; occasional bilious vomit-	Headache and vomiting; delirium and unconsciousness lasting twenty-four hours, and then numbness and want of power in extremities; improved and returned to work for a time; last month of life, pulse ex-	Original sallow complexion deepened into olive-brown; change of colour gradual from beginning of illness; face had a dark look like that of miasmatic poisoning; mucous membrane of lips deeply stained.	Both contained compact fibrinous concretions seated in the structure of the organ; superficially examined, they were not unlike some forms of strumous tubercle.	Lining membrane of stomach finely injected, of a bright-red colour, with two or three spots of ecchymosis; membrane thickened, and surface covered with tenacious mucus; in

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
		ing. Illness, seven months.	tremely small and feeble, vomiting of mucus containing altered blood, pain in left epigastric region; great depression; constant tendency to sickness.			some parts, irregular superficial abrasions; brain, lungs, and all other organs normal.
94. Dr. Wilks, Guy's Hosp. Reports, vol. viii., p. 42, Drs. Addison and Habershon.	Male, 32, engine-driver.	Had lived freely, and had suffered from gonorrhœa and syphilis; illness and discoloration, nearly three years. Last attack, one month.	Loss of strength and darkening of skin; in hospital two years before death, and left relieved; a month before death, took cold and relapsed; pulse and heart feeble; extreme weakness, dizziness, and failure of vision on attempting to walk; no appetite; death rather sudden, from exhaustion.	Skin dark-brown, and of a deeper tinge in axillæ, and at navel, nipples, and scrotum; mucous membrane of gums and mouth stained with patches of a leaden hue; after death, colour greenish-brown, remarkably uniform, excepting two black specks on face; margin of lips dark.	Right capsule about normal size; left enlarged; structure of both destroyed by a deposit consisting mainly of white brittle cretaceous matter, and of a semi-translucent matter resembling dirty blanc-mange; right capsule was softening in middle, and contained about a drachm of cream-like fluid; both firmly adherent to surrounding parts. Under microscope, semi-transparent parts seen to consist of amorphous substance, mixed with granules; the yellower friable matter consisted of little else than fatty and cretaceous granules.	Mucous membrane of stomach highly injected, and covered with tenacious mucus, as if a low form of inflammation had existed; Peyer's patches, and solitary glands at lower end of ileum, remarkably prominent; all other organs healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
95. Dr. Habershon, Guy's Hosp. Reports, vol. vii., p. 232.	Male, 23, lighterman.	Good health until a year before death, about which time he was over-worked; some years previously, had had syphilis, and had been on the coast of Africa.	Weakness and inability to work; three weeks before death, after a dose of castor-oil, violent vomiting, which continued, with great prostration; pulse slow, and very compressible; feeling of cold, and faintness; breath short; mind clear until last day, when he became drowsy.	Semi-jaundiced appearance of face, and numerous dusky-red blotches on cheeks and forehead; discoloration much less on other parts of body; after death, face olive-brown colour; genital organs very dark, body and limbs only slightly discoloured.	Both much enlarged, hard, and surfaces uneven; on section, presented dense whitish semi-translucent tissue, with yellowish cheesy matter; also some cretaceous material.	Mucous membrane of stomach covered with tenacious mucus; patches of injection, and some points of ecchymosis, most marked at greater curvature; mucous membrane of duodenum injected; slight white consolidation at apex of right lung; other viscera healthy.
96. Dr. Addison On Disease of the Supra-Renal Capsules, p. 25.	Male, middle-aged, barrister.	None given. Illness about one year.	Extreme languor, faintness, and anæmia; heart's impulse feeble, palpitation on exertion; urgent and distressing vomiting of mucous matters, occasionally tinged with blood.	General surface dingy; on face, neck, and arms, various sized deep chestnut-brown patches; here and there also blanched-looking patches.	Both enlarged, hard, irregular, consisting of a firm reddish semi-transparent basis, interspersed with spots of opaque yellow matter, and strongly resembling enlarged mesenteric glands, mottled with tubercular deposit.	Mucous membrane of stomach spotted with small numerous elevations, apparently increased development of natural structure.
97. Dr. Wilks, Guy's Hosp. Reports, vol. viii., p. 56, Mr. Toulmin, Dr. Gull.	Female, 37.	Health good. Illness, two years.	Gradual decline; prostration of strength; pulse almost imperceptible; circulation very feeble; faint saccharine smell of breath; sickness and inability to take food.	Skin first orange, and then Arab-coloured; face and areolæ of nipples darkest; lips covered with pigment spots; dark line where garters had been	Both hard, and adherent to adjacent parts by tough inflammatory tissue; on section, exteriors of both found to be a yellow, firm material, as in other cases, but interiors softened	Apices of lungs indurated by chronic pneumonia; glands of duodenum enlarged; solitary glands, and Peyer's patches prominent; specks of

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
				tied; conjunctivæ pearly white.	down into creamy matter, like purulent mucus.	black pigment on omentum, peritoneum, and other internal surfaces.
98. Dr. Bristowe, Path. Trans., vol. xi., p. 276.	Male, 18, printer.	Good health until last illness. Duration, four months.	Constant vomiting of glairy mucus, tinged with bile; rapid emaciation, occasional headache, giddiness, and frequent rigors; much thirst, slight fever, and diarrhœa; tongue red, covered with yellow fur; death from exhaustion.	No discoloration; after death, complexion was noted as brownish, but there was nothing like bronzing.	Both hypertrophied, and consisting of nodules of buff-coloured material, which were largest in left capsule, and mixed with some putty-like material and a little hard earthy deposit, all blended together, and surrounded by dense greyish fibrous tissue; no traces of healthy structure.	Cerebellum firmly attached to dura mater by old adhesions; liver dark-brown, firmly attached to diaphragm, and congested throughout; viscera healthy, but mostly adherent and congested.
99. Dr. Hare, Brit. Med. Jour., 1865, p. 331.	Male, about 45.	None given. Ailing two years.	Lassitude; day before death, vomiting and convulsions, followed by a semi-comatose condition.	Face and hands appeared exceedingly tanned; discolored patch on chest, where a blister had been applied; conjunctivæ pearly white.	Right much enlarged, adherent to liver; abscess in lower part; in upper part, tubercular cheesy-looking matter, embedded in firm whitish-blue tissue; left capsule smaller than right, no abscess, but otherwise in similar condition.	Pleuritic adhesions; lungs emphysematous; heart fatty.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
100. Dr. Fresne, Gazette des Hôpitaux, 1857.	Female, 30, married woman.	Always fairly good health. Illness, about one year.	Illness sudden; severe pains in lumbar region, and vomiting; pulse small and quick; heart's action hurried; progressive emaciation and debility; death rather sudden.	General and marked brown discoloration soon following symptoms of illness; colour extended to buccal mucous membrane.	Both three times the normal size, hard, nodulated, and completely converted into tuberculous matter.	Old peritoneal adhesions; nothing more reported, except no tubercle in lungs.
101. Mr. Sibley, Med. Gazette, vol. xxxiii., p. 188, 1854, Dr. S. Thompson.	Male, 20, painter.	Unknown; discoloration, about six weeks. Illness, a few days.	Last days of life, languor, inability to move about, cold sweating, great feebleness of pulse, restlessness, soreness of throat; deep-seated pain in region of liver; perfectly conscious, but slow in answering questions.	Skin of a dark, dirty-brown colour, and conjunctivæ the same.	Both much enlarged, firm, and dense; on section, composed of opaque yellow cheesy substance, in some parts broken down; here and there, portions of the natural structure could be detected.	Pericardium firmly and universally adherent; liver tough and congested; solitary glands of small intestine enlarged, forming eminences the size of millet-seeds.
102. Mr. E. Crossman, Brit. Med. Jour., 1860, p. 359.	Male, 59, gardener	None given. Illness, eight months.	Progressive prostration, emaciation, anorexia, and vomiting, with dull weight and pain at epigastrium, and at one time diarrhœa; death from exhaustion.	No appearance of bronzing; skin of a yellowish-white colour.	Both totally disorganized and converted into empty cavities, the walls of which were coated internally with a thin layer of yellow cheesy matter.	Lungs healthy, except old adhesions; pancreas and mesenteric glands hard, and coloured black externally; parts of liver and kidneys also black externally.
103. M. Virchow, Canstatt's Jahr-	Female, 16, servant.	Always weakly, and troubled with palpitation on exertion;	Lassitude and vertigo; pains in lumbar region, back, and head, and later	Early in illness, face brownish; on face and arms, round, sharply-de-	Both slightly enlarged, and studded throughout with hard tuberculous no-	Mesenteric glands all much enlarged, hardened, and glis-

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
esbericht, 1859, part iv., p. 288, M. Schmidt, Rotterdam.		five months before death, fright checked catamenia, and health declined from that time.	in epigastrium; loss of appetite, often vomiting after food; progressive anæmia and debility; towards the last, constant drowsiness, extinction of pulse, and death.	fined, almost black specks; on neck and backs of hands, in axillæ, flexures of joints, and on parts compressed by strings, sepia-coloured patches, fading into normal skin.	dules, which here and there were softening down; these nodules were massed together towards the centre, and embedded in a grey semi-transparent substance.	tening like lard; follicles of intestines much swollen.
104. M. Virchow, Canstatt's Jahresbericht, 1858, part iv., p. 273, M. Wagner.	Male, 16.	Previously healthy. Three months under treatment.	Perityphlitis and acute stomach catarrh.	Three weeks before death, appearance of bronzing on face.	Both somewhat enlarged, hard, and studded throughout with small masses, varying in size, and resembling tuberculous matter.	Mesenteric and solitary glands, Peyer's patches, and spleen enlarged.
105. Mr. J. Hutchinson, Path. Trans., vol. ix., p. 414, Dr. J. R. Bennett.	Male, 11.	Had been losing flesh for some time; bronzing, about six months. Illness only a few weeks.	Progressive weakness; last week of life, having apparently been overdone by a long walk, slight diarrhœa, sickness, and a series of convulsive seizures.	Whole surface discoloured; face markedly but not uniformly bronzed; a patch on forehead, which shaded off into the less dark skin; backs of hands and sides of knees deeply bronzed; a few faint streaks on lips; conjunctivæ pale.	Both entirely disorganized, containing chalk and cheesy matter, and firm fibrous structure binding together these elements; no softening nor evidence of recent inflammation; no trace of normal tissue.	No disease of other organs except of mesenteric glands, many of which were the size of marbles, and contained cheesy matter encapsuled in very dense or even osseous walls.
106. M. Ulrich, Deutsche Klinik 1862, p. 25.	Male, 24.	Had long suffered from stomach derangements, and previous winter from suppuration of glands in	Cachexia, indigestion, loss of appetite, nausea, headaches, vomiting, sleeplessness, prostration of strength; pulse small,	For two or three years, discoloration of skin like that of a Mulatto.	Both thickened and nodulated; on section, found to be entirely changed into grey tubercles and yel-	Peyer's patches prominent, and some of mesenteric glands enlarged, and on section

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
		neck. Illness, six weeks.	skin cool, obstinate constipation; death from exhaustion.		low cheesy masses; no trace of normal tissue.	tough and yellow; other organs healthy.
107. Mr. G. Mackenzie Bacon, Med. Gazette, vol. xl., p. 132; also, Guy's Hosp. Reports, vol. viii., p. 48.	Male, 15, plasterer.	Good health till last illness. Illness, about eight months.	Loss of appetite, nausea, and debility, then giddiness and pain in head; intervals of improvement; last week of life, prostration, hiccough, and constant vomiting of food; anæsthesia, with pain in extremities; death from sinking.	Skin began to darken soon after first symptoms of illness; after death, body of a dusky olive hue, except part of chest, with deeper brown patches on face, knees, and along spine; scrotum and penis almost black; conjunctivæ pearly white.	Left capsule large; normal structure obliterated; stroma pale, with firm light-yellowish deposits; right capsule of about normal size, studded with smaller deposits of same nature, but evidently older and undergoing degeneration.	Lungs and other organs quite healthy, except fine pleuritic adhesions on right side, and enlargement of mesenteric glands.
108. Dr. Houseley, Lancet, 1860, vol. ii., p. 8; also, Guy's Hosp. Reports, vol. viii., p. 53.	Male, 33, farm-labourer.	Gonorrhœa two years before death. Illness more than a year.	Debility, loss of appetite, nausea, occasional vomiting, pain at epigastrium, constipation; pulse and heart-sounds feeble; last few days of life, incessant sickness.	Face and hands brown; colour nearly natural on chest, but much darker over abdomen and thighs; dark ring round umbilicus; penis and scrotum dingy black; skin on section shewed the colouring matter in the rete-mucosum.	The capsule examined consisted of a smooth hard pinkish mass of fibro-albuminous tissue, degenerating in parts; this tissue was found under the microscope to be composed of nucleated fibre; in the midst were some yellow softer masses, resembling what is called scrofulous matter.	Kidneys, liver, and spleen quite healthy; near the surface of liver, some cretaceous masses, probably the remains of old tubercular disease.
109. Dr. Wilks, Guy's Hosp.	Male, 25.	None given. Severe illness two days.	Acute eczema of both arms and hands, for which patient took small doses	No discoloration noticed, but darkness on arms after eruption; after death, face	Right capsule twice the natural size, and converted into firm lardaceous ma-	Lungs congested; other organs all healthy; peritoneal

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Reports vol. viii., p 44.			of arsenic, with other remedies, and improved greatly; suddenly, vomiting and purging set in, and he sank.	sallow, skin of body pale and natural, that of genital organs and nipples dark; brown spots on thighs, whether these had been seats of eruption was uncertain.	terial; no softening nor cretaceous material in any part; left capsule much smaller, material whiter and more friable, but not cretaceous; organ contracted as if deposit were older than in right capsule.	adhesions between liver and diaphragm; in the abdominal walls a small cyst, apparently an old abscess, containing some putty-like matter.

TABLE G.

CASES OF ADDISON'S DISEASE, APPARENTLY UNCOMPLICATED. (STATE OF OTHER ORGANS NOT REPORTED.)

110. Dr. Wilks, Guy's Hosp. Reports, vol. viii., p. 39. Dr. Barlow.	Male, 24, carpenter	Robust health until five months before admission, when he over-exerted himself in running to catch a train.	Great debility; irritability of stomach, entire loss of appetite, emaciation; pulse very soft and feeble; day before death, great exhaustion, constant nausea, and vomiting.	Skin of a sallow olive brown; discoloration most marked about the knees; inside of lips mottled with black pigmentary deposit, and surface of lips very dark.	Right capsule much wasted; in its substance, many small round hard fibroid masses; left capsule atrophied; in place of normal structure, several cysts, containing turbid, colourless fluid.	Not examined.
111. Mr. Valentine, Med. Gazette,	Male, 35, mason.	Had been healthy until last illness. Duration, several months.	Pain in back, between lower dorsal and upper lumbar vertebræ, with	Sallowness over whole body; face, neck, and arms darkest; discolora-	Both diseased; no trace of healthy structure, but in its place a greyish	Not examined.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
1861, vol. ii., p. 33; also, Guy's Hosp. Reports, vol. viii., p. 41.			partial loss of power in lower limbs; three months later, debility, loss of appetite, vomiting, depression, and latterly intense pain at epigastrium.	tion more marked after death.	amorphous lardaceous matter of the consistence of wax.	
112. Dr. Duncan, Dublin Quarterly Jour. of Med. Science, vol. xxxvi., p. 450, 1863.	Female, 40.	Uniform good health until last illness. Duration, eighteen months.	Debility, loss of appetite, irritability of stomach, mental hebetude; day before death, incoherence and torpidity.	Bronzing on face, on exposed parts of neck and arms, over flexures of joints, fronts of thighs, and round navel; rest of skin natural in colour.	. Both in a state of yellow tuberculous degeneration.	Not examined.
113. Dr. Wilks, Guy's Hosp. Reports, vol. xi., p. 33. Dr Inglis, Worcester Infirmary.	Male.	None obtained. Died on day of admission.	None reported.	General bronzed hue.	Right capsule converted into a large mass of yellow cheesy substance, enclosed in a thick investing membrane; in left capsule, disease was said to be not so far advanced.	Nothing reported.
114. Dr. Wilks, Guy's Hosp. Reports, vol. xi., p. 36. Dr. Gilbertson, Preston.	Female, 50.	Had been tolerably well until a few weeks before death. Discoloration, about three months.	Attacks of vomiting and prostration at three successive periods, the third and fatal one lasting eight days; pulse almost imperceptible; consciousness to the last; death from exhaustion.	Colour of face, and especially forehead, dingy brown, and beneath the eyes almost black; whole surface of body dingy, particularly of chest.	Both converted into a firm lardaceous or cheesy substance, in every respect like what has been hitherto observed in Addison's disease.	Not mentioned.

TABLE H.

CASES OF ADDISON'S DISEASE, COMPLICATED WITH VERTEBRAL DISEASE OR LUMBAR ABSCESS.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
115. Dr. Addison On Disease of the Supra-Renal Capsules, p. 15.	Male, 26, carpenter.	Very good health until about seven months before death. Laid up for two months.	Supposed rheumatic pains in right leg, extending to hips and spine; attacks of giddiness and dimness of sight, with pain at back of head and partial unconsciousness; back tender; great debility, appetite impaired, heart-sounds feeble, faintness on rising; vomiting, with hiccough; almost torpid from feebleness, but could be roused by speaking.	Discoloration noticed for three months; face and forehead of a general yellowish hue; several patches of darkened skin, and similar black patches on the lips.	Both converted into masses of strumous disease, of all degrees of consistency; left capsule adherent to outer coat of stomach; upper part fluid, pus-colour; lower part firmer, and putty-like; right capsule—lower part fluid, centre putty-like, top quite earthy, angular pieces being readily detached.	Psoas abscess on right side, nearly destroying neighbouring vertebræ at their centres; lungs contained hard masses of grey strumous pneumonic deposit; heart and other organs healthy.
116. Dr. Wilks, Guy's Hospital Reports, vol. viii., p. 61. Dr. M'Donogh, of Clapham.	Female, 26.	Had had angular curvature of spine from infancy, causing deformity, and compelling the use of crutches; discoloration, about three years.	Pain in back and side; gradually increasing debility, loss of appetite, and frequent sickness; was found dead in bed, after being two days in hospital, during which time she was too prostrate to take food.	After death, skin observed to be dark, and face more so than body, but discoloration altogether of a slight kind.	Left capsule three times the natural size, of lardaceous consistence, yellow, with a little translucent substance, which was firmer and fibrous. Scattered through it, were portions of dead-white soft matter. Right capsule not much enlarged; contained a little cretaceous matter.	Lungs and heart healthy. Several dorsal and lumbar vertebræ almost destroyed; surrounding these, and adjacent to supra-renal capsules, a quantity of cretaceous and putty-like matter, the remains of an old abscess.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
117. Dr. Cotton, Med. Gazette, vol. xxxvi., p. 33.	Male, surgeon.	Right lumbar abscess ten years before, which remained open fifteen months; afterwards healed up, and patient became strong and well. Last illness, two years and a-half.	Languor, palpitation, sense of sinking, vomiting, hiccough, and numbness of fingers; periods of marked improvement usually following change of air; always made worse by work; last days, extreme prostration, frequent sighing.	General surface of a dusky yellowish bronze colour; face, neck, chest, backs of arms, and hands of a darker hue; several dark freckles, and blackish mole spots; scrotum and areolæ round nipples of a sooty colour.	Both enlarged and adherent—right to liver and to seat of former abscess, and studded with encysted collections of yellow tuberculous cheesy matter, out of some of which pus could be squeezed; left capsule larger than right; appearances similar, but apparently of more recent origin.	A prominent cicatrix in right loin, near spine, from which a whitish, fibrous-looking obliterated sinus proceeded upwards to site of structures in which right capsule was embedded; other organs comparatively healthy.
118. Dr. Greenhow, Path. Trans., vol. xv., p. 228.	Male, 24, engineers' labourer.	Nine months before death, had had abscess in left hypochondrium, which soon healed. Illness, seven months.	Severe neuralgic pain in left hip, downwards along course of sciatic nerve; rapid decline of strength; constipation, flatulence, and gastralgia; nausea and vomitings; loss of appetite; breathlessness and faintness on exertion; intellect unimpaired to the last.	Body dusky; face and neck darker than general surface; knuckles and cicatrices of former abrasions darker than surrounding skin; dark mole-like specks on neck; nipples and areolæ almost black; lips, gums, and buccal mucous membrane stained in patches; conjunctivæ clear and white.	Both disorganized, and converted into masses of firm yellowish-white tissue, in parts semi-transparent, interspersed with numerous opaque yellow deposits, of cheesy consistence, mixed with gritty matter.	Small abscess, communicating with carious bone at left sacro-iliac synchondrosis; lungs adherent to ribs, but free from tubercle; mesenteric glands enlarged; Peyer's patches enlarged, prominent, and of yellowish-white colour.
119. Dr. Glover, Edin. Med Journal, 1859; also,	Male, 39, labourer.	Had hurt his back by a fall eight years before death. Discoloration, five years; illness above one year.	Gradual emaciation and debility, with pain and weakness of back and right thigh; pulse feeble, quick; cough and expec-	General surface of a dark yellow-brown colour; darkness most intense round nipples, outside knee, on hands, and	Structure of left capsule quite destroyed; some parts consisted of grey, semi-translucent deposit, others of opaque white	Left lung adherent; right indurated at apex, but containing no recent tubercle; caries of two lowest

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Guy's Hosp. Reports, vol. viii., p. 50.			toration; vomiting, especially in last days of life; acute curvature of spine in upper lumbar region.	on mucous membrane of lips; penis and scrotum almost black.	material, with some pieces of cretaceous matter; right capsule seemed to have been similarly affected.	dorsal and two upper lumbar vertebræ, with psoas abscess.
120. Dr. Hardwick, Path. Trans., vol. xv., p. 221.	Male, 29, tanner.	Three years before illness, pain in right hip and thigh. Duration, about twenty-one months.	One attack of epilepsy; psoas abscess; great debility, dizziness, breathlessness, occasional sickness.	Skin generally of a dirty olive-brown tint; discoloration a little deeper round eyes and mouth, on neck, axillæ, and abdomen; areolæ very dark; conjunctivæ pearly.	Both hard, nodulated, and hidden in dense fibrous tissue; on section, some parts firm, grey, and lardaceous, others yellow and cheesy; in left capsule, a softened portion forming a cavity.	Psoas abscess on right side of spine; caries in front of third lumbar vertebræ; scattered tubercles in both kidneys; other organs not examined.
121. Mr. Sibley, Path. Trans., vol. x., p. 266, 1858. Drs. Hancorn and Buss.	Male, 43, shoemaker.	Ten years before, abscess of right wrist; five years before, disease of spine and paraplegia. Discoloration one year; laid up six weeks.	Angular curvature of lower dorsal vertebræ; extreme emaciation; pulse quick, small, and feeble; progressive debility, and faintness on exertion.	Face and hands dark-brown, like those of a half-caste; arms, legs, and trunk of a similar tint, but much less dark; skin of uniform colour, except some maculæ of darker tint on face.	Both small, hard, and knobby; converted into yellowish cheesy substance; no distinction between cortex and medulla; under microscope, this substance found to be composed of shrivelled nuclei, not unlike tubercle corpuscles, with a large amount of amorphous granular matter, supported by fibro-cellular structure.	Complete absence of fat; organs generally healthy; in apices of lungs some small tubercles, breaking down in a few places; disease, however, very limited.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
122. Dr. Peacock, Path. Trans., vol. xi., p. 278.	Male, 20, shoemaker.	Fits during early life, and some years before fatal illness, disease of hip, with abscesses. Discoloration and illness, about six months.	Feebleness of pulse, great debility, hurried breathing on exertion, slight cough; sickness and diarrhœa last two days of life; screaming convulsions, in the third of which he died.	Skin everywhere of a peculiar dark-brown colour, particularly intense on forehead, along spine, and back of each arm; darker portions of skin gradually fading off into lighter-coloured parts.	Right capsule adherent to kidney, left to pancreas; both enlarged, and consisting of dense, tough, glistening fibrous walls, circumscribing an irregular cavity; the left contained much creamy fluid; under microscope, walls consisted of closely and irregularly-arranged fibrous tissue, together with numerous clustered nuclear bodies.	Not examined.
123. Mr. J. Hutchinson Medical Gazette, vol. xxxii., p. 593. Dr. Burrows.	Male, 24, hawker.	Spinal disease in childhood; spinal abscess recurred about two years before death, but healed after some months. Pain in back, eight months; discoloration, four months.	Slight emaciation; pain in lumbar region; pulse quick, small, and soft; tongue moist and clean: bowels relaxed; during last weeks of life, daily vomiting; death sudden, after exhaustion by a purgative.	Generally of a copper-bronze tint; head and neck very deeply stained; on thorax and abdomen, brown marks interspersed with lighter spaces; penis and scrotum almost black; dark patches on legs; conjunctivæ white.	Right capsule somewhat enlarged; on incision, purulent-looking fluid issued from several portions of its centre, with several hardish yellow pea-sized bodies, resembling concrete tubercular matter; left capsule in a similar state, but smaller.	Excess of fat on heart; slight disease of one mitral valve; bodies of fifth and sixth dorsal vertebræ destroyed, but no active disease.
124. Dr. Louis Martineau,	Male, 42, hall-	Five years before death, abscess connected with caries,	Much cough; vomiting and colic; obstinate constipation; breathlessness	Skin bronzed over whole body, deepest inside thighs; hair and beard had be-	Right capsule twice the natural size, in two lobes; in the smaller one, no ap-	Some grey and some yellow tubercle in apices of both lungs;

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
"De la Maladie d'Addison," p. 46, Dr. Moissenet.	porter.	and angular curvature of spine; abscess cured after eighteen months. Last illness, nearly a year.	on exertion; extreme prostration and emaciation; last hours, coma.	come much darker, and buccal mucous membrane coloured like a Negro's; cicatrices of boils darker than surrounding skin.	parent change; the other hard and nodulated, shewed on section two large yellowish tubercles softening down; left capsule atrophied; a small cavity lined with tuberculous matter.	spine, &c., could not be examined.
125. Dr. Gubian, Gazette Médicale de Lyon, Canstatt's Jahresbericht, 1858.	Male, 36.	Bilious temperament; exhausted constitution. Duration unknown; eighteen days in hospital.	Typhoid fever; during recovery, he fell into a state of prostration; digestive organs were disturbed, and there was fixed pain in dorso-lumbar region, increased by any endeavour to sit up; patient died from exhaustion, conscious to the last.	Sepia tint of whole skin, dating as far back as patient could remember; hue darkest on nape of neck, on scrotum, and on mucous membrane of lips.	Right capsule five times the normal size, nodulated, and entirely composed of a yellowish, cheesy mass, in process of softening, and having the exact appearance of tuberculous deposit, which was confirmed by the microscope; left capsule not mentioned.	Recent pneumonia; no tubercle in lungs, but some in bronchial glands; disease of lumbar vertebræ; puckered patches on Peyer's glands.
126. Dr. Baly, Path. Trans., vol. viii., p. 330.	Not stated.	None given.	None recorded, except diseased vertebral column.	No trace of bronze discoloration.	Proper structure in great part apparent, but containing nodules of firm substance, grey and semi-transparent externally, yellow and opaque internally, the grey portion predominating; disease evidently at an early stage.	Not described.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
127. Dr. C. Coote, Path. Trans., vol. x., p. 271.	Male, 23.	None given.	None recorded, but caries of sacral and lumbar vertebræ, causing lumbar and pelvic abscesses; death from exhaustion.	No discoloration of skin.	Both much enlarged; normal structure almost entirely replaced by firm yellow amorphous deposit; traces of cortical tubes seen only in a few spots.	Kidneys contained deposits of white tubercular matter, softening in parts; several mesenteric glands infiltrated with (probably) scrofulous deposit.
128. Mr. Hulke, Path. Trans., vol. xiv., p. 254.	Male, 30, mechanic.	None given. Duration uncertain.	Pain and tenderness in lumbar region of spine; psoas abscess; some emaciation, extreme feebleness, very irritable stomach, obstinate constipation; last day of life, faintness.	No discoloration of skin.	Both enlarged, hard, and knobby; on section, homogeneous, mottled with a few yellowish friable specks; under microscope, traces of normal structure.	Caries of third and fourth lumbar vertebræ; psoas abscess; scattered tubercles in apices of both lungs.
129. Dr. Greenhow, Path. Trans., vol. xvii. Dr. Stewart.	Male, 32, coal-porter.	Had sprained his back severely in pushing a coal-truck, upwards of three years before death, and had felt more or less pain ever since. Illness about nine months, discoloration five months.	Debility, sweating, headache, loss of appetite, and sickness; breathlessness on exertion; severe pain in right lumbar region; pulse exceedingly feeble; retching and vomiting after food, pain in epigastrium; tenderness and pain over several vertebræ; vertigo, deafness, and dimness of sight; drowsy, semi-comatose	Whole surface olive-brown, especially face, neck, and hands; several almost black specks on face; tongue, lips, and buccal membrane stained; abdomen darker than rest of body, except sites of blisters; nipples and areolæ, penis and scrotum, very dark; hair and beard had darkened; conjunctivæ pearly.	Both embedded in thick fibrous tissue, and adherent; right much enlarged, nodulated, and on section shewed no distinction of cortex and medulla, but a mixture of greyish semi-transparent somewhat fibrous tissue, and of roundish yellow cheesy masses, with small calcareous patches; left capsule smaller, and con-	Lungs attached by old adhesions to ribs; in adhesions a cyst filled with putty-like matter, and some calcareous deposits; cicatrices and yellow opaque nodules in apices of lungs; abscess in front of vertebræ, from seventh dorsal to third lumbar; inter-vertebral

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
			state some days before death from exhaustion.		tained more of the calcareous matter.	substance separated on the left side from the upper surface of the first lumbar, for two-thirds of its depth.

TABLE K.

CASES OF ADDISON'S DISEASE, COMPLICATED WITH TUBERCLE IN LUNGS ONLY.

130. Dr. Baly, Path. Trans., vol. viii., p. 325. Drs. Burrows and Baly.	Male, 18, baker.	Skin had long been dark. Illness above a year.	Extreme languor, loss of appetite, pain and tenderness in lumbar region, and over abdomen; headache, delirium, vomiting, yawning, and great depression; peculiar odour of Negro skin; two intervals of great improvement; in last relapse, torpor, vomiting, coldness, albuminuria; before death, blindness, laboured breathing, jactitation.	Whole surface bronzed; darkest parts front of neck, areolæ, scrotum, and penis, and on abdomen where blisters had formerly been applied.	Both small, hard, yellow, and nodulated; right capsule mostly firm, grey, semi-transparent, with a yellow, opaque, brittle substance in centre of nodules; in left capsule but little grey, nearly all opaque yellow substance, which in parts was hard and calcareous, and in one small cavity contained semi-liquid matter.	A tubercular mass, not larger than a grain of pearl-barley, in lower lobe of each lung; left pleura adherent throughout; bronchial glands large.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
131. Dr. Van Corput, Brussels, Gazette Hebdomadaire, 1863, p. 493.	Female, 37, housekeeper.	None given. Illness some months.	Epigastric pains and emaciation; death sudden.	Characteristic brown discoloration, darkest on face, backs of hands, around nipples, in axillæ, and near umbilicus; on gums and palate, small roundish bluish-brown stains.	Both three times the natural size, hard, and nodulated; cortex thickened, and dark-red brown; medullary substance entirely replaced by yellowish tubercular masses from the size of a bean to that of a pea, some of them softening in their centres.	A single hard cretaceous tubercle, the size of a pea, in apex of left lung; numerous small melanotic masses, from the size of a pea downwards, scattered throughout both lungs; pigment in bronchial glands, liver, and grey substance of brain.
132. Prof. Dr. Buhl, Wiener Med. Wochenschrift, 1860, p. 6. Dr. Vogel.	Male, 20.	None given.	None mentioned, but a striking general decay of strength.	Whole surface bronzed, but colour deepest on fingers; tongue also stained with brown patches.	Both enlarged, tough, and containing yellow cheesy nodules; left capsule almost entirely transformed into a cheesy mass.	Lungs contained scattered miliary tubercles, and were loaded with pigment; enlarged bronchial glands, and solitary glands of intestine, also dark-coloured; other organs healthy.
133. M. Virchow, Canstatt's Jahresbericht, 1859. M. Schmidt, Rotterdam.	Male, 23, sailor.	Intermittent fever previous year. Illness some months, followed by discoloration.	Debility, coldness of skin, loss of appetite, vomiting, pains in loins; progressive emaciation and prostration; death from exhaustion.	Face and hands became of a dusky-brown colour, and sepia-coloured stains were found on the neck, in the axillæ, and lumbar regions, which faded gradually into the normal coloured skin.	Both enlarged and tuberculous, pink softened portions alternating with harder yellow or yellowish-white parts; in left capsule three pea-sized cavities, formed by the softening down of tubercle;	Old tubercle in apices of lungs; follicles of intestines swollen and thickened; other organs healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
					adjoining lymphatic glands also enlarged and tuberculous.	
134. Dr. Gromier, Gazette Médicale de Lyon, 1857.	Female, 51.	None given. Illness, fifteen months.	Loss of appetite and flesh; later, pains in loins, excessive debility, and slight convulsive symptoms before death, which took place from exhaustion.	Intense brown discoloration soon following early symptoms of illness.	Both found tuberculous.	Miliary tubercles in apices of lungs.
135. Dr. Giocomo Mingoni, Gaz. Med. Ital., Lombardia, 1856, No. 42.	Male.	Hemiplegia at 8 years old, for some months; dysentery at 25, and again at commencement of illness. Duration, twenty months.	Debility, languor, and vomiting of food; loss of flesh, pains in loins, vertigo; body became cold, pulse failed; death from exhaustion.	Face and hands began to darken with first symptoms of illness; discoloration appeared later in axillæ, on scrotum, and in large patches on elbows and knees; also on lips.	Right capsule small, and contained some crude tubercles, shewing normal structure between them; left capsule greatly enlarged; on section, a quantity of pus escaped, and a tuberculous mass was seen partly softening down.	Crude tubercle in apex of left lung; slight appearance of softening in brain.
136. Dr. Isaac Taylor, Med. Gaz., vol. xxxv., p. 36, 1856, from Amer. Journ. of	Male, 22.	Two years before admission to Belle Vue Hospital, New York, had symptoms of phthisis, which had entirely subsided. Duration unknown.	Feebleness and emaciation; nausea and vomiting; pain in right side, and constipation; pulse small and weak; hebetude of mind and body; suppression of urine two	Face and neck of a light sun-burnt hue; backs of hands brown; small darkish spots on each lip, which deepened while under observation; trunk and limbs of normal col-	Right capsule consisted solely of tuberculous material, in part solid and in part fluid; left capsule as large as a hen's egg, and contained, within a thin layer of cortical struc-	Some old cicatrices, and a few scattered tubercles, in apices of both lungs.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Med. Science.			days before death; died comatose.	our; after death, darker tinge observed in axillæ, and on right side of abdomen.	ture, a collection of tubercular matter, partly solid, partly semi-fluid.	
137. Dr. KIRKES, Med. Gaz., vol. xxxv., p. 35.	Male, 25.	Fever two years before, and had been badly off. Duration uncertain.	Great exhaustion, nausea, vomiting, and faintness; no urine secreted for some time before death.	No bronzing of skin noticed. (N.B.—This case occurred some years before the publication of Addison's work.)	Both enlarged, and filled with masses of firm yellowish cheesy-looking matter, in which particles of calcareous matter were embedded.	A little old tubercle in lungs.
138. Mr. F. WORKMAN, Brit. Med. Jour. 1863, vol. ii., p. 605.	Male, 33, labourer, formerly cavalry soldier.	Four years before death, his horse fell on him, and injured his loins; had been ailing ever since.	Lumbar pains, progressive debility, occasional sickness, and at last dyspnœa.	Face and upper extremities slightly bronzed for eighteen months.	Both filled with tubercular deposit.	Lungs contained a few miliary tubercles; no report of other organs.
139. Mr. A. FERNIE, Reading, Brit. Med. Jour. 1857, p. 581. Dr. COWAN.	Female, 14.	Had been ailing for three years; three weeks in hospital.	Emaciation, vomiting, constant pain in right side; pulse small and compressible; last days of life, extreme prostration, coldness of surface, and incessant vomiting.	Complexion muddy; nails black, as if from dirt; a number of small spots, of darker colour, on legs.	Both much enlarged; on section, consisted of yellow cheesy deposit, mottled with narrow streaks of red substance; cheesy deposit, in some parts of creamy consistence, in one part calcareous.	Small deposit of tubercle in apex of each lung; other organs all healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra Renal Capsules.	State of other Organs.
140. Dr. Robertson, Med. Gazette, vol. xxxiii., p. 646, 1856.	Male, 26, labourer.	Never any serious illness till the last. Duration, twenty-two months.	Appetite bad; sickness and vomiting at intervals; pain in legs and right hypochondrium; pulse small and feeble; death from exhaustion.	Bronzing commenced about a year before death; face, arms, hands, and chest a dark brown; face and hands deepest; conjunctivæ pearly.	Both much enlarged; left capsule a soft cheesy mass, in a firm glistening yellow envelope; right capsule contained a solid cheesy substance, with a softened portion resembling cream.	Apex of left lung contained two or three small chalky deposits; other organs healthy; blood thicker than usual after death.
141. Dr. E. Montgomery, Path. Trans., vol. xiii., p. 246. Dr. Barker.	Male, 14.	Had had perfect health until last illness. Duration, five months.	Loss of flesh; extreme weakness, almost inability to move, frequent vomiting, vertigo, feeble voice; no pain.	Skin everywhere distinctly bronzed; deepest on belly and back; forehead and fore-arms paler.	Substance of capsules entirely destroyed; replaced by granular and calcareous matter.	A few calcareous tubercles in apices of lungs.
142. Dr. Dickinson, Path. Trans., vol. xvi., p. 243. Dr. Pitman.	Female, 39, straw-plaiter.	None given. Illness about a year.	Debility, wasting, frequent vomiting; pulse small and weak, respiration feeble, manner listless; skin cool, but patient complained of burning heat; breath had a sickly smell; urine abundant and healthy; slight convulsion, followed by semi-coma before death.	Skin generally bronzed to a Mulatto tint; darkest on buttocks, on upper and inner parts of thighs, near groins, and dark patches above each patella.	Left capsule enlarged, adherent to pancreas; on section, hard, elastic, marbled, resembling a fibro-plastic tumour; centre occupied by soft opaque broken-down yellowish matter, not unlike crude tubercle; right capsule much smaller; central part semi-fluid, resembling creamy pus; several greyish nodules, like miliary tubercles.	Small mass of crude tubercle at apex of right lung, besides two or three round masses, rather larger than peas, believed to be tubercle; mitral valve thickened.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
143. Dr. Monro, Dundee, Assoc. Med. Jour., 1856, p. 48.	Female, 40, clergyman's wife.	Generally healthy, but never robust; eight or nine months before death, much anxiety and bodily fatigue. Illness dated from that time.	Short dry cough, with scanty expectoration; great debility; pulse small and compressible; sickness and prostration; consciousness to the last.	Dark spot on forehead several years before death, from which discoloration gradually spread over body; latterly, general hue that of a Lascar, darkest over back of neck, elbow-joints, and knees; stains on mucous membrane of lips.	Right capsule much enlarged, and adherent to liver; left capsule much smaller; on section, both organs presented two materials, one dense and of gristly hardness, the other a yellow cheese-like deposit.	Tuberculous deposit in apices of both lungs; solitary gastric glands very prominent; tubular glands of mucous membrane nearly gone, their place supplied by granular amorphous material.
144. Dr. L. Martineau, "De la Maladie d'Addison," p. 43. Drs. Cornil and Vast.	Female, 48, labourer.	Discoloration had begun to appear after a time of great grief, six years before death. Illness, about fifteen months.	Pains in limbs and abdomen, and great debility, with some vomiting; towards the last, emaciation and prostration; tendency to faint if raised up; cough and slight hæmoptysis; no appetite; answered questions with difficulty; death quiet, from exhaustion.	Skin discoloured over whole body; most deeply bronzed on forehead, face, and backs of hands; colour uniform on hands, in patches on forehead.	Both much enlarged; enveloping membranes very thick, and sending processes into the organs; on section, right capsule shewed large yellowish masses, of tuberculous appearance, some still hard, others softening down into pus; left capsule in a similar state, but less advanced.	In apex of right lung, some crude tubercles; round these, and in the upper part of lung, some rather extensive patches of chronic pneumonia.
145. Dr. L. Martineau, "De la Maladie d'Addison," p. 30. Dr. Fremy.	Male, 27, farrier.	Healthy until eighteen months before death.	Loss of strength and appetite; vomiting; dull pain in hypochondria, increased by pressure or by walking; pulse soft, compressible; tongue clean; progressive debility, pass-	Fair complexion became brown, and light hair dark; before death, general greenish-brown hue, deepest on face, insides of arms and legs, on penis, and on scars of burns;	Right capsule adherent, rough, and nodulated; on section, presented a yellowish cheese-like appearance; no trace of normal structure; left capsule larger and less adherent,	In apex of left lung, a few tubercles, one of which was softening; other organs healthy.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
			ing into torpor last two days of life, but consciousness perfect when roused by questions; death in a convulsion.	black specks scattered over face; insides of lips and cheeks, and soft palate, deeply stained; conjunctivæ normal.	with some pus in centre; shewing traces of normal structure. Under microscope, cheesy portions presented precisely the elements of yellow tuberculous masses when softening down.	
146. Dr. Child, Oxford, Lancet, 1865, vol. i., p. 176.	Female, 37.	None given. Illness about five months.	Weakness, languor, frequent vomiting, drowsiness, hiccough; heart's action exceedingly feeble; breath peculiarly fœtid; delirium day before death.	Face, neck, and forearms dusky, as if from exposure to sun.	Both hard, completely infiltrated with tubercular matter; right capsule the larger, and appeared on section a mass of crude tubercle, with no remains of normal structure.	Small deposits of tubercle in apices of lungs; mesenteric glands enlarged; other viscera healthy.
147. Dr. Hughes, Dublin Quart. Jour. of Med. Science, November, 1865, p. 363.	Male, 45, herdsman.	Subject to dyspepsia and pyrosis for several years. Last illness a few months.	Progressive debility, sickness, breathlessness on exertion, vertigo on assuming an erect position; severe but intermittent pain from lumbar vertebræ encircling abdomen; pain and tenderness on pressure both of arms and spine; death from sinking.	Face, neck, and hands smoky brown; colour well marked in axillæ, around nipples, in groins, on scrotum, knees, and on epigastrium where croton-oil had been applied; in axillæ, and on arms, a few scattered almost black spots.	Both, but especially the left, enlarged by the deposition of a firm, opaque, lardaceous-looking substance; centre of left capsule occupied by a cheesy-looking, manifestly strumous, deposit, which was also found in nodules throughout the right capsule.	Miliary tubercles scattered on surface of lungs, beneath the pleuræ.
148. Dr. Wilks,	Male, 38,	For a twelvemonth past had been failing;	Pains in limbs, debility, and cough; towards the	No discoloration.	Twice their natural size, white, firm, and hard;	Lungs contained a number of yellowish

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Guy's Hospital Reports, vol. viii., p. 38, Dr. Owen Rees.	wheelwright.	much worse the last nine weeks.	last, utter prostration, could scarcely move in bed, and did not care to speak; pulse exceedingly feeble; frequent vomitings.		on section, seen to be composed of two substances, one firm and translucent, the other opaque-yellow, exactly resembling that called scrofulous.	deposits, the size of peas, much resembling the deposit in the capsules; heart and other organs healthy.
149. Dr. Seaton Reid, Med. Gazette, 1861, vol. ii., p. 32.	Female, 28.	Always weakly; had suffered for two years from cough and pain in side. Last illness, three or four months.	Extreme languor; failure of appetite; tendency to fainting; pulse rapid and feeble; tongue moist, much thirst; towards close of life, increased listlessness and depression, and disinclination to speak; daily vomiting of yellow or greenish fluid.	Face yellowish-brown, with many dark spots on cheeks; dark streak along centre of lips; buccal mucous membrane discolored; two or three ink-like streaks on tongue; back and sides of neck olive-brown, nipples and armpits very dark; trunk and thighs Mulatto-colour, with spots like those on cheeks.	Both entirely disorganized; the right composed of cheesy or scrofulous-looking matter, the left of hard, fatty matter.	Left lung had considerable deposit of tubercle at apex, without any cavities.
150. Mr. T. Holmes, Path. Trans., vol. ix., p. 405. Dr. Page.	Male, 43, clerk.	Abscess connected with sternum for seventeen years. Illness, seven or eight months.	Aching pain across loins; depression, feeble pulse, loss of sleep.	Skin of a dark, dingy colour, especially on face, hands, and legs; more bronzed on parts exposed to light; of a yellowish hue on legs.	Both enlarged; natural tissue quite gone, and replaced by a firm white parenchyma, in which was a copious deposit of crude tubercle, softened in places.	Extensive tubercular deposit in lungs; a vomica in each apex.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination	
					State of Supra-Renal Capsules.	State of other Organs.
151. Dr. F. B. Gray, Med. Gazette, 1860, vol. i., p. 237.	Male, 47, labourer.	None given. Illness some months.	Gradual loss of strength, flesh, and appetite, with frequent vomiting, and pain in belly or loins; extreme prostration of mind and body; offensive odour of breath and skin.	Whole body of a nearly uniform dusky-brown colour.	Both enlarged, and their proper tissue entirely replaced by yellow cheesy tubercle.	Small cavities and calcified tubercles in apices of lungs; other portions of lungs studded with small miliary tubercles.
152. Dr. Wilks, Guy's Hospital Reports, vol. viii., p. 33. Dr. Hodgkin for Dr. Bright.	Female, 38.	None given.	None reported, but pain in chest, and cough.	Not mentioned. (N.B. — Case occurred some years before the publication of Addison's work.)	Both enlarged, and occupied by a yellow adventitious deposit, which in parts was softening down.	Lungs contained tubercles, but quite insufficient to account for death.
153. M. Brehme, Deutsche Klinik, 1857.	Male.	Corpse brought to dissecting-room.	Unknown.	Whole surface, except face, of a dark greyish-brown colour, deepest in axillæ and inguinal regions; here and there round whitish scars.	Right capsule enlarged, and filled with yellowish, firm, apparently tuberculous masses, from the size of a bean downwards; left capsule shrivelled, but in similar condition.	Lungs tuberculous.
154. Dr. Gull, Med. Gazette, 1865, vol. ii., p. 441.	Male, 45.	Had had cough, hæmoptysis, and puriform expectoration, but signs of phthisis were not decided. Illness seven years.	Great feebleness, pain of limbs, and at one time daily (morning), sickness; occasional dimness of sight on first rising; disease of left foot.	When last admitted into hospital, hue very brown; nipples especially tinged, and also lower extremities.	Both small and hard; right adherent to liver, and shewing, on section, fine white tissue and calcareous matter; left contained calcareous matter,	Apex of right lung puckered, with chalky grains in its tissue; recent tubercle in lower lobe; left lung healthy, except one

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
					mixed with viscid fluid.	cretaceous nodule; tibia and tarsal bones soft.

TABLE L.

CASES OF ADDISON'S DISEASE, COMPLICATED WITH TUBERCLE IN LUNGS AND OTHER ORGANS.

155. Dr. Greenhow, Path. Trans., vol. x., p. 269.	Female, 31, married.	Had strained her back in turning a mangle, several years before. Illness, six months.	Occasional vertigo, pain in loins, sickness, feebleness of pulse, coldness of skin, palpitation, breathlessness and faintness on exertion; smarting in darker portions of skin when warm; fœtid odour last two days of life; mind clear to the last; death from exhaustion.	Body of a dusky olive hue; general surface of exposed parts greenish-bronze colour, darkest on forehead, temples, and back of neck; colour not quite uniform, presenting a number of small patches; several dark well-defined spots, like nævi, on arms, face, and neck; lips and buccal membrane stained; conjunctivæ pearly white.	Left capsule consisted entirely of yellow cheesy tubercle; right capsule in a similar state, but softened at centre; no trace either of cortical or medullary substance.	Thick layer of fat on thorax and abdomen; small yellow tubercles in apices of lungs; fibrinous clots in right side of heart; peritoneum studded partly with small irregular opaque-yellowish stellate bodies, partly with small closely aggregated transparent granules.
156. Dr. Greenhow, Path. Trans., vol. xvi., p. 247.	Female, 13.	Bronchitis six months before death; soon after, slight duskiness, attributed	Sickness, feeling of cold; listless, exhausted aspect; small feeble pulse; frequent sighing and yawn-	Discoloration scarcely observable till last days of life, when the duskiness of face and hands became	Both much enlarged; envelopes thickened, and adherent to surrounding parts; right capsule hard,	No emaciation; apices of lungs puckered on surface, and consolidated by chief-

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
		to sun burning; last illness followed a severe purge. Duration, fourteen days.	ing; retching on the slightest exertion; later, cough, with scanty expectoration of mucus, tinged with blood, and faintness, with vomiting, on being moved; conscious to the last; death rather sudden.	more evident, and the nipples, axillæ, abdomen, and knees shewed a slightly dusky hue; a single small dark stain on buccal mucous membrane.	nodulated, and consisting chiefly of opaque-yellow masses, cheesy or friable, with here and there some gritty matter, bound together by greyish semi-transparent tissue; in upper part, some puriform fluid; no trace of normal structure; left capsule smaller, and disease appeared less advanced.	ly grey semi-transparent tubercular deposit; in right lung, tubercle beginning to soften; a little grey tubercle in lower portions of both lungs; Peyer's patches prominent, mesenteric and solitary glands enlarged, and a few of the latter opaque and yellowish.
157. Dr. Wilks, Path. Trans., vol. xiv., p. 253. Dr. Truman.	Male, 26, grocer.	None given. Illness about four months.	Excessive weakness and want of energy; dull, aching pain in region of kidneys; towards the last, vomiting.	At first, slight yellowish tinge on face, which gradually darkened; after death, skin universally of a yellowish-brown hue, more markedly so on abdomen.	Right capsule much enlarged, and infiltrated with masses of yellow tubercle; left capsule smaller, but similarly diseased; under microscope, deposit found to consist of granules, oil-globules, free nuclei, and a few imperfect cells.	Puckered cicatrix at apex of right lung; old pleuritic adhesions; a few masses of tubercle between jejunum and pancreas, which were adherent to each other.
158. Dr. Murchison Path. Trans., vol. xv., p. 224. Dr. W. T. Gairdner.	Male, 15, paper-stainer.	None given. Illness above a year.	Chilly fits, pains in back, diarrhœa and sickness; typhoid erysipelas of face, and tubercular peritonitis.	General darkening of skin; almost Negro blackness on points of fingers, penis, and scrotum; slight staining of mucous surface of lips.	Both enlarged and indurated; the normal structure, except a little in left capsule, replaced by a yellow cheesy substance, partly infiltrated with cretaceous matter.	A little tubercle in both lungs; peritoneum universally tuberculous.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
159. Dr. Page, St. George's Hospital, Brit. Med. Jour. 1859, p. 717.	Male, 17, saddler.	None given. Illness four months.	Debility, emaciation, vomiting, pain across loins, and burning sensation at lower part of sternum; pulse very feeble; skin cold; wandering of mind; torpor at the last.	Universal discoloration, of a dirty yellowish hue, approaching to bronze on exposed parts; conjunctivæ perfectly white.	Both enlarged, and occupied by a mass of tubercular deposit; no portion of healthy gland left.	Small collection of crude tubercle in apex of right lung; mesenteric glands enlarged, and tuberculous.
160. Dr. Murchison Path. Trans., vol. x., p. 268. Dr. Scurrah,	Male, 36.	None given.	None reported, except that there was pericarditis.	No bronzing of any part of skin.	Right capsule much enlarged, left rather smaller; interior, and greater part of both, the seat of a mass of yellow scrofulous deposit.	Acute tubercle of lungs, pleuræ, peritoneum, liver, and kidneys.
161. Addison "On Disease of Supra-Renal Capsules," p. 22. Dr. Bright, 1829.	Female.	None known. A month in hospital.	Irritability of stomach; bilious vomiting; debility; obscure tumour in left breast; swelling of parotid; drowsiness, from which she could be roused; pain over forehead, and a little wandering for a day or two before death.	Complexion very dark. (N. B. — Case occurred many years before the publication of Addison's work.)	Both enlarged, lobulated, and the seat of morbid deposits, apparently of a scrofulous character; they were at least four times their natural thickness, solid, and hard; one part of left capsule had suppurated, containing two drachms of yellow pus.	Upper lobe of each lung puckered, and containing one or two masses of earthy matter, besides several incipient tubercles: small abscess beneath mamma; brain atrophied; heart and other organs healthy.
162. Dr. Wilks, Guy's Hospital Reports,	Male, 28, coachman.	Sudden hemiplegia a year before death, from which he never recovered.	Felt very ill the last few weeks of life, complaining of pain in head; a second paralytic stroke caused death.	Skin of an unusually dark colour; face and hands of an olive tint.	Both disorganized from presence of adventitious material, of a grey, semi-transparent appearance; scattered through this	Scattered tubercles in upper lobes of lungs; arachnoid inflamed, fluid in ventricles; softening at

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
vol. viii., p. 40. Dr. Addison.					were small masses of yellow cheesy material.	junction of left corpus striatum and thalamus opticus.
163. Dr. W. H. Broadbent, Path. Trans., vol. xiii., p. 246.	Female, 23.	Change of disposition, and impaired health, for two years, attributed to a severe mental shock.	Headache and vertigo, followed by chorea; progressive weakness; vomiting after meals; peevishness, and sometimes violence.	Had been observed for some time as becoming discoloured; face and hands tanned, as if by the sun.	Both enlarged, nodulated, and embedded in adherent cellular tissue; normal structure replaced by an aggregation of small bodies, connected by firm elastic cellular tissue; one or two had softened down into diffluent creamy matter.	A few firm yellow tubercles in apices of lungs; mesenteric glands enlarged; a small firm white tumour on posterior surface of lumbar enlargement of spinal cord, out of which it sprang.
164. Dr. Kirkes, Med. Gazette, vol. xxxv., p. 35.	Male, 34, hostler.	Of intemperate habits, and subject to epilepsy.	None reported, except general tubercular disease; death in a fit.	Not mentioned; at the autopsy, no spots were visible on the surface. (Case occurred before the publication of Addison's work.)	Right capsule thickened and distorted by the deposition of large masses of firm yellow cheesy tubercle; left capsule healthy.	Tubercle in most of the viscera.
165. Dr. G. Harley, Path. Trans., vol. ix., p. 402. Dr. Mackenzie.	Female, 33.	Had consulted Dr. M. eight years before for general ill health, anæmia, dyspepsia, and slight uterine derangement.	Five months before death, excessive anæmia, weakness, and emaciation; marked pain was caused when positive pole of galvanic battery was placed over seat of supra-renal capsules.	Peculiar sallowness of the skin. General surface of the skin opaque; rather dusky, or freckled brown than bronzed. Several dark patches on the chest; one much larger than the rest at the lower portion	Both much enlarged; right capsule firm, lobulated, and, on section, of a dirty white hue; no trace of normal structure; left capsule presented the yellowish-white colour of crude tubercle, with a	Liver enlarged, with some miliary tubercles on anterior surface; right ovary adherent to uterus, and to a cyst containing material similar to that in capsule;

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
				of sternum.	softer part towards middle, from which milky fluid escaped on pressure.	abdominal organs extensively adherent.
166. Dr. Woodhouse, Brit. Med. Jour., 1863, vol. ii., p. 605.	Male, 63, gentleman.	Always of sallow complexion and gouty constitution. Illness several months.	Progressive debility and emaciation; œdema and purpura of legs; no nausea or vomiting; enlargement of liver and ascites; death from asthenia.	Tawny patches on forehead and left temple.	Both enlarged, and infiltrated with tubercular matter.	Liver enlarged and granular; spleen large and friable, with tubercular concretion size of walnut; lungs healthy.
167. Mons. Malherbe, Gazette des Hôpitaux, 1856, p. 427.	Female, 48.	Severe mental emotion eighteen months before death, from which time health failed.	Wandering pains in limbs and abdomen; pulse extremely slow and feeble; progressive debility, slight emaciation, constant vomiting, diarrhœa; death from sinking.	Skin, naturally very white, acquired a gradually deepening shade of brown; after death, colour deepest in groins and axillæ, but perceptible everywhere.	Left capsule greatly enlarged, and contained two large masses of tubercle; right capsule of lardaceous consistence, resembling crude tubercle, with a number of encysted tubercular deposits in a cheesy state.	Cervical glands enlarged; lymphatic glands generally almost transformed into masses of tubercle; left kidney full of encysted tuberculous deposits, some cheesy, some suppurated, others hard.
168. Mr. Leeming, Med. Gazette, 1860, vol. i., p. 87.	Female, 47.	None given. Illness said to have lasted four years.	General debility, loss of appetite, pain in lumbar region extending to right groin; pulse soft and weak; twice improved in general health but relapsed.	Bronzed all over body twenty-two months before death; face and hands darkest. On abdomen and chest many dark spots gradually shaded off.	Both broken up into purulent-like fluid with masses of softened tubercle in centres.	Pleuræ adherent; lungs infiltrated with tubercle; spleen tubercular; pancreas full of tubercular deposit and pus.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
169. M. Trousseau, Gazette des Hôpitaux, 1856, p. 365.	Male, 30, coachman.	Had enjoyed good health. Illness five months.	Gradual emaciation, loss of strength, dislike to meat; occasional pain in loins; later a shivering fit followed by copious diarrhœa; coldness of surface and delirium. Death from rapid sinking.	Bistre discoloration first on face and hands; axillæ, penis and scrotum, especially dark; interior of lips as black as a dog's.	Left capsule much enlarged and almost entirely changed into heteromorphous product. Numerous tuberculous masses in both capsules.	Some old tubercles in apices of lungs; scattered tubercles in kidneys; other organs healthy.
170. Dr. L. Martineau, "De la Maladie d'Addison," p. 65. Professor Seitz, Munich.	Female, 47.	Good health, but given to drinking. Illness nine months.	Loss of flesh, indigestion, vomitings and chronic catarrh of stomach; later debility, profuse sweatings, hectic fever and death.	Dark yellow-brown discoloration on head and neck, less marked on body.	Both of the size of walnuts, hard and homogeneous, consisting of yellow tuberculous matter in process of degeneration.	Scattered tubercles in lungs; small tubercular deposits in spleen and on peritoneum of stomach; liver fatty.
171. Prof. Dr. Buhl, Wiener Med. Wochenschrift, 1860, p. 20.	Male, 28.	None given.	Excessive emaciation and exhaustion. Death from gradual sinking.	Grey-brown discoloration on face and neck; well-marked on hands and feet, gradually fading away towards arms and ankles; genital organs dark; sides of tongue stained from root to tip with black-brown patches.	Both enlarged, and containing tough yellow cheesy masses, identical in character under the microscope with the so-called miliary tubercles in lungs, liver and spleen.	Apices of lungs, liver, and spleen, studded with miliary tubercles; lymphatic glands throughout body enlarged, with yellow cheesy material towards their centres; lungs infiltrated with black pigment; spleen greatly enlarged.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
172. Prof. Dr. Traube, Berlin, Wiener Med. Wochenschrift, 1860, p. 699.	Male, 43, labourer.	Always healthy until two months before death.	Cough, emaciation, obstinate diarrhœa; pulse high, skin hot, tongue dry, thirst, loss of appetite; restlessness, wandering at nights, slight albuminuria.	Peculiar dark colour of skin, more striking after death; extensive desquamation of cuticle.	Medullary substance of right capsule softened; left capsule studded throughout with large yellow cheesy masses, so that little remained of normal structure.	Acute tubercular infiltration of parenchyma of lungs; two apoplectic patches in lower lobe of right lung; tubercle of intestines; spleen enlarged; nutmeg liver.
173. Dr. Greenhow, Path. Trans., vol. xvii. Dr. H. Thompson.	Male, 55. labourer.	Strong and hearty until last illness.	First, loss of strength, then breathlessness on exertion and nausea. In hospital, retching and vomiting, pains in loins and epigastrium, cramps in legs and abdomen, loss of appetite, prostration. Signs of pulmonary and heart affections; restlessness, wandering of mind, death from sinking.	General surface had a faint brownish tinge; penis and scrotum almost black, as were likewise some cicatrices of old injuries, except the deepest parts, which remained pale; purplish stains on tongue; distinct brownish stains on lips and buccal mucous membrane.	Both enlarged and nodulated; right much the largest; fibrous envelopes thickened and right one adherent to diaphragm; no traces of cortex or medulla; the whole of both organs converted into material, which, to the naked eye, had precisely the appearance of tubercle.	Yellow cheesy deposits in apices of both lungs, surrounded by dark consolidated tissue; diaphragm, mesentery, and peritoneum in front of spine studded with patches of grey tubercle; recent pericarditis; lungs attached to ribs by fibrous adhesions.

TABLE M.

CASES OF ADDISON'S DISEASE, COMPLICATED WITH PHTHISIS.

174. Dr. J. Ogle,	Female, 14.	None given.	Rapid phthisis, with signs of diseased kidney	Quite natural.	Both much thickened and shewing only a small	Lungs phthisical; left kidney, and inner

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
Path. Trans., vol. viii., p. 330, 1856.			and bladder.		portion of natural tissue, the remaining parts being the seat of a firm yellowish-white deposit, resembling crude scrofulous matter. Under microscope, deposit shewed large numbers of ill-defined non-nucleated cell-structures, interspersed amidst granular and fatty matter.	surface of bladder, near its base, the seats of softened, broken-down scrofulous material.
175. Dr. J. W. Ogle, Path. Trans., vol. viii., p. 332.	Male, 36.	None given.	Those of phthisis.	Case stated as one of "No bronzing," but skin of face described as "dusky," evidently from venous congestion.	Right capsule very large and adherent to kidney and liver; investing membrane much thickened and whole gland seat of scrofulous deposit softened and broken down into pus-like fluid at posterior part; left capsule healthy.	Lungs emphysematous, and the seat of scrofulous deposit.
176. M. Virchow, Canstatt's Jahresbericht, 1859, part iv., p. 288. M. Schmidt, Rotterdam.	Male, 48, labourer.	Had been in prison, and sickened there.	Emaciation, dry and scaly skin, fever, diarrhœa. Death with all the symptoms of phthisis.	Face dusky-brown.	Both tuberculous, especially the left, which presented scarcely any healthy tissue.	Extensive tubercle of lungs, bowels, spleen, and mesenteric glands.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
177. Dr. G. Harley, Path. Trans., vol. ix., p. 410.	Male, 35.	None given.	None reported except that there was acute phthisis.	No bronzing of skin.	Both much enlarged, firm, and on section presenting the appearance of crude tubercle; no trace of normal structure. Under microscope, traces of the characteristic columnar cell-masses could be detected.	Miliary tuberculari-zation of lungs.
178. Dr. Kirkes, Med. Gazette, vol. xxxv., p. 35.	Male, 21.	None given. Severe illness ten weeks.	Cough, night-sweats, emaciation, and great irritability of bowels.	A peculiar yellow sallow tint as if sun-burnt. The change in hue of skin was obvious and striking. (N.B.—Case occurred some years before the publication of Addison's work.)	Right capsule enlarged and occupied by firm, cheesy deposit, surrounded by a hard whitish capsule-like tissue. Left capsule in a similar state, but matter softer and in parts quite puriform.	Tubercular disease of both lungs; ulceration of large intestine.
179. Dr. Edwards, Med. Gazette, vol. xxxvi., p. 350.	Male, 48, tailor.	Phthisical for the last three years; tumour to right of sternum.	Emaciation and debility; cough and dyspnœa; impaired appetite and occasional vomiting after food.	Bronzing of face, becoming more marked as disease advanced. No discoloration elsewhere.	Both soft in texture; in right capsule three-fourths of normal structure replaced by an opaque-grey fibrinous mass. No deposit in left capsule.	Lungs tubercular; a few old deposits on mitral valve; a few tubercular deposits on surface of left kidney.
180. Dr. Kirkes, Med. Gazette, vol. xxxv., p. 35.	Male, 47.	None given.	The usual symptoms of phthisis with irritable bowels and fœtid breath.	No bronzing noticed. (N. B. — Case occurred some years before the publication of Addison's work.)	Left capsule enlarged and containing some masses of opaque-yellow substance resembling tubercle. Right capsule not examined.	Tubercular disease of larynx, trachea, lungs, and intestines.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
181. Dr. Christie, Med. Gazette, vol. xxxiv., p. 347.	Female, 36.	Good health until last illness. Duration, six months.	Cough and expectoration followed by pain in head and lumbar region; right side of face semi-paralyzed; pulse feeble. Died comatose.	A dark mahogany colour all over body and legs.	Both enlarged and containing a series of cysts filled with a thin serous fluid with small floating flocculi. Very little cortical substance remaining.	Phthisis in both lungs.
182. Mr. Harrinson, Brit. Med. Jour. 1860, p. 959.	Male, 35, baker.	Never strong; had had pleurisy and glandular affections. Discoloration three years; laid up four months.	Chronic phthisis. Progressive debility.	Discoloration began on forehead and spread over body.	Right capsule nearly one mass of tubercular deposit, weighing 3 drachms; left in same state, weighing $7\frac{1}{2}$ drachms.	Lungs tubercular; mesenteric glands enlarged; right kidney contained a scrofulous abscess.
183. Dr. Wilks, Guy's Hospital Reports, vol. viii., p. 60. Mr. Harris, of Hackney.	Male, 46, painter and glazier.	None given. Discoloration said to have been two years; known illness, six months.	Cough and night-sweats followed by loss of appetite, debility and sickness. A month before death, hæmoptysis. Last days, constant vomiting.	Skin deep bronze colour, hands and face darkest.	Both enlarged and wholly converted into masses of yellow friable substance, embedded in firmer white albuminous material.	Lungs studded with tubercles, which were softening in the apices.
184. Dr. Brittan, Brit. Med. Jour. 1858, p. 107.	Male, 31, boiler-maker.	None given.	Those of phthisis and disease of liver.	Skin covered with purpurous patches, but no bronze discoloration.	Both enlarged and filled with apparently tubercular matter.	Lungs thickly studded with tubercles, and cavities in both apices; liver enlarged, and slightly cirrhosed.
185. Mr. T. Holmes, Path. Trans., vol. ix., p. 414.	Not stated.	None given.	None recorded, except phthisis and pneumonia.	Small roundish blotches of a dark brown hue, affecting epithelium only. (Committee of Pathological Society report that in some parts the lower layers	Both contained extensive deposits of crude tubercle, which, however, had not entirely obliterated their natural structure.	Cartilage of knee-joint ulcerated; strumous abscess in left kidney.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
				of epidermis contained brownish pigment.)		
186. Dr. L. Martineau "De la Maladie d'Addison," p. 70. M. Worms.	Male.	None given.	Nothing reported, but death from pulmonary consumption.	No bronze discoloration of skin.	Both much enlarged and hard; enveloping tissue thickened; on section seen to be converted into a cheesy substance, divisible into separate masses, which were softened at their centres into yellow and creamy pus.	Nothing reported.

TABLE N.

CASES OF ADDISON'S DISEASE, WITH NON-TUBERCULAR COMPLICATIONS.

187. Dr. Addison "On Disease of the Supra-Renal Capsules," p. 9.	Male, 32, baker.	Cough for three years. Discoloration nearly three years.	Loss of flesh and excessive weakness; soreness of chest about the scrobiculus cordis; voice puerile and whole demeanour childish.	Whole skin of dark hue resembling coloured races; palms of hands and soles of feet lightest, scrotum and penis darkest; conjunctivæ pearly white.	Both diseased and as hard as stones; left about the size of a hen's egg, with head of pancreas firmly tied down to it by adhesions.	Lungs universally adherent; pneumonia in right lung, but no tubercles; pericardium distended with dark-brown fluid; recent lymph effused over whole serous surface.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
188. Dr. Haldane, Edin. Med. Jour., vol. viii., p. 1036.	Male.	Unknown; found dead.	None known. Death from rupture of the aorta.	No discoloration of skin.	Left capsule, enlarged, lobulated, and converted into putty-like material, contained within a firm cyst; no trace of normal structure; right capsule healthy.	Communication between aorta and pericardium.
189. Mr. J. Hutchinson, Med. Gazette, vol. xxxiii., p. 233. Dr. F. Farre.	Male, 37, licensed victualler.	Had been intemperate. Illness at least one year.	Pain in lumbar region; pain and swelling in shoulder-joints; severe rigors; low typhoid state, with muttering delirium; death from delirium tremens.	A yellowish-brown tinge.	Both capsules consisted of collections of matter, surrounded by thin layers of healthy structure.	Body well nourished; circumscribed abscess, size of orange, in right lobe of liver.
190. Mr. N. F. Davey, Med. Gazette, vol. xxxix., p. 30.	Female, 18.	None reported. Duration of illness unknown.	None reported. Confined two days before death.	No discoloration.	Left capsule large, dark-grey, and containing soft, reddish-brown matter mixed with yellowish cheesy masses; right capsule very small, pink, semi-transparent and gelatinous.	Fluid in pericardium and pleurae; lungs œdematous; heart, liver, and kidneys enlarged and fatty.
191. Dr. Brittan, Brit. Med. Jour. 1858, p. 107.	Male, 19, lath-render.	Hæmaturia in early life; last illness about a year.	Debility, headaches, constant vomiting; tenderness at epigastrium; albuminuria; day before death, hæmoptysis.	Body of natural colour.	Both enlarged and filled with tubercular-looking deposit.	Effusion of blood under arachnoid; bronchi filled with bloody froth; stomach spotted with extravasation; Bright's disease.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
192. Dr. Sturges, St. George's Hosp., Lancet, 1864, vol. ii., p. 569.	Male, 32, costermonger.	None given. Illness above three months.	Loss of strength and appetite, thirst. Towards close of life uncontrollable vomiting; consciousness to the last.	Skin generally bronzed; areolæ round nipples dark; scrotum and penis very dark; colour deepened from day to day in Hospital.	Both enlarged and occupied by tubercular-looking deposit.	Much sub-cutaneous fat; hydatid cyst connected with liver.
193. Dr. J. W. Ogle, Path. Trans., vol. ix., p. 407.	Male, 62.	None given.	Fits; hemiplegia of right side; coma alternating with delirium.	No discoloration of skin.	Enlarged, hard, nodulated, and firmly adherent; no distinction between cortex and medulla; substance of a uniform character and yellow colour. Under microscope extensive fatty deposit, and much opaque fibroid material, obscuring the natural tissue which existed in a shrunken condition.	Softening of left cerebral hemisphere. Extensive disease of kidneys.
194. Dr. Rowe, Med. Gaz., vol. xxxiii., p. 190, 1855.	Male, 20.	Always delicate. Illness, at least eight months.	Last days of life, frequent epileptic fits; diarrhœa; incessant vomiting; delirium; semi-comatose state; disgusting odour from breath and skin.	General brown tint with a few darker patches, and very small dark well-defined spots on face. After death, skin darkest over stomach, axillæ, backs of hands and neck; scrotum quite black.	Both atrophied, consisting of a cheesy, gritty, semi-purulent deposit.	Body plump, thick layer of fat under integuments; brain, pale and soft; large loose fibrinous clot, extending into left pulmonary artery.

Reporter and Reference.	Sex and Age.	Previous History, and Duration of Illness.	Symptoms.	Colour of Skin.	Post-Mortem Examination.	
					State of Supra-Renal Capsules.	State of other Organs.
195. Dr. Symonds Rootes, Med. Gaz., vol. xxxiii., p. 581, 1855.	Male, 54, solicitor.	Diseased hip-joint in early life; concussion of brain a year before death, never well afterwards. Bronzing, six months.	Weariness, languor, debility, vomiting; no loss of appetite. Last month, short fits of unconsciousness with convulsive movements of left side; delirium passing into coma, day before death.	Generally of a dirty yellow hue; face and hands became gradually the colour of stains of walnut-juice; conjunctivæ normal; discoloration equally striking after death.	Both considerably enlarged, of firm consistence, and on section presenting an appearance closely resembling a tuberculated gland.	Head, not examined; spleen enlarged and soft; other organs healthy; abundance of deep yellow fat beneath skin and in omentum; muscles of a peculiar deep red colour.
196. Dr. J. Erichsen, St. Petersburg, Brit. Med. Jour. 1864, vol. i., p. 41.	Female, 21.	In good health until thirteen years of age. Severe scarlatina at fourteen. Discoloration, seven years; illness, three or four years.	Indefinable malaise; increasing bodily and mental hebetude; frequent vomiting. Latterly great loss of power and in last hours, syncope, convulsions, delirium, and wide dilatation of pupils.	Skin of an uniform bronze colour deepest at the joints; pigment deposited in Malpighian network.	Both greatly enlarged, lobulated and surrounded by thick capsules, through which calcareous concretions were scattered; interior filled with a cheesy yellowish mass, mixed with calcareous granules and crystals of cholesterine. No trace of normal structure.	Brain, lungs liver, and spleen appear all to have been more or less affected by chronic disease.

Dr. Greenhow.

17*th of April*, 1866.

8. *Disease (? tubercular) of supra-renal capsules, with bronzing of the skin.*

Arthur Richard C., æt. 23, by trade a cork-cutter, died in St. Bartholomew's Hospital, under the care of Dr. Black, on April 14th, 1866.

Condition about one month before his death:—Poorly nourished; hair of dark-brown; eyes hazel; sclerotics of a bluish-white, but the vessels upon them distended; sordes on lips; mucous membrane of mouth pale; tongue clean; skin moist, of a uniform light walnut or bronze colour; the tint somewhat deeper upon the face, neck, and hands, but not so on the flexures of the joints. The mammary areolæ very dark; pulse 76, small, weak, and not quite regular; appetite bad; is occasionally sick after taking food; bowels confined, only acting about once in the seven days; sleeps pretty well; does not dream; has a slight cough, and now and then slight epistaxis; states that wounds do not heal readily; heart and respiratory sounds normal. The sub-occipital and inguinal glands are enlarged, but not tender. Temperature in the axillæ 97·5°.

He dates his illness from the year 1861, when he had to nurse a brother, who had an abscess in the groin. He attended occasionally at a dispensary, and got tonics which relieved, but did not cure, his weakness and loss of appetite. Twelve months ago he contracted syphilis, the sore remaining open for about three weeks. He was salivated, and has since then been much worse. Last August he had an attack of sickness, and soon afterwards a syphilitic eruption made its appearance. Has never suffered from pain in the stomach. His friends have noticed the change of colour for the last two years; it has varied much in intensity from time to time. No marked change took place in his condition up to his death, except that dark bluish-black patches were developed on each lip, that on the upper lip being the more extensive of the two. He suffered occasionally from sickness, and complained latterly of pain in the lumbar regions. His manner was always singularly languid and listless.

At the *autopsy*, forty-eight hours after death, the following appearances were noted:—Rigor mortis slight; costal cartilages slightly ossified; recent pericarditis. The pericardial sac contained about four ounces of turbid serum, and both its surfaces were ecchymosed, congested, and coated with soft flocculent lymph. The heart contained a few small fibrinous coagula. At the apex of each lung was a considerable quantity of old tubercular deposit, hard, dry, and containing a

large quantity of pigment; the pulmonary tissue about it was contracted and puckered, and there were firm pleural adhesions. Spleen fifteen and a-half ounces, firm; the trabeculæ very distinct; no morbid deposit. Liver three pounds four ounces; on its inferior surface were two or three small yellow masses, like those known as 'gummata.' The brain and spinal cord appeared to be quite natural. There was no pigment in any serous membrane; but there were a few dark spots on the posterior mucous surface of the bladder. The supra-renal capsules presented scarcely a vestige of their normal structure. The left slightly enlarged, was transformed into a hard nodular mass, partly of cretaceous —partly of cheesy consistence. In the right, which was about one-third larger than the left, was a cavity containing about two drachms of thick, creamy, puriform fluid. They were both firmly adherent to the neighbouring viscera; the right being especially so to the inferior surface of the liver: to the anterior aspect of the left capsule, the cardiac end of the stomach was most intimately united, the appearance of the parts, when looked at from the mucous surface of the stomach, closely resembling those of a perforating ulcer, which had penetrated some little way into the substance of the capsule. Under the microscope no distinctive characters were noted; in fact, it was all but impossible to distinguish between portions of the capsules, and of the deposits at the apices of the lungs. From the amount of firm fibrous tissue around both capsules, it was scarcely possible to dissect out the nerves and vessels proceeding from them.

Dr. Andrew, *1st of May*, 1866.

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9. *Case of disease of the supra-renal capsules, with bronzing of the skin, diagnosed before death.*

On the 1st of May, I received a supra-renal capsule from Dr. Bruce, of Crimond, near Peterhead, Aberdeenshire, which had been removed from the body of a man, who, while alive, had been supposed to be labouring under "Addison's disease." In his note, Dr. Bruce remarks: "The *post-mortem* examination was conducted under rather unfavourable circumstances, and in some haste. No other organs, except the kidneys which seemed to be healthy, were examined. The body was much emaciated. The skin was swarthy generally; but was particularly dark about the eyes, axillæ and groins, while the penis and scrotum were even more so. There were about three ounces of blood-tinged fluid in the abdo-

men. There were no signs of recent peritonitis, or of tubercular deposit; but the abdominal organs, though not matted together, were separated with difficulty. The case was under Dr. Gavin Strichen, whose report I enclose."

On examination, the supra-renal capsule presented the following characters: it was greatly enlarged, measuring three inches in length, one inch and a-quarter in width, and half-an-inch in thickness along its convex border. It was much harder than natural, and on cutting into it all the natural tissue had disappeared, and its substance was found to be made up of two distinct materials, viz.: a firm grey semitranslucent substance, presenting under the microscope a fibrillated structure, and enclosing masses of a soft, opaque, white substance, having, at some places, the consistence and appearance of cream cheese, and at others liquefying into a puriform fluid. This opaque matter was composed of abortive cells, granular matter, and oil-globules. Nothing like pus corpuscles could be distinguished anywhere; but at several places this cheesy matter was quite gritty from the presence of calcareous deposit. The appearance and structure of this cheesy deposit resembled in every respect old tubercular deposit in the lungs. The other supra-renal capsule was stated to be healthy.

Dr. Strichen's Report was as follows:—

"R. J., blacksmith or working-engineer, æt. about 27 years, consulted me in April, 1863. Frame of body slight; complexion swarthy. Complained of a constant pain over the crest of the left ilium, a little to the left of its junction with the sacrum. Strength less than usual; in other respects did not complain. Skin was then of a dusky hue, not more than is often seen, and not such as to attract marked attention. He left this place some weeks afterwards and was absent about a month. He returned suffering from an attack of modified small-pox. From that he speedily recovered; but the colour of his skin now particularly drew my attention. It had become much darker, and the contrast between the colour of the cicatrices of the pox and the general tint of skin made the circumstance more marked.

"He left this place soon afterwards. I was called upon to visit him on the 20th of March last, 1865. He had returned to his father's house, evidently dying. He was much emaciated; appetite completely gone; stomach irritable; frequent vomiting; fits of coughing with purulent expectoration. His skin, of a dirty blackish-brown colour, very dark about the eyes, the areolæ of the nipples, and the genitals; memory weakened. I could not get any connected and satisfactory account of him during

his absence from this place. His pulse, never very quick, gradually became weaker, and was almost imperceptible some hours before death. His bowels were very constipated. His mouth was parched, so that he could with difficulty articulate, and he complained of a feeling of fulness and soreness in the throat and mouth. For a few hours before he died he had low muttering delirium. He died on the 19th of April.

"His father informs me that his son was thrown violently on his back when shoeing a horse, four or five years ago. He dates his illness from that time. As a child, R. J. suffered from a chronic abdominal affection with ascites. He had a sister who died, while yet a child, of pulmonary consumption. His mother died last year of diseased heart, liver, and kidneys. R. J. was in the Edinburgh Hospital on more than one occasion during his illness."

On hearing the above particulars, Dr. Duckworth informed me that the patient had been a patient in the Edinburgh Royal Infirmary, on several occasions, during the last two years, where he had been the subject of careful observation and much discussion, and where his case had been recognised as one of Addison's disease. I am indebted to Dr. Duckworth for the following notes of the case recently made in the Edinburgh Infirmary :—

"R. J., æt. 26, single, an engineer, was admitted into the clinical wards of the Royal Infirmary of Edinburgh on the 5th of July, 1864, under the care of Professor Hughes Bennett.

"*Antecedent history.*—He states that he was a strong and healthy man up to March, 1862. At that time he began to complain of pain across the back (points to crest of right ilium), which has never quite left him. He sought medical advice for this pain, and was treated with repeated blistering, but without deriving relief. In March, 1863, he went from Edinburgh to Aberdeen, took small-pox there, and was laid up with it for six weeks. Continued to suffer pain in the back. In the spring of this year, 1863, he first noticed his skin to be somewhat darker than formerly, and his attention was drawn to this from the presence of light spots on the places which had been occupied by small-pox pustules. His brother states that he has observed the patient's skin becoming darker for the last three months. He has become gradually weaker and less able for work, since the first onset of pain in the back. In May, 1864, he went to work at Newcastle, and was employed till the beginning of June, when one morning he was seized with severe headache and sickness, and was compelled to give up work.

His appetite was always good till he went to Newcastle. He sought advice there, but deriving no benefit, he came to Edinburgh.

"*Integumentary system.*—Is a fairly-nourished man. The whole skin is bronzed in various degrees of intensity. Areolæ of nipples and the genitals are the darkest parts, being of a sooty-bronzed tint. Extensor surfaces of fore-arms are darker than flexor, and the colour deepens on the hands and fingers. Nails pinkish-white. The trunk is mottled with dark spots, and a few leucopathic spots are likewise seen. These are most probably due to the variolous pustules, the white spots corresponding to parts where the derma had sloughed out. Conjunctivæ pearly and anæmic. Hair dark brown, with a sort of metallic lustre. Does not sweat.

"*Circulatory system.*—Heart natural in all respects. Pulse 82, good volume and strength. *Blood* under microscope appears natural; no excess of white corpuscles.

"*Respiratory system.*—Normal; has slight muco-purulent expectoration, and has seen his sputa streaked with blood sometimes.

"*Nervous system.*—Sometimes has headaches; sleeps well; pain over right ilium and across lumbo-sacral region. No tenderness anywhere on percussion down the back.

"*Digestive system.*—Tongue clean; brown pigment is deposited on each side of it, corresponding to indentations. The buccal membrane is likewise pigmented in patches, and so are the palate, fauces, and uvula. The membrane is anæmic. Liver and spleen are normal to percussion.

"*Genito-urinary system.*—No pain on percussing renal regions. Vertical dulness of right kidney three and a quarter inches; of left, four inches (ascertained with plessor and pleximeter). Passes from forty to a hundred ounces of urine daily, which is alkaline in reaction, but otherwise natural.

"Ordered steel wine, and full meat diet. Mr. Spence examined the back and could find no evidence of osseous or articular disease. He improved somewhat in Hospital, and gained five pounds in weight in a fortnight. He complained of occasional nausea and vomiting, preceded by griping pains in umbilical region. At the end of a month he was discharged.

"I kept up occasional correspondence with the patient after leaving Edinburgh.

"On January 4th, 1865, he wrote to me, stating that the pain in the back continued, but that he felt somewhat stronger, and had a fair ap-

petite. He was unable to work sometimes in consequence of weakness; he could not stand for any length of time, but could walk slowly without difficulty. Rising up from the sitting posture and stooping down caused pain.

"*March 24th*, 1865.—He reports himself as becoming stiffer in walking and bending his body. Could work but very little.

"*February 19th*, 1866.—He wrote his last report to me, complaining of continued weakness and occasional sickness, and stating that his skin was as dark as it had been hitherto."

About this time the patient was again admitted into the Edinburgh Royal Infirmary; and on the 7th of March, 1866, he was exhibited to the Medico-Chirurgical Society of Edinburgh, as "a case of Addison's disease." "There was a general bronzing of the whole skin, while certain parts presented a deeper colour than others. The deposit of pigment was slightly greater below the eyelids, and was very marked about the scrotum and penis. The mucous membranes were also affected. At the tip and edges of the tongue were a few well-marked patches, also on the lips and buccal mucous membrane. The conjunctiva was not affected. * * * General debility, with loss of weight, was a marked symptom of the case."—(*Edinburgh Medical Journal, April*, 1866, p. 953.)

Remarks.—This case appears to me worthy of record from the circumstancethat the patient was under public observation for a lengthened period in the Edinburgh Infirmary, and that his case was recognised as one of Addison's disease by independent observers in different parts of the country. In addition to the evidence on this point already adduced, I annex the following extract from a letter from Dr. Pye Smith:—"With regard to the diseased supra-renal capsules sent up from Aberdeen, if they really belonged to R. J., who was under Dr. Bennett during the summer of 1864, I have before me the notes I took then of the case, which was so marked, that I entered it in my case-book as a typical 'case of Morbus Addisonii,' and I remember telling Dr. Bennett that if he would only keep R. J. in view till he died, I was certain he would become convinced by a crucial experiment of the reality of the disease." The result of the experiment is now submitted to the Pathological Society.

No one, I think, who has paid attention to the subject, can doubt that the symptoms accompanying disease of the supra-renal capsules, are often so unmistakeable, that the existence of the disease can be

diagnosed with almost absolute certainty, these symptoms being chiefly rapidly increasing anæmia, vomiting, and discoloration of the skin. On the other hand, it has been shewn that it is not all diseases of the supra-renal bodies that give rise to such symptoms. These organs may be entirely destroyed by cancer without the symptoms of the so-called Morbus Addisonii. Indeed, according to observers who have most studied the subject, the only lesion of the capsules attended by the characteristic symptoms is of a tubercular, or quasi-tubercular nature, while a few cases have been observed, such as that reported in this volume by Professor Wilson Fox and Dr. A. Bruce, where there has been the typical lesion of the capsules, but where the anæmia and vomiting were unattended by bronzing of the skin. If, then, the supra-capsules can be destroyed by cancer, without the symptoms of Addison's disease, it would seem that these symptoms must be attributed not to the destruction of the capsules, and the consequent annihilation of their functions, but to the general constitutional (tubercular?) change which leads to the deposit of the peculiar morbid material, and this view of the matter is confirmed by the circumstance that, in many of the recorded cases of Addison's disease, there has been tubercular deposit in the lungs, peritoneum, and elsewhere. In the case now recorded, it may be doubted, if the chronic abdominal disease from which the patient suffered in early life, and the firm adhesions found between the abdominal organs after death, were not of a tubercular origin; the lungs, unfortunately, were not examined at the autopsy. Still the fact remains, that in ordinary tuberculosis there is no bronzing of the skin, and that where bronzing of the skin occurs, in conjunction with the other symptoms above mentioned, there can be little doubt as to the existence of disease in the supra-renal capsules.

Dr. Murchison, *15th of May*, 1866.

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10. *Extensive disease of both supra-renal capsules (Addison's) without bronzing of the skin.*

W.B., æt. 31, a lithographic printer, was admitted into University College Hospital, under Dr. Reynolds, April 25th, 1866, for "pain in the bowels and legs," and for a feeling of general debility.

History.—Father alive and healthy. Mother died of paralysis; is said to have been consumptive. One brother and three sisters alive.

Patient has always been delicate; has had scarlet fever, measles, and a slight attack of rheumatism. Has never had syphilis; has been in

the habit of drinking about a gallon of *porter* daily; has occasionally taken *gin*. About two years ago he was benefited by a visit to the sea-side; but, subsequently suffered from cold and repeated sore-throat. About eight months later he suffered from sickness, especially in the morning; he used often to vomit his breakfast and a dark-brown flaky matter. At the same time his appetite became bad. He lost flesh, and a sense of "emptiness" at the epigastrium became very annoying.

The sickness gradually became worse, coming on at intervals during the day. The loss of flesh continued, and he began to feel a pain over the bladder, darting through to his back. He still complains of this pain, and of dryness of his mouth; his appetite is capricious; bowels regular. Ordered Emp. Lyttæ 4 inches by 4 to epigastrium.

April 28th.—Urine, acid: sp. gr. 1010; no albumen. His features are pale, and somewhat peculiar; mouth open; abdomen considerably retracted; no notable tenderness; highly marked aortic pulsation, one inch above the umbilicus. Pulse 112; very soft, and small. He has vomited a grass-green, pale fluid, which does not, however, give the reactions of bile. Is in no pain. In consequence of his want of sleep at night, a draught containing one-tenth of a grain of acetate of morphia, with a little acetate of ammonia, was ordered.

He died suddenly at one a.m. April 29th.

Post-mortem examination.—Body slightly emaciated; rigidity moderate; skin pale; complexion fair; hair of a dark sandy colour. No discoloration on surface of body, except where the blister had been applied.

Lungs slightly emphysematous at anterior margin; remainder of both healthy, except at apices, where there is a slight puckering with a small indurated mass on the left side, and a small nodule of cheesy substance undergoing softening on the right side.

Heart small, flabby, pale; very slight fatty degeneration taking place in muscular tissue. Valves healthy.

Liver apparently normal, somewhat fatty.

Spleen large and congested.

Stomach: mucous membrane much congested at cardiac end, with fine capillary injection. One small spot of hæmorrhage about the size of a millet-seed. The mucous membrane is generally somewhat soft, swollen, and covered thickly with mucus.

Intestines: much stained at the depending parts; but also very considerable ramiform and capilliform injection of the valvulæ conniventes in parts.

The solitary glands throughout the small intestine are very prominent, but especially so in the ileum, where they become almost pedunculated. Peyer's patches slightly prominent.

Kidneys rather large, otherwise perfectly healthy.

Supra-renal capsules on both sides are large, indurated, nodulated, and considerably increased in thickness. The right capsule is very prominent, coming into view immediately on raising the anterior margin of the liver; numerous whitish-yellow nodules are seen to be scattered over the surface, their size varying from that of a bean to that of a hemp-seed. On section these appear to be of a cheesy consistence, resembling the so-called yellow tubercle when softening is commencing. The ordinary division into cortical and medullary layers cannot be traced.

No other morbid condition was found in the body: the brain and membranes appeared healthy.

That this is an undoubted case of that special disease of the supra-renal capsules described by Dr. Addison, and that it presents most of of the constitutional symptoms usually accompanying such disease, admits I think of no dispute. The complete absence of any bronzing or other discoloration of the skin is, however, a very interesting point in the case. That such was the case I can confidently assert, as the body was carefully examined after the disease of the capsules was noticed. The only two points not specially attended to were the border of the eyelids and the inside of the mouth. That there was no marked discoloration at the former of these two spots is, I think, certain, as the face was noticed to be rather pale and fair than the reverse. I am enabled to add the testimony of Drs. Wiltshire and Finch, who were present at the *post-mortem* examination, as to the absence of bronzing of the skin.

The extent of the disease in the two capsules appears to be tolerably equal; possibly it is rather more advanced in the left than in the right capsule. But little of the original structure of the organ seems to be left, and no trace remains of the normal division into cortical and central layers.

Of the difficulty of diagnosing this disease, in cases in which bronzing of the skin is absent, the present case affords an excellent example. A hard drinking man of poor constitution, pursuing a sedentary occupation, suffers from morning sickness, which gradually increases, with loss of appetite and flesh, and subsequently with great prostration and abdominal pain. This is a train of symptoms, which, pointing to disease of the stomach and liver, could not, I venture to say, be diagnosed with

certainty from chronic alcoholic dyspepsia or cancer on the one hand, or from progressive cirrhosis on the other.

This case then presents an additional proof of the non-essential character of bronzing as a symptom of Addison's disease, and of the possible absence of any pathognomonic symptoms.

Mr. Alexander Bruce, *15th of May*, 1866.

Report on the above case.—In presenting the report on the case of supra-renal capsular disease exhibited to the Society on the 15th of May, your reporters regret that, in consequence of the preparation having been preserved for some time in spirit, the pathological changes which had taken place cannot be fully traced. The right capsule, which presents the disease in a somewhat less advanced stage, is found to measure two inches and a quarter by one inch and a quarter, and is five eighths of an inch in thickness. The shape is not much altered in the right capsule, but in the left the increase in thickness is quite out of proportion to the increase in other directions, the measurement being one inch and one eighth.

The substance of the organ is firm and resisting. The external surface is irregularly nodulated.

On section, the surface is found to be closely studded with masses of a whitish yellow substance, of cheesy consistence; these masses varying in diameter from half-an-inch to one eighth of an inch. The intervening substance is dense and of a pink colour, and appears to be of a fibrous nature.

On microscopical examination, the cheesy substance is found to present the usual characters of such masses, viz.: broken-down cells, fat granules, etc., but without any peculiarity.

A portion of the left capsule having been hardened in a solution of chromic acid, thin sections were easily obtained which, when coloured with carmine, gave the following characters. The masses present a granular and opaque appearance, with defined margin and irregular outline: numerous small outlying spots of the same structure appear scattered through the adjacent tissue. Of the proper gland tissue but little remains; certainly in the parts examined it appears to be for the most part replaced by a fibrous structure, throughout which numerous nuclei are scattered.

As far as it as been possible to carry the examination, we may say with certainty that, there is in the present case no distinct evidence of the tubercular origin of these masses, but merely of the existence of all

elements in an advanced stage of fatty degeneration; and that they appear to have undergone such changes at a very early period. We are unable to decide, whether these masses are derived from the original cells of the part, or whether they are new formations.

Dr. Wilson Fox,
Mr. Alexander Bruce. *June*, 1866.

X.—DISEASES, ETC., OF THE SKIN.

1.—*A coloured photograph (from life) of rupial and lupoid syphilides occurring on the same individual.*

The patient, a man, aged 35, was sent to the exhibitor by Dr. Edmunds, under whose care he had latterly been. He had contracted chancres two years since, when he had three sores on the glans penis, the scar of one of which still remains. He was affected at the same time with an urethral discharge. The sores lasted, altogether, about three, and the discharge six, months. He had a swelling, too, in his right groin, which subsided after a time without undergoing suppuration. He had suffered repeatedly from gonorrhœa before this, but never had "sores" before.

About a month after the chancres had first appeared he had bad sore-throat, which has relapsed several times since then; about the same time an eruption (from his description, evidently of a rupial kind) appeared. For the first six weeks of its duration it consisted of only two patches, the one close above the centre of the right collar-bone, the other on the inner side of the right elbow.

About six weeks after the appearance of these two a number of similar patches (about a dozen in all) appeared on various parts of his body and limbs. They have all, except one (to be afterwards referred to), healed, and have left behind them well-marked scars.

About nine months after infection an indolent swelling appeared on his left shin, over the bone, midway between the knee and the ankle. This was, more especially at night-time, the seat of intense aching pain. The skin covering it, although somewhat tense, was not perceptibly reddened. Its shape was oval, and its direction was along the limb. It increased very slowly in size, and underwent no notable alteration until six months after it had appeared, when it ulcerated and began to assume the appearance it now presents, that of a large open sore.

Fourteen months after the chancre, the rupial sore which remains still on his lip first appeared. The tubercular elevations scattered over the rest of his face did not appear till seven months later, and have lasted now about six weeks. Previously to the eruption of the latter he had suffered severely from neuralgic pains in both temples, which left him as the tubercules became developed.

All the patches described in the preceding account, as "rupial," presented the same characters. They commenced, not as fleshy (tubercular) swellings, but as thin mattery scabs, which gradually increased in area and thickness. Those on the trunk and limbs, having been healed with ointment, never acquired the thickness of the scab that is to be seen on the patient's lip (which has never been treated locally, and is about an inch thick), but they have occasionally become as much as the third-of-an-inch thick. When detached they disclosed shallow ulcers. These never produced any kind of local discomfort.

The man states that he has lost flesh considerably since his illness, and that his strength and appetite have been much impaired. He has had to relinquish his occupation. For the last few months he has been living in the country, and has been put on a nourishing diet. Latterly, his general health has improved. The sores on his legs oblige him to go about on crutches.

Present state.—On examining his throat his left tonsil is seen to be much enlarged, and his uvula to be considerably swollen and elongated. Much, however, cannot be seen on account of the state of his lip.

On the middle of the fore-surface of the left leg, the situation formerly occupied by the node, is a large oval ulcer, the size of the palm of the hand, and about the eighth-of-an-inch in depth. Its margin is raised, somewhat indurated, and of a tawny-red colour; its floor is clean and covered with florid granulations; its direction lies obliquely across the shin.

Behind, and to the inner side of the right knee, is another ulcer, similar in size, shape, direction, and general appearance to the one just described. Both ulcers have been kept constantly dressed with ointment. The latter is the only rupial sore, except the one on the lip, that has not yet healed.

On various parts of the trunk and limbs are several large cicatrices, which will be referred to immediately.

The lower lip is covered with a large crust, which extends, laterally, from one angle of the mouth to the other, and, vertically, from the margin of the lip to the upper border of the chin. The scab is about

an inch thick, and its substance is dry and hard; its surface is rugged and uneven, and is of a dark-green colour.

On the fore-part of the cheeks, as well as on the middle of the forehead, are several (from six to twelve, in either situation) dusky-red tubercules, having thin, translucent, flake-like scabs on their surfaces, and varying in size from that of a pea to that of a small nut. One or two of those on the forehead exhibit an infiltrated semi-transparent appearance. This character is more especially perceptible in a pair (on the forehead) which have become fused together.

On the outer side of the left elbow is a scar, on which a keloid tumour has become developed. On various parts of the body are several similar scars; these are all relics of the rupial syphilitic eruption, the past history of which has been told above. It remains to describe the scars left by it and the growths which have appeared on them.

On the left iliac crest is a slightly raised cicatrix measuring one and a-half inch across by half an inch vertically. It is opaque-white, and pitted with many small punctate depressions. There is a dusky-red, soft, but solid elevation, the size of the tip of the little finger, on the middle of the cicatrix.

On the left loin is a similar scar, four and a-half inches broad, by two inches, in vertical measurement. On this are two distinct and separate elevations, each of the size of the tip of the thumb, and of the same kind as above described.

On the right half of the posterior surface of the chest there is a scar, measuring two inches by one, also resembling the first, but exhibiting no trace of a dusky-red elevation.

Behind the left shoulder-joint is a slightly depressed, dusky-brown cicatrix, the colour of which is fainter at the middle than towards the circumference. This scar measures about an inch across, and is surrounded with a faint dusky halo.

On the left side of the neck, at its junction with the trunk, is a horizontally-placed scar, measuring two and a-half inches by one inch. In the middle of it is a dusky elevation, of the size of the thumb-tip, which is but faintly coloured.

On the right side of the fore-surface of the neck, a little above the clavicle, there is a rounded scar, an inch in diameter. This exhibits no reddened surface.

On the right side of the fore-surface of the chest, and measuring

three and a-half inches, vertically, by two and a half, transversely, is a scar, the upper edge of which is about one inch below the middle of the clavicle. On it are two distinct, oblong, parallel, dusky-red tumours, the one near its upper, the other near its lower, margin. The two are joined, at their centres, by a narrow elevated dusky-red isthmus, so that an irregularly-shaped H is described.

Below this scar is another, measuring five inches transversely, by two vertically, its upper margin an inch below the right nipple, and its outer edge an inch outside the nipple-line. It presents, at its centre, an oblong, dusky-red elevation, also transversely placed, from the circumference of which proceed a number of small, reddened, radiating processes, which subside into the cicatrix.

On the right half of the occipital part of the scalp is a bald polished depressed scar, the size of the thumb-end.

On the right fore-arm, on its inner surface, about an inch below the elbow-joint, there is a scar measuring one inch by half an inch. On this is a faintly-reddened and but slightly-prominent elevation, occupying, however, three-fourths of the area of the scar.

On the outer side of the right elbow-joint, just above the flexure, is a rounded scar, an inch and a-half in diameter, presenting a dusky elevation. This is elongated and forked, its extremities reaching nearly to the margin of the scar, so as to divide the latter into three unequal portions, on the largest of which is a separate, small, nodular, dusky-red elevation.

The remaining scar is situated on the outer surface of the left fore-arm, opposite the elbow-joint, and measures four inches in length by two in breadth. Its direction is along the limb. On this scar the reddened elevation is larger than on any of the others, occupying nearly half its area. The cicatrix itself, slightly elevated above the level of the surrounding skin, is of an opaque-white colour. Its surface is dull, not polished, and is dotted over with numerous punctate depressions. Here there are four keloid elevations, the dusky-red colour of which is heightened by the dull-white aspect of the scar on which they rest. The largest of the elevations occupies the upper-third of the scar, following at the upper border its shape and reaching nearly to its edge. From the lower border of the main body of this tumour proceed downwards and a little backwards two branches, the hinder one extending to the posterior edge of the scar, and exhibiting on its extremity a small scab, a relic of the rupial crust: and the other, larger than its fellow, terminating in a cross-piece, from which

three narrow stunted processes are continued, something after the fashion of the prongs of a trident. The other tumours, on the same scar, are very much smaller, and are less prominent than the one just described. Two of them, small longitudinal elevations, situated a little below the anterior branch of the largest tumour, seem, from their shape and position, as if they were disconnected continuations of two of its prongs. The remaining tumour, of an oval shape, is large, but more faintly coloured, and less elevated than the two just referred to. The largest tumour is soft but solid, is rounded on its surface, projecting from the eighth to the quarter of an inch from the level of the cicatrix, and is wrinkled transversely on its surface, this wrinkling being increased when the arm is flexed. The smaller elevations are of similar appearance.

The specimen exhibited is interesting as an example of *cicatricial* as distinguished from *spontaneous* keloid, a distinction denied by some respectable authorities. The main points of difference between the two kinds of tumours are the following:—

The *spontaneous*, or oval, or true keloid (as it is variously termed) occurs generally as a single tumour, which is, oftentimes, developed on the front of the chest, about the middle line, crossing the sternum transversely. Its general outline is oval; its surface flattened, sometimes even slightly depressed towards the centre; its substance hard and resisting. It is pretty firmly rooted and immovable; when of long-standing it is often extremely tender to the touch. The skin covering it has a tense shining appearance. Its colour, generally white, is sometimes pink. At its margin the tumour gives off a number of filamentous digitations; these subside into the surrounding skin, which becomes somewhat puckered by their gradual contraction. The dimensions of the swelling rarely exceed two or three inches in length, by a quarter of an inch in height. Often varicose venous radicles may be seen marbling its surface, and occasionally ligamentous-looking bands may be seen (through the tense skin) crossing the tumour near the surface. Spontaneous keloid commences as a minute, hard, shining tubercular elevation, which takes several years to attain the size mentioned above. Its development is attended with itching, pricking, or even lancinating pain. It has been noticed on various parts of the body, but it occurs generally on the chest, on the arm, or on the neck.

Cicatricial keloid is generally multiple. It presents nothing of the oval outline, the shining surface, the cartilaginous consistence, or the

flattened shape of the spontaneous keloid tumour. It appears as elongated, prominent elevations of a semi-cylindrical shape, which bifurcate as they extend. They have, it has seemed to the exhibitor, something of the shape and arrangement of the larger divisions of the root of a tree where these rise half above the ground, and this resemblance is increased by the appearance of the stem covering them, which is dry and wrinkled transversely to their length. Their colour is a tolerably deep red. This variety is less persistent than the other, and will sometimes disappear spontaneously within a few months after its commencement. Neither variety of keloid tends to ulceration, or exerts any perceptible influence on the general health.

BALMANNO SQUIRE, 21*st of November*, 1865.

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2. *Ichthyosis cornea.*

E. D., a young woman, 19 years of age, came under my care in the course of the year 1863, first as an out-patient, and subsequently, on two occasions, as an in-patient, at St. Thomas's Hospital.

She was suffering from a disease of the skin, which was limited almost exclusively to the right side of the body, and existed there unequally distributed, in the form of scattered spots, and of patches due to the aggregation of such spots.

The disease was most severe on the lower part of the abdomen, immediately above Poupart's ligament, where it occupied a very extensive area, and had assumed a very advanced form: the disease extended thence, partly in patches, partly in isolated spots, to the anterior surface of the thigh (which at the upper part it encircled more or less completely), and was continued down as far as the knee. A broad irregular band of the disease, connected with the tract just described, extended thence along the inner edge of the popliteal space and the inner side of the leg, as far as the internal malleolus. A thick prominent patch occupied the front of the knee immediately below the patella. On the back of the neck were a few scattered spots, some of which were situated to the left of the mesial line. Many such spots and many patches were dispersed over the right shoulder and the corresponding half of the back; they were continued also along the back of the arm to the elbow. There was no trace of disease on the head, face, or chest, nor, except at the back of the neck, on the left side of the mesial line.

The disease presented varieties of form in different parts. In some (and this was especially the case in the patches of more extreme disease) it appeared to consist of a hard, horny, dirty-brown thickening of the integument, occurring in small, irregularly polygonal patches, the form of which seemed in part determined by the normal creasings of the skin. The thickness of these patches varied perhaps from a line downwards, and their surface was more or less irregular. They admitted, on the employment of a little violence, of detachment from the subjacent surface, leaving behind them a rough layer of comparatively healthy epidermis. The excrescences were, however, clearly continuous with the epidermis. In some parts (and especially where spots were isolated) the individual spots were distinctly horns on a small scale — horns differing in no respect but that of size, from the solitary horns occasionally existing on various parts of the body. These varied in length from a line or two downwards, were on the average, perhaps, between a line and a line and a-half in length, and in thickness rarely exceeded one half or one-third of a line. They were generally more or less curved or scimitar-shaped, sometimes of uniform thickness, sometimes thicker at their apex than the base, sometimes tapering to a point. Their base seemed embedded in the skin, which was elevated around them in the form of a ring. These horns could be detached somewhat more easily than the excrescences before described, but still seemed structurally continuous with the cupped or concave surface, which their separation produced. In some parts again (and this was more particularly the case at the back of the neck and about the shoulder), there were distinct black acne-like spots, and these (like comedones) could be enucleated by pressure. The enucleated masses, however, though distinctly coming from the situation of sebaceous glands, were evidently not formed of sebaceous matter, but were hard and horny, exactly like the horns before described. There was still another condition of parts observed, in which the skin was thickened, without being discoloured, and in which the thickening was evidently due to the presence of groups of shallow cup-like depressions, with elevated margins, in which the form of the individual cups had been for the most part altered by the proximity of those around them. Isolated spots of the same kind were also observed. I may add that the skin, even in close proximity to the varieties of diseased condition which I have described, was perfectly healthy; it presented a quite normal condition, both of epidermis, of hair, and of glandular apparatus.

The disease appears to have begun when the patient was about three

months old, with thickening of the skin on the right arm, buttock and loins, and to have increased gradually, but slowly, ever since. Its course, however, had not been one of increase alone, for many patches formerly existing had, in the course of years, disappeared. Moreover, the horny growths were frequently being shed, and were especially apt to fall off after the use of warm baths, and, the patient believed, during the catamenial periods. There was, at the back of her neck, the scar of a blister, which had been applied many years ago. This scar encroached in a region where there was a considerable amount of disease; but the scar was altogether free from a trace of it. The patient's general health had been good.

Though she was under my care on several occasions, she never remained sufficiently long at one time to enable me to carry out any distinct line of treatment. On one occasion I tried a succession of hot baths, with the important palliative effect of removing a large amount of the horny matter; on another occasion (acting on the hint furnished by the absence of disease over a surface formerly blistered) I applied a small blister, and removed, with the epidermis, all signs of the disease. She did not, however, remain under observation sufficiently long to enable me to judge whether the removal of the disease was permanent, or to repeat the experiment. I did not learn that any member of her family had suffered from the same disease.

The account which I have given of the case shews clearly, I think, that the disease in this girl was a form of ichthyosis; it was clearly, too, a case of icthysosis cornea, inasmuch as one of its marked features was the formation of distinct, though minute, horns; it was also in some sense, a case of ichthyosis sebacea, inasmuch as in some situations the disease distinctly originated in connection with the sebaceous glands, although the excrescences themselves were not formed of sebaceous matter; I may add, too, that in many parts the disease presented very much of the ordinary appearance of ichthyosis simplex or xeroderma. consideration of the facts of the case tend, I think, to shew that the disease was connected essentially with the sebaceous glands; that it commenced in a modification of their secretion, the secretion becoming horny instead of oily: that this horny formation, gradually involving the epidermis and increasing in quantity, became extruded in the form of a horn; that the horn thus extruded dilated the orifice through which it escaped, and gradually converted the cavity in which it had been developed into a shallow cup; that after the detachment of suc-

cessive crops of horns from the same spot, the horn-producing region became flattened out so as to form a portion of the general surface of the skin. If this view be correct, it is easy to see the connection between the different appearances which the disease presented at different parts; and I may add, that the gradations between the different conditions which I have described were more gradual even than my description may have seemed to imply: transitional forms were common. The acne-like spots contained unaltered hairs embedded in them, but were themselves made up of indistinct horny-looking cells. They contained little or no oily matter. The distinct horns presented the same character, and some of the smaller ones contained hairs.

Dr. Bristowe, 17*th of April*, 1866.

Postscript.—Since the above case was exhibited, another somewhat similar one has fallen under my notice, in the person of a little boy, three years old, who became an out-patient of mine at St. Thomas's Hospital on the 16th of May, 1866. He was a healthy-looking, plump child, who had always enjoyed good health, and whose skin had always been clear up to two months previously. At that time an eruption made its appearance on the shoulders, and gradually extended. When first seen by me, the eruption occupied the back of the neck, the shoulders, and the upper part of the back as far down as the spines of the scapulæ, the corresponding part of the front of the chest, the forehead, and the legs. It was most advanced between the shoulders, and at the back of the neck; and on the forehead and legs was scarcely noticeable. In the first of these situations the eruption consisted at first sight of a number of somewhat prominent, black acne-like spots, scattered *discretely*, but in many places closely set. The following is the description of the eruption as it was written down at the time of examination:—"It consists of circular conical papillæ, varying from half a line in diameter downwards. These are solid, and present at the apex a small dark spot. The spots are present even in the smallest papillæ, but in them they are pale, and somewhat indistinct; in some of the larger papillæ they are almost black, and look like ordinary comedones; but in many they present the form of a small hard spine or scimitar-like process, which measures often a line or more in length. These spines have generally a black apex, but in the greater part of their length are pale. The general appearance of the disease is exactly like that of aggravated acne simplex; but the comedo-like spots are not formed of sebaceous matter; they are, in fact, horny, and tend to grow into

horns. I may add, that, although the black spots admitted of enucleation, and although the horns could be detached by force, they were texturally continuous with the tissues whence they sprung. Healthy hairs grew among the spots of eruption. The disease produced little or no irritation of skin. No member of the family had ever been known to have skin-disease.

The child had a cough when he first came under observation, and was treated for this. The local treatment employed consisted in the application of dilute citrine ointment and the systematic use of baths.

It is uncertain whether the disease has extended since the child has been under my observation; but the use of ointment and baths has caused many of the horns to be shed, and the shedding of the horns has led, in some cases, to the cessation of their production.

J. S. B., 17*th of July*, 1866.

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3. *Case of keloid.*

The following case was brought under the notice of the Society, with the object partly of putting on record a rare and interesting case of skin-disease—partly of consulting with the members of the Society as to its nature and treatment:—

T. H., a tailor, 43 years of age, came under my care as an out-patient at St. Thomas's Hospital, on the 8th of November, 1865, with an eruption, limited to various parts of the hands, wrists, feet and ankles, the elbows, the knees, and the buttocks; the rest of the skin being everywhere entirely healthy. The eruption (Plate XVI.) consisted essentially of somewhat indurated tubercles of a dull, reddish hue (but not much deeper in colour than the healthy skin in their neighbourhood), and of roundish or obtusely conical form. Their margins passed insensibly into the healthy skin around, and their apices were often of a pale yellow colour, as though containing a minute collection of pus. Their size was not uniform; to speak roughly, their horizontal diameter varied from a line upwards, and their vertical projection from a line downwards. The yellowness of the apices was found not to be due to any accumulation of fluid there; for this part, like the rest of the tubercles, was quite solid. The tubercles appeared, from microscopical examination, to consist essentially of a kind of dense fibrillated texture, studded more or less with oil-globules of various sizes. It was

DESCRIPTION OF PLATE XVI.

Illustrates Dr. Bristowe's case of Keloid Disease (p. 414).

Fig. 1 shews the appearance of the disease on the hand.
Fig. 2 shews the same on the foot.

the presence of such globules, in great abundance, that caused the yellowness, which has just been described.

But although isolated tubercles, to which the description above given is applicable, did exist here and there; in almost all parts, the diseased condition of skin consisted of an aggregation, and more or less complete coalescence, of such tubercles. The patches thus formed varied in size and in shape. In some instances they consisted of two or three tubercles only, in others they comprised a very large number of them; in some their form was roundish, in some irregular, in some linear, and not infrequently (as might be supposed), the form was determined by peculiarities of the part in which the disease had appeared. The patches almost always gave distinct evidence of their mode of formation, in the fact that, for the most part, above the general elevation due to the coalescence of the basal portions of the component tubercles the points of the tubercles stood up free, and generally were yellow. There was no loss of sensation at, or in the neighbourhood of, the seat of disease. The parts were tender, however, and the patient complained of a painful pricking sensation in them.

The disease was most extensive on the right side of the body. In the right hand, it affected in a high degree the whole of the palm, with the exception of the central depressed portion, and extended from the palm on to the side, or the interval between the palm and back; it extended also over the first phalanges of the fingers and thumb, and in a slight degree over the second phalanges of the fingers. The disease occupied also the back of the wrist and nearly all the finger-joints, including, especially, the metacarpo-phalangeal joints. In the left hand, the disease was much less advanced; the back, indeed, was quite healthy, as also was the inner part of the palm; and the disease was less severe even in those parts where it was actually present. In the right foot, patches of disease existed on the back and front of the ankle, and on the malleoli, on the instep, and on the dorsum of the toes; but the disease was most extensive over the heel, along the sides of the foot, on the metatarsal region of the plantar surface, and on the under aspect of the toes. The left foot was also diseased, but much less extensively than the other: on the anterior part of the left ankle, however, were two or three narrow irregular bands of disease, about an inch and a-half long, (Plate XVI.) which had the appearance of keloid. The description above given is applicable to them; but they presented scarcely any traces of the yellow spots and both at their extremities and

at their sides small cicatrix-like processes were sent off into the surrounding skin. These processes, however, were clearly of the same nature as the bands themselves, and made up apparently of small coalesced tubercles. The patches on the convexities of the elbows and over the knee-caps need no description. The spots on the buttock were few and small, and would probably have passed unnoticed, but for the fact of the existence of similar disease elsewhere.

The patient stated that his skin-disease first made its appearance four years and a-half before he became my patient; that he had previously enjoyed perfectly good health; and that he had never had any venereal affection, nor, before this, any skin-disease. The disease first appeared on the elbow; then on the knees; and subsequently, after an interval of two years, on the third joint of the little finger of the right hand. Afterwards it spread gradually to other parts of that hand, and soon also the left hand became involved. The eruption first shewed itself on the feet, about six months after it had appeared on the hands; attacking first the right, next the left, foot. It seems, that for some time before the disease appeared in the right hand, the patient had complained of shooting pains from the elbow to the fingers; this, however, ceased after the eruption made its appearance, and no similar sensations have ever occurred in any other limb. The disease continued to increase until the patient came under treatment.

Up to the time when the patient was exhibited at the Society,—about six months after he was first seen by me,—but little change had taken place in his eruption; it had not extended, and here and there indeed it had undergone marked diminution; so that, on the whole, there had been a slight, but decided, amendment.

About Christmas last, he began to suffer in health, to complain of pains in the loins, and to pass an unusual amount of water; but he did not become thin, and there was no change in his appetite. My attention was not drawn to the increase of urine until some time in March; I then examined the water, and found it to have a specific gravity of about 1040, and to contain a large quantity of sugar. He remained in this condition up to the day on which he was presented to the Society. I cannot tell how long the urine had contained sugar; but at no time, not even after the urine became very abundant, was either the voracious appetite or the emaciation of diabetes present.

The case was shewn, in the belief that it was a case of keloid; yet it differs in many important respects from most, if not all, recorded cases of that disease. Instead of the eruption being in this case on the trunk,

it was limited to the extremities, and was most abundant indeed at their distal portion; and instead of consisting of fleshy tubercles or bands of uniform colour, its tubercles were, as has been pointed out, surmounted for the most part by a yellow point of what, at first sight, appeared to be suppuration. But on the other hand, the latter appearance, though common, was not constant; there were patches, here and there, which were entirely free from them; and some of these latter, especially those on the left ankle, were absolutely identical, so far as could be seen, with patches of ordinary keloid. They consisted of the same uniformly-coloured elevated cicatrix-like bands, and gave off the same claw-like processes from various parts of their margins. A pale or blanched appearance of the summits of the tubercles of keloid has been before observed (see Dr. Dickney's essay, quoted by Dr. Addison, *Med.-Ch. Trans.*, vol. xxxvii., p. 27), and it seems not improbable that the pustular aspect of the tubercles, in the case under consideration, was merely a more pronounced form of the same condition.

When the patient first came under my care he was treated with iodide of potassium internally, and with the local application of dilute citrine ointment. The latter, however, seemed to irritate the skin, and was discontinued; since then he has only used lead-wash. When his health began to fail, about last Christmas, several changes were made in his medicines. In February he was put under a course of quinine and iron, which has been continued ever since.

Dr. Bristowe, 17*th of April*, 1866.

P.S.—Since the patient was exhibited at the Society, the disease has undergone great improvement; many of the tubercles and patches have wholly disappeared, and all of them are less prominent and less distinct. This improvement seems still in rapid progress. I do not pretend to explain it; I do not, however, think medical treatment can have had anything to do with it.

He has suffered a good deal from dyspepsia (which seems to have been, in great measure, the result of domestic troubles), and he has been treated for it with bismuth and other remedies. He was treated specially for dyspepsia during a couple of months, and has only quite recently been able to resume quinine and iron. The diabetic condition of urine still continues, and he says that he has lost all desire for sexual intercourse; but he continues in good condition, retains his muscular strength, and is neither thirsty nor of excessive appetite.

J. S. B., 17*th of July*, 1866.

4. *Specimens of plica polonica.*

The specimens of plica polonica which I have the pleasure of bringing under your notice, were taken by me, some years ago, from patients in the Polish province of Prussia. They are not merely of a theoretical, but also of a practical interest, in so far as cases of the disease have been observed, although sporadically, in England. It seems, that in Shakespeare's time, plica was known in England, and called "elf-locks;" at least we find in Romeo and Juliet (Act I., Scene iv.) :—

> This is that very Mab,
> That plats the manes of horses in the night ;
> And bakes the elf-locks in foul sluttish hairs,
> Which, once untangled, much misfortune bodes.

We find also a report of direct observation in the shape of a letter from Mr. Joseph Ames, F.R.S., to C. Mortimer, M.D., Secretary to the Royal Society. This letter was read on the 28th of May, 1747, and published in the *Philosophical Transactions* of the same year, (Vol. 44, Part II., p. 556). It is of the greatest importance, since continental writers have repeatedly expressed the erroneous opinion, that plica is the mere result of the uncleanliness, dirt and superstition, which prevail in those districts, where the disease is endemic; and as the principal cause of plica, these authors consider the negligence of combing the hair. Now, this letter clearly contradicts this opinion, and, as it seems to be little known (for in the vast literature on plica polonica I never found an allusion made to it), I feel justified in reproducing it. It ran thus :—

"Good Sir,—June the 22, 1746, in the morning Mrs. Hannah Coomes, a neat old woman, whose hair (of plica polonica, as it is called) I shewed to the Society last Thursday, came and gave me the following information :—That she was of a gentle family in Staffordshire, who had suffered much in the civil war, and that her mother had her hair grown in the same manner, whose maiden name was Alice Goldsmith, but her own maiden name was Hannah Bundby, born in the Haymarket, in the White-chapel, and baptized in Aldgate on a Saturday in June, 1645. Her mother having such sort of hair, used to comb *hers* much to prevent it, till sometimes the blood came. When she was about 14 years old she perceived it to grow thick, just about the back part of her head, and at length it grew to this matted long-substance I now see it, of 109 inches long. She says she has had four husbands; the first, Nicholas Woodcock, to whom she was married when about 28 years old, and had four children by him; all died young, but observed nothing of their hair growing so. I am, Sir, your obedient servant, J. Ames."

Alibert calls a plica, like that mentioned in the letter, growing in length, "plique en queue;" whilst to a plica, which assumes the shape of a cap, he gives the name "plique en masse." Another form is that in which the head is covered with curls, each curl forming a small plica; this kind is known under the name of "*caput medusæ*."

Much has been said and written as to whether plica polonica be a disease, or merely a symptom that occurs in several diseases, but from causes hitherto unknown, in certain districts only. This much I know, from my own experience, that the formation of plica is often preceded by symptoms, resembling those of some well-known disease, but which disappear after the plica has been formed. A patient will, for instance, emaciate, cough and expectorate, in short, shew all signs, except the physical ones, that appear in the course of consumption. All at once the plica begins to be formed, and, when completed, all symptoms disappear. In this way many a physician, who is not trained in the application of auscultation, percussion, the microscope, and so on, indulges in the opinion of having cured consumption.

Concerning the hair, the plaiting of which, combined with sweat and impurity from the impossibility of combing afterwards, constitutes the plica, no abnormal appearance has been found on microscopic examination. The hairs are torn and cleft, but nothing can be found, which is characteristic of plica hair. Gunsburg and Walker have described a vegetable parasite, *Tricho phyton Plicæ Polonicæ*, which they consider to penetrate the hair. But it has been shewn by others, that they were in error, and that almost everything of a parasitic nature, that has been found in plica was not peculiar to it, but had been formed in the plica itself.

Dr. Hermann Beigel, 17*th of April*, 1866.

Report on the above specimen.—The committee beg to state that the hair-masses under examination consisted of portions of the two kinds, known respectively under the names of *plique en masse*, and *plique en queue*. In both forms the structure of most of the individual hairs appeared quite healthy; the hair-bulbs being, however, considerably enlarged. In the *plique en masse* the surface of entangled hairs presented a very irregular outline from the quantity of foreign matters attached. Friction of the hairs upon one another accompanied with shaking of the mass readily detached some of the débris, which separated in the form of a dry, dirty-brown, earthy-looking powder. In this powder portions of the hairs were more or less abundant.

Microscopic examination of the powdery matter revealed the presence of a great variety of substances. It would probably require a much more prolonged examination of the *plique en masse* than the committee have been enabled to afford, to determine accurately the nature of all the various particles found mingled together; therefore, without expressing any collective opinion as to the true nature of the disease, they feel it incumbent upon them to limit their Report to a brief record of the more conspicuous facts observed. These are as follows:—

1. Many of the broken hairs presented a worm-eaten appearance. Their preternatural brittleness seemed due to this cause. In some cases one half of the shaft of certain hairs was more or less irregularly notched, like the edge of a saw. Occasionally the cortical part might be seen eaten away all round, leaving only a narrow portion of the medullary substance of the hair uninjured. The cuticular layer itself, where not thus injured, appeared quite normal.

2. Patches of cheesy-looking matter, of every shape and size, from the merest point up to the size of coarse gunpowder grains, were very common. They were apparently made up of epithelial scales, oil and fatty matter, sweat-exudation, traces of extravasated blood, and particles of dirt of all kinds. One or more hairs were usually embedded to a greater or less extent in such masses.

3. Not a few of the separated hairs shewed "nits," or fragments of "nits" adhering to them. In one or two cases dead embryonic lice were seen in the interior of the chorional envelope. Yet more common over the field of view were entire skins and segments of skin-casts of lice, together with entire limbs, broken claws, palpi, and fragments of antennæ. The skins of the smaller lice (apparently belonging to an entirely distinct genus of mites) were nearly perfect; but the larger forms (or true pediculi) were all in a more or less fragmentary condition.

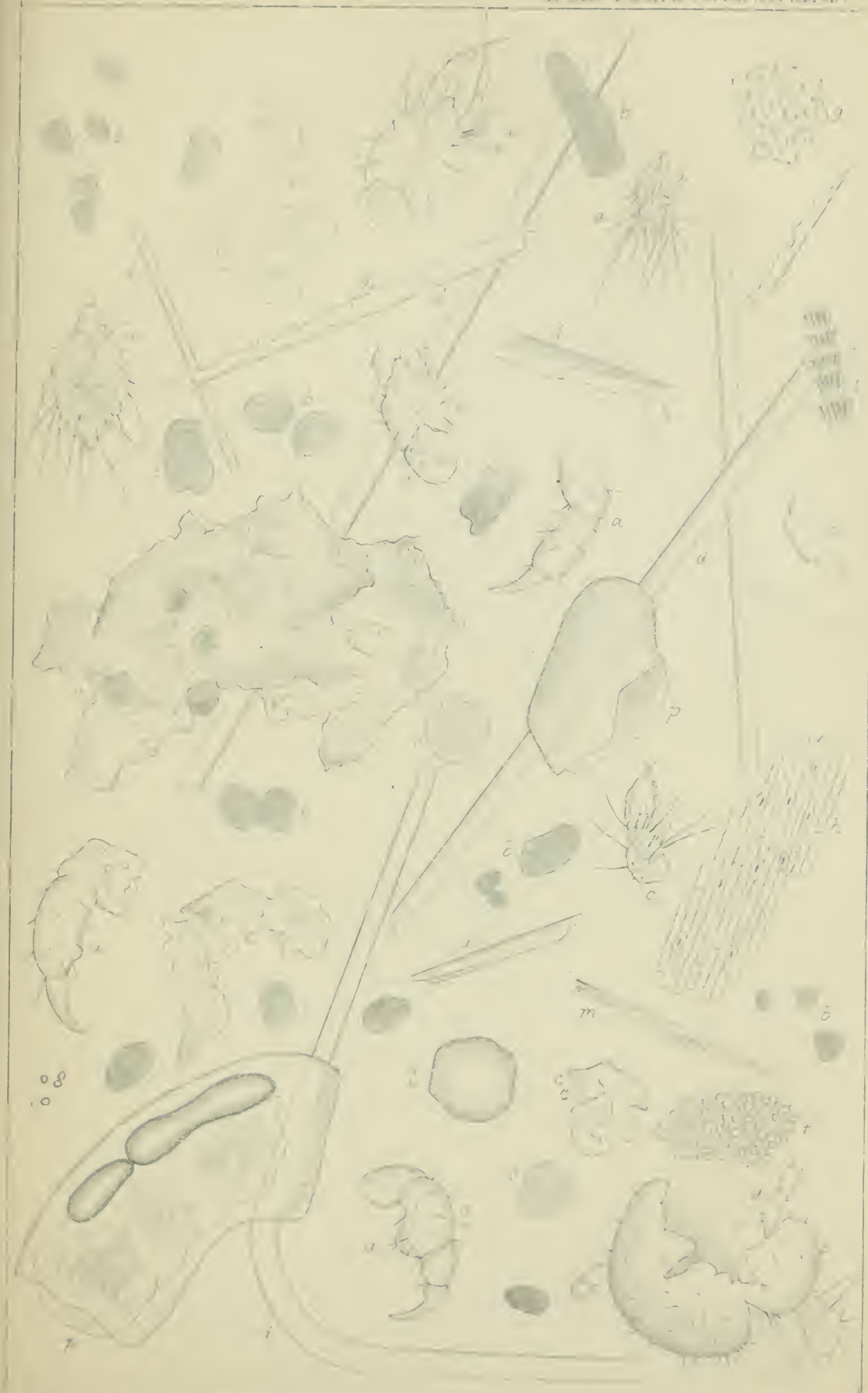
4. The looser parts of the débris shewed crystalline particles of various sizes and forms—quantities of brownish-black and more or less rounded masses, representing the excrementa of pediculi; abundance of earthy matter, representing dust, dirt, epithelial scales, and extravasated blood-patches; variously coloured hair-like portions of cloth, or of woollen, or other materials used as clothing or for ornamental purposes; small bristles and feathery setæ, which might be mistaken for split-up hairs; a few mycelial threads and scattered fungus-spores (*mycoderma plicæ polonicæ*); and, lastly, minute portions of vegetable matter, shewing the stomata and chlorophyl of leaves quite distinctly. The

DESCRIPTION OF PLATE XVII.

Illustrates Report of Committee on Dr. Beigel's cases of Plica Polonica. From original drawings by Dr. Cobbold, (p. 421.)

It shews skin-casts, claws, and other fragments of lice (*a*, *a*, *a*), excrementa of lice (*b*, *b*, *b*), patches of sweat-exudation and fatty matter (*c*, *c*, *c*), fragments of hair (*d*, *d*, *d*), sporules of fungus (*e*), portions of vegetable matter (*f*, *g*, *h*), antennæ of pediculus (*i*), fibre of wool (*k*), various foreign bodies of uncertain nature (*l*, *m*, *n*), flakes of dried blood (*o*, *o*), and eggs of pediculi (*p*).

All the figures magnified 40 diameters. Drawn with the aid of a camera.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appearances, above described, are represented in the annexed Plate (Plate XVII.).

Dr. Cobbold,
Mr. Jonathan Hutchinson,
Dr. H. Beigel, 15*th of May*, 1866.

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5. *Peculiar fissured condition of the lips in a case of fatal chorea.*

The patient, a boy, L. L., æt. 11, had been in St. George's Hospital with chorea, for which no cause could be assigned; but had left in an improved state: the disease, however, never subsided, and he returned on the 13th of July, 1864, under Dr. Fuller's care, with very aggravated symptoms, his whole body being affected. Altogether it had then lasted three months; but still he did not appear to be much out of general health. Under the use of steel and rather large doses of sulphate of zinc with the compound aloes pill, his symptoms abated for a time only. Shower baths were resorted to, and later on strychnia was given in place of other remedies, and this again was replaced by arsenite of potash. Emaciation came on to a great extent; the choreic symptoms

Woodcut 31.

increased, the surface of the body being torn and scratched by the boy's nails, and the tongue often bitten; bed-sores also appeared. About this time he came under my care. His lips were very dry and beginning

to crack vertically, and many parts of the body were covered with scratches. His motions were passed under him, and as he could not be got out of bed, he was with some difficulty cleansed. He was placed on a water-bed. His temper became strangely irritable; he had to be tied down and his hands fastened to prevent self-injury. The tongue became deeply ulcerated, and also the fissures on the lips, which were remarkable for their regularity. These vertical fissures were situated on both lips with such uniformity that an appearance was given as if the lips had been sewed together by sutures, which had, as it were, eaten their way into the flesh (see Woodcut No. 31).

The fissures of the tongue and lips were apt to bleed much when touched. In spite of belladonna and other remedies the boy became worn out, and died on the 17th of September.

Post-mortem examination.—In addition to numerous bed-sores, the hair at the back of the neck was worn off by the friction of frequent movement, and beneath the skin in this situation was a collection of pus.

Thorax and abdomen.—Beads of soft fibrine were found attached to the edges of the mitral valve-flaps, and the kidneys were rather congested; otherwise the organs of these cavities were pretty natural.

Cranium.—The whole of the brain-substance was more than usually injected; cerebral ventricles natural.

Spinal column.—The veins lining the vertebral canal, those of the dura mater, and also the vessels covering the surface of the cord were all very full of blood. On minute examination portions of the grey matter, particularly towards the upper part of the cord, were found to be of a duller and more yellow hue than is natural.

Dr. John W. Ogle, 1*st of May*, 1866.

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6. *Peculiar crimson-coloured purpura-like eruption on the legs, which made its appearance whenever the patient was not confined to bed, in a case of valvular disease of the heart.*

The patient, Robert R., æt. 14, had rheumatic fever, and one year after came under my care (October, 1864) with palpitation of the heart, accompanied by a strange systolic bruit, and having the front of the legs covered with bright purpuric spots. Shortly afterwards there was œdema of the legs; but the urine was not albuminous. The peculiarity of the spots consisted in their tendency

to vanish whenever the patient was kept in bed. If allowed to get up and go about the ward they would come out, and again retire and on some occasions quite disappear when recumbency was maintained. He left the Hospital improved; but returned in February, 1865, with general anasarca, orthopnœa, albuminous urine, and aggravated cardiac symptoms, etc., and died on the 27th of February, no relief having been obtained from cupping between the shoulders, diuretics, cathartics, etc.*

On *post-mortem* examination, extensive disease of the heart and its valves was found, together with anasarca and congestion of the lungs.

Remarks.—Dr. Ogle suggested that the eruption was the result of some peculiar purpura-like state of the blood, under which a proneness to hæmorrhage or escape from the vessels existed, which became manifest whenever any embarrassment to the circulation occurred, allowing retardation of the blood in the minute vessels of the more peripheric parts; and that this hindrance to the blood's progress and its stasis were induced when calls on the diseased heart's action were occasioned by exertion, the labour of sitting up, etc. The above was the only case of the kind he had himself met with, in which the purpuric condition associated with heart disease had been noticed as being of an *intermittent nature*; but he was able to refer to the following four cases which had occurred in St. George's Hospital, in which the purpuric state had appeared in patients affected with obstructed blood circulation, either from disease of the heart, or of the large blood-vessels.

The *first* case was that of Thomas B. æt., 60, admitted February 14th, 1852, with anasarca, cough, dyspnœa, and dark spots of purpura in different parts of the body. The heart's action was somewhat increased and irregular *and the sounds were re-duplicated*, and a murmur was audible an inch below the nipple and nearer to the sternum. The urine was albuminous. The legs became ulcerated; and the patient became delirious and died the 22nd of February.†

After death the legs were found covered with purpuric spots. The heart weighed nineteen ounces; its substance was softened; and its cavities much dilated, still having walls, which were blood-stained, of natural thickness. The spleen was soft and congested; the liver was dark and its cells were found by the microscope to be replaced almost entirely by fat. The kidneys were much enlarged and contained many cysts.

* See No. 63 in Hospital Post-Mortem Book for 1865.

† See Hospital Post-Mortem Book, 1852, fol. 45.

The *second* case was that of James B., æt. 37, admitted February 24th, 1864, with anasarca, cough, jerky pulse and a peculiarity in the rhythm of the heart, *the first sound being doubled*, and the second obviously prolonged, though not so much as to give rise to a well-marked regurgitant sound. The legs were œdematous and covered in parts with purplish extravasations of blood, beneath the integument. Symptoms of hypertrophy of the heart came on, with dyspnœa and orthopnœa, and he died on the 5th of June.

Post-mortem examination.—Thorax.—In addition to the enlargement of the heart, the aortic valves, and to a slight degree the mitral valve-flaps, were found covered with soft, ragged, fibrinous deposits, which in some places had a gritty character. The heart's substance was not fatty.

Abdomen.—The kidneys contained one or two small blocks of fibrine, and the spleen was hypertrophied and had a large block of the same matter in its substance.*

[It is singular that both in this and the preceding case, there should have been a re-duplication of the first sound of the heart].

The *third* case was that of James J., æt. 48, admitted the 29th of March, 1865, with dyspnœa, orthopnœa, anasarca, and obvious disease of the heart, a blowing murmur being also audible between the left nipple and the edge of the sternum. He had petechial spots covering the integuments of the shoulder. After an attack of faintness, he died on the 11th of April.

Post-mortem examination.—Thorax.—The heart was hypertrophied, but its valves healthy. The aorta was extremely atheromatous and dilated at the arch. The right lung was much consolidated by effused blood.

Abdomen.—The kidneys were large, congested, and granular; the liver was congested.†

The fourth case was that of George J., æt. 40, who was admitted February 7th, 1866, suffering from œdema of the legs, which were blotched with purpura. The urine was rather albuminous; the heart's sounds feeble but free from any murmur. The purpura increased, and dyspnœa and rapidity of pulse supervened. Epistaxis came on, apparently in consequence of the turpentine which, at one time, was given him. He sank and died on the 16th of May.

On *post-mortem* examination, the whole body was found covered with

* See Post-Mortem Book, 1864, fol. 155.

† See Post-Mortem Book, 1865, fol. 108.

patches of purpura. Purpural extravasations were met with in the pleural sac, and beneath the pleura, and minute extravasations existed beneath the mucous membrane of the bronchi. The heart was very large, weighing eighteen ounces; and large, recent, fibrinous deposits existed on the aortic and mitral valve-flaps. The liver was hard; the kidneys were granular and atrophied.*

Dr. John W. Ogle, *1st of May*, 1866.

XI.—MISCELLANEOUS SPECIMENS.

1. *On the action of certain acids upon teeth.*

Being engaged in investigations into the microscopic structure and chemical composition of certain parts of the human frame, I had to deal with the teeth, and some of the results which I obtained seem to me interesting enough to be brought to your notice.

The tooth-proper consists, as is well known, of four different layers, namely, the *dentine or ivory*, which gives the shape to the tooth, and contains the *pulp-cavity;* the *cement* which covers the fangs; the *enamel* which covers the crown, and which is covered again by that very thin membrane which has been discovered by Nasmyth, and called by Vrölliker, *the cuticle of the enamel.*

As far as I can learn, neither of those parts have hitherto been separated in their totality from the rest, and, therefore, I consider the preparations exhibited not to be without interest. No. 1 is the whole enamel cover of an incisor, and, of course, presents the shape of a little horse-shoe; No. 2 is the enamel cover of a molar tooth; No. 3, again, the enamel of an incisor, wherein I have just left that portion of the ivory which forms the pulp-cavity. No 5 shews the dentine, deprived of both the enamel and cement. No. 6 : the cement is wanting; the preparation shews very instructively the way in which the crown is covered by the enamel; and, lastly, No. 7 shews the same condition, but, a portion of the nerve is also preserved. These preparations may be obtained very easily, and depend upon the action of certain acids on different parts or layers of the tooth. If you boil a tooth with sulphuric acid, both the cement and the ivory very soon are destroyed, whilst the little enamel horse-shoe remains in the test-

* Post Mortem Book, 1866, Fol. 143.

tube. Now, if you cease boiling before the ivory becomes destroyed, then you may obtain either the whole, or a part of it.

The effect of boiling nitric, as well as muriatic, acid, is different—rather a reverse one. These acids dissolve rapidly the enamel and cement, whilst the ivory either remains intact, or becomes destroyed very slowly. The same result is obtained by aqua regia. It, therefore, appears that the enamel is distinguished from the dentine and cement, not only by its microscopic structure, but also by its chemical composition, which can easily be destroyed by muriatic and nitric acids, but not by sulphuric acid. In respect to Nasmyth's membrane, I am inclined to believe that it can easily be affected by acids, as is perceived by us, when the teeth are set on edge after having been brought into contact with acids.

I think it worth a dentist's consideration whether a practical result could not be derived from these remarks, in so far as the little horse-shoes of enamel, could perhaps be used as covers for the crowns of artificial teeth. Dr. H. Beigel, 17*th of October*, 1865.

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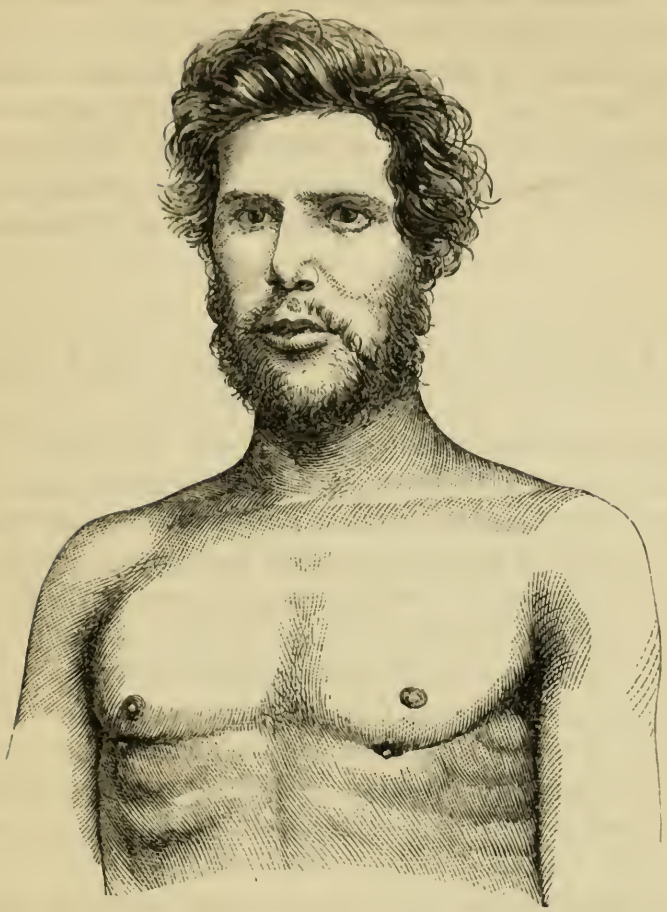
2. *Supplementary nipples or Pleiomazia.*

In August, 1865, a man, aged 20, was under my care in the London Fever Hospital, suffering from enteric fever, who had two well-marked nipples on the left side of the chest. The upper one was situated over the fourth left rib, and corresponded in situation to the right nipple. The lower one was situated over the fifth rib, about an inch and a-half lower down, and within the line of the upper one. This second nipple was quite as well marked as the nipple in most men. It was surrounded by a dark pigmentary areola, half-an-inch in diameter, studded with papillary elevations. (See Woodcut 32). There was no trace of a second nipple on the right side.

At the same time that this man was under observation, there were two (out of about fifty) females in the Hospital with supplementary nipples. One was a girl, aged 18, who had two fully developed mammæ in the usual situation. Three inches below, and rather to the inside of the left nipple, was a second mamma, the size of a pea, with a nipple surrounded by a pigmentary areola and minute papillæ. At the corresponding spot, on the right side, there was a minute puckered depression, which would probably have escaped observation, but for the characteristic appearance seen on the left side.

Woodcut 32.



The other case was also a girl, aged 17, who had a second rudimentary mamma on the left side only, in the same situation as in the former case.

Remarks.—Supernumerary mammary glands are not very rare in females. Upwards of a dozen such cases have been collected by Mr. Birkett in his work on "Diseases of the Breast." In most of the cases the supernumerary glands have secreted milk, although the women have not, in all cases, allowed their infants to suck them. They are found in various situations, but most commonly below the normal breast, as in the cases now recorded. Rarer situations are the anterior fold of the axilla, the inguinal region, or even the outer surface of the thigh. The frequent occurrence of this deformity in Greece and Egypt, in former days, has been attributed to the contemplation by pregnant women of the statues of Diana and Isis, which were represented with numerous mammæ! But observations regarding the occurrence of sup-

plementary mammæ in the male sex are extremely rare. The only instance I have been able to discover occurred several years ago in Sweden, and was published in the *Proceedings of the Swedish Medical Society*. That case is of a man, with four mammary glands, and is referred to in the *Dublin Quarterly Journal of Medical Science* for February, 1848, (p. 266), and in Mr. Birkett's work on "Diseases of the Breast," p. 27.

Dr. Murchison, *8th of November*, 1865.

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3. *Clubbed fingers of one hand only, in association with aneurysm of the corresponding side.*

A negro from Barbadoes was admitted into the Charing Cross Hospital, under my care, on December 1st, 1863, labouring under a large subclavian aneurysm of the right side, for which I performed the distal operation, *i.e.*, tying the axillary artery just beyond the disease.

An accurate drawing of both hands was shewn to the Society. The left one was quite natural, but, the right presented a well-marked instance of "clubbing" of the extremities of the fingers.

Mr. Canton remarked that this condition was believed to be due to one of three causes, viz., strumous deposits; enlargement of the ungual phalanges; or hypertrophy of the softer tissues forming the finger-ends, consequent on the retarded flow of blood through them,—an incident of the arterial disease.

In the present instance the bones were not enlarged; and there was an absence of tuberculous deposit.*

Mr. Canton, *5th of December*, 1865.

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4. *Chronic enlargement of the cervical and axillary glands.*

J. E., æt. 45, a drayman, of excellent character, and who had been almost a teetotaller for years, came under my care at the Great Northern Hospital about six months since. He was a fat bulky man; but withal muscular and vigorous. His father lived to old age; but his mother died of consumption. About two years since, the cervical glands on the right side began to enlarge; those on the left soon followed, and subsequently, those in the axillæ. The enlargement steadily progressed, until they acquired a very large bulk; the masses appearing to consist of

* The reader is referred to an interesting case of a similar nature recorded by Dr. J. W. Ogle, in a former volume of the *Transactions* (Vol. X. p. 103.)—Ed.

large, rounded, lobules. One in front of the neck became very painful; the skin assumed a reddish tinge; and it became doubtful whether the gland had not suppurated. I made a free incision into it; a quantity of serous fluid and blood oozed away; and the patient was relieved of his pain. Another gland followed the same course, and this I opened also. The incisions deepened by ulceration into cavernous-like openings, from which unhealthy pus and serum kept constantly flowing. The blood, under the microscope, does not appear to have many white cells; but the ordinary globules are pale; and, instead of forming coin-like rolls, adhere laterally. Instead of diminishing in size by the secretion from their interior, the two glands which were opened continue to increase in size, in common with those which have not been so treated. The patient, though pale and cachectic-looking, does not lose flesh; and, but for the inconvenience of the swellings which have attained an enormous size, could continue at his usual employment. His pulse is about 100 per minute; and his bodily functions are regularly performed.

Iodine in every form, tonics and sea-air have been tried, but without any effect on the swellings.

Mr. Gay, *5th of December*, 1865.

Report on the above specimen.—The disease appears to be confined to the lymphatic glands of the neck and axillæ, being much more advanced in the right than in the left axilla, where the disease has only lately commenced. The tumours present the characters of simple hypertrophy of the lymphatic system described by Rokitansky (*Path. Anat., Syd. Soc. Transl.* Vol. IV., p. 387), as consisting in an excessive accumulation of parenchyma between the lymphatic vessels interspersed through the gland; but from the nature of the case no opportunity was afforded of making a microscopical examination of the growth. The general condition of the patient negatives the idea of tubercle in association with the enlargement, the condition of the lungs being healthy, and there being no apparent abdominal complication. The surface of the ulcerated openings resulting from the incisions presented granulations of tolerably healthy appearance, and none of the characteristics of tubercle or cancer. In Mr. Gay's opinion the disease has already benefited by treatment, and both the tumour and the openings have diminished in size since the patient was before the Society.

Mr. Christopher Heath,
Mr. Thomas Smith,
Mr. John Gay, *16th of January*, 1866.

5. *Arrested development of fore-arm and hand.*

This preparation was taken from the body of a middle-aged man, in all other respects well formed, who died in the Middlesex Hospital of phthisis.

The left arm, as far as a little below the elbow, was well formed, but the muscles were much smaller than on the right side. From this point it gradually tapered off, and ended in a somewhat flattened, slightly conical extremity, on the palmar aspect of which were five little elevations covered by thickened cuticle, which represented the digits; they hardly projected above the general level. On dissection, the muscles of the fore-arm were found all present, but in a rudimentary condition and very fat and flabby; the radial and ulnar arteries, and the median and ulnar nerves were also visible, but were extremely small. The tendons were lost in thick fibrous tissue in the palm, and, on pulling them, no motion was produced in the rudimentary digits.

The extensor muscles were in a very rudimentary condition, and those of the thumb were absent. The radius and ulna were found to taper off towards their lower extremities, and forming one mass with the lower end of the radius was the first row of carpal bones, in a rudimentary state and all fused together. No trace of any other bones could be seen. Dr. W. Cayley, *5th of December*, 1865.

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6. *A tape-worm expelled with its head.*

The only point of interest associated with this parasite was its expulsion entire with its head from an out-patient at Westminster Hospital, treated by the oil of male fern. The practice followed at this Hospital by myself, and, I believe, by some of my colleagues, and one attended by general success, is the administration of a dose of castor-oil at night, followed by the fern-oil at seven the next morning and a second dose of castor-oil three or four hours after, the patient meanwhile fasting. The passage of the head of the worm is the great thing desired in the treatment of tænia, for the cure is then considered complete.

Dr. Gibb, *5th of December*, 1865.

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7. *Drawing shewing the process of syphilization.*

I. Case of Eliz. C. æt. 16.—The first inoculation was performed

on the 15th of November, the last on the 30th of November. A series of six sets of sores was produced. The sores of the first inoculation were the size of fourpenny-pieces; the sores of the last inoculation were of the size of hemp-seeds, scarcely more than pustules. The most matured sores had a raised border of a rather purplish hue, and a yellowish ash surface spotted with red. The drawing was made early in December.

The patient, when admitted into the Middlesex Hospital, had an open bubo in each groin of seven weeks' duration, syphilitic roseola, cervical adenopathy and loss of hair. The date of the primary infection was uncertain. *No mercury had been taken.* The matter with which the inoculation was effected was taken from a patient who had sores on the labium, apparently at the time an indolent bubo, and on the face a few spots of doubtful psoriasis.

II. Case of Agnes F., æt. 21.—Infection February, 1865. Admitted into the Middlesex Hospital with condylomata, blotches, spots on the scalp; *was treated with mercurials*, and discharged convalescent; was re-admitted, under Mr. Nunn's care, on the 14th of November, with mucous tubercles, and a painful sore at the site of the former condylomata, which had been removed by cutting. Was inoculated on the 17th of November with matter from the pustule produced on Eliz. C. by the inoculation of the 15th.

The inoculation produced only a small pustule which did not develop into ulceration, and yielded inoculable matter that gave two further generations of pustules.

Ten grains of chlorate of potash were given internally three times a day, and proto-iodide of mercury ointment was applied to the tubercles and sore.

Note.—The subsequent history of the three individuals referred to, is as follows:—Eliz. C., the first-named, suffered a good deal of pain from the artificially-produced sores; consequently no inoculation was made after the 4th of December.

December 15th.—The sores shewed no disposition to heal. Proto-iodide of mercury ointment (℈j in ℥j) to the groins.

December 22nd.—Proto-iodide of mercury, one quarter of a-grain three times a-day, in a pill, as the inoculation sores looked unhealthy.

December 24th.—The sores in the groin were improving, and a sore which had existed on the patient's leg during twelve months (non-syphilitic) was healing.

December 30th.—The patient was gaining flesh, and there was no increase of the eruption; all the sores were healing.

January 10th.—A general eruption of pin-head sized spots of lichen (?). *February 2nd.*—Iritis came on. *February 6th.*—The spots had disappeared from the neck, leaving reddish marks. *February 13th.*—The iritis had subsided.

Agnes F., the second case named, inoculated from Eliz. C., was discharged convalescent on the 4th of December. The fourth inoculation on the 26th of November produced no result. The patient from whom the matter was derived was examined some weeks after she left the Hospital; no secondary symptoms had shewn themselves, and what was at first supposed to be an indolent bubo had suppurated.

The facts shewn by the foregoing cases, are :—

1. That a patient had sores, with a bubo that appeared to be indolent but which afterwards suppurated.

2. That sores produced by inoculation with matter from such sores, on an individual labouring under constitutional syphilis, shewed no disposition to heal until mercury had been administered.

3. That on the healing of the inoculation sores, an unusual form of skin eruption broke out, which on fading was succeeded by iritis.

4. That matter of a pustule, two days old, from an individual labouring under constitutional syphilis, and resulting from the inoculation of matter from sores producing a suppurating bubo, did not give rise to more than three series of pustules, in an individual labouring under slight constitutional symptoms, who had taken mercurials six months previously, and who was using a mercurial preparation externally at the time of the inoculation.

Mr. Nunn, *19th of December*, 1865.

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8. *Heads of three tape-worms.*

The worms, from which the heads were removed, had all been evacuated by means of the male fern (the Extractum Filicis liquidum of the British Pharmacopœia). Of these worms, one was the so-called *tænia mediocanellata*, and its dark head had become almost completely decolorized by being kept in the spirits of wine.

Dr. Ogle remarked that he generally treated tape-worm by giving a dose of castor-oil at bed-time, and following it up the next morning with from one to two drachms of the extract of fern mixed with mucilage

and mint-water, with or without a little chloric æther, which had the effect, within a short time of its exhibition (often within two or three hours) of bringing away large quantities of the worm, not always with the head, or root as it has been termed, but often accompanied by this part. Dr. JOHN W. OGLE, *19th of December*, 1865.

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9. *Portions of lint and linen and a piece of wood stained of a bright crimson colour by fluid which oozed from the anasarcous legs of a patient who died with albuminuria.*

The lint and the linen were extensively coloured as above described, and this colouring of the material used for dressing the legs, the skin of which had given way at several parts, had persisted for about three weeks before the close of life. The stained wood was a piece of board upon which the patient was wont to rest the feet. The wounds whence the fluid came were much inflamed and suppurating, and were dressed with simple spermaceti ointment. The patient was taking no medicine excepting purgatives at the time. This colour of the lint, etc., could not be washed out by boiling water, but in the course of time, when dried, it much faded, so that parts of it after about three months shewed but slight traces of the colour. No amount of scrubbing in any way altered the staining of the wood.

Remarks.—Dr. Ogle stated that he had never before seen any specimens of such staining as he had exhibited to the Society, and on asking all the nurses in St. George's Hospital, many of whom had been several years there, he had only found one who had ever seen anything of the kind, and that was in a patient with anasarca of the feet, who died in the Hospital in 1865. He had also asked several medical friends, and only found two who had seen this kind of staining from the same source, viz.: Dr. Hawksley, who had seen pink and blue staining in one case, and Dr. Bence Jones, who had seen staining of a somewhat similar kind from the forehead and from the axilla in patients not suffering from œdema. The staining of the lint, on boiling with nitric acid, was converted into a faintly greenish colour, and Dr. B. Jones thought it was some modification of the colouring-matter found in urine. Dr. John Davy had examined and tested the stained substances, and thought the colour was "produced by purpurate of ammonia or murexide." He did not know that it had ever been found

before in effused fluid. Mr. Arthur Church, Professor of Chemistry at the Cirencester Royal Agricultural College, observed that, "as far as he could make out from the minute quantity, the purple colouring-matter seemed to be identical with murexide;" and went on to say, that, if true, it was especially interesting, on account of the "uric relation of murexide."

Dr. Silver, assistant to Dr. Ogston, Professor of Medical Jurisprudence at Aberdeen, observed that "he had known of blue discharge from the surface of the body, but not of pink." In the case alluded to by him,—one of chronic psoriasis, he thought the colouring-matter was "indigo or some of its modifications;" it was certainly organic, and undoubtedly not Prussian blue, as the colouring-matter in blue pus seems to be. Its appearance was intermittent. Dr. Ogston stated that he had seen a blue discharge from the surface once or twice.*

Dr. John W. Ogle, 19*th of December*, 1865.

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10. *Description of a foot, malformed by enlargement of the inner half and deposition of fat.*

This specimen I obtained through the kindness of Mr. William Adams from a patient of his, a child, aged 3, who died of pneumonia.

The right lower extremity was altogether much larger than the left. The distance between the anterior superior spinous process and the tip of the heel, on the right side, was twenty-seven inches; on the left, twenty-two and a-half inches; the difference being four and a-half inches, and this was chiefly below the knee.

External appearance.—The right foot alone was removed for examination; it was covered all over by great masses of fat, in parts one and a-half inch thick. Only two toes were visible,—a great toe of normal appearance, and separated from it by a wide cleft was a very broad toe with two nails. About the middle of the outside of the foot were two little nails close together, representing the fourth and fifth toes. The right foot was two and a-half inches longer than the other.

Muscles.—The long and short extensors of the toes and the extensor of the big toe were present, but no tendons passed to the two outer toes.

* The stained linen is preserved in St. Georges Hospital Pathological Museum.

No tibialis anticus tendon could be found.

The tendon of the tibialis posticus was very large. The long flexors of the toes and big toe were present, but no tendons passed to the two outer toes. The muscles of the sole of the foot were represented by a mass of muscle and tendon matted together.

The muscular tissues, under the microscope, shewed no trace of fatty or other degeneration.

On examination of the foot, after removal of the soft parts, it appears that the ankle-joint is freely movable, but the bones of the leg cannot be brought to a right angle with the foot, owing to malposition of the astragalus, the upper surface of which is directed rather backwards.

The tarsal and other joints of the foot are normal, with the exception of those at either end of the metatarsal bone of the big toe; these are fixed, not by anchylosis, but the ligaments appear to be too short to allow movement to take place.

Bones.—The astragalus, the scaphoid, cuneiform, the three inner metatarsal bones, and the phalanges of the three inner toes are relatively more than twice the size of the other bones of the foot; indeed, they are nearly equal to those of an adult.

The astragalus is so large, in proportion to the os calcis, that it projects further backwards than that bone; consequently there is no arch to the foot.

The enlarged bones are of normal shape, as are also their articulations, excepting where the large bones, on the inner side of the foot, articulate with the small bones on the outside.

The other bones of the foot are of normal size.

The body of the child was extremely emaciated, and formed a marked contrast to the right lower limb, which was thickly covered with fat. There were also two ill-defined fatty tumours, the one on the right side of the chest, the other below the left nipple.

The internal organs were healthy, with the exception of the lungs, which were in various stages of pneumonia, quite sufficient to cause death.

The malformed limb was not used in walking.

Mr. L. S. Little, *16th of January*, 1866.

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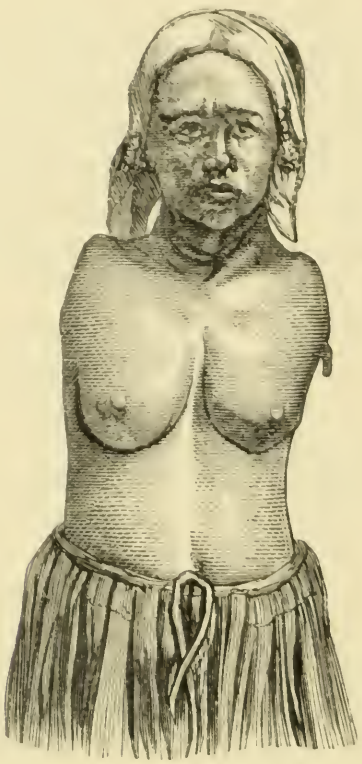
11. *Portrait of a case of congenital absence of both upper extremities.*

The portrait, a photograph, had been sent for exhibition by Dr.

Curran. It was that of a Hindoo woman, aged 40, who was born without upper extremities. The accompanying sketch well illustrates her general appearance. On the left shoulder the cicatrix is said to be perfectly smooth, whilst on the right there is a small nipple-like projection an inch and a-half long. Dr. Playfair, of Agra, who obtained

Woodcut 33.



the history of the case for Dr. Curran, writes that until ten years of age the patient had a similar process attached to the cicatrix on the left shoulder which then dropped off. Respecting the process which still remains, he states that it contains bone, and may be supposed to be the remains of the arm of a fœtus, say three months old. The woman has one brother and five sisters, all of them free from deformity.

Mr. Jonathan Hutchinson, *6th of February*, 1866.

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12. *Paralysis of certain scapular muscles.*

The patient, who is now exhibited to the Society is aged 28, and a

pawnbroker's assistant; and he has led a dissolute life. He complains that for eighteen months past he has been much troubled with nocturnal emissions, that about fourteen months ago he found that he had very much lost the capability of certain movements of the arms, and that this incapacity has been daily increasing.

His appearance is as follows:—He is below the middle height, pale, and thin; eyeballs somewhat protuberant; shoulders extremely sloping, falling far forward on the chest; pectoral and deltoid muscles emaciated. When the back is looked at, the first appearance that strikes one is great projection backwards of the posterior costa of the scapula, with displacement downwards and forwards of the acromion, so that the dorsa of the bones, instead of looking directly backwards, look almost directly forwards. The ventres, facing nearly directly inwards, no longer rest flat upon the posterior wall of the chest, but only touch a portion far too external, by a part near the joint end. Thus the posterior edge of the bone, projecting far back, can be taken hold of with the fingers; indeed the hand can be placed upon the subscapular muscle, between which and the back is a deep depression or gap.

This condition is produced primarily and principally by paralysis of the serratus magnus muscle, a condition whereof some account may be found in M. Duchesne's *Électrisation Localisée* p. 427 et. seq. In the case now exhibited, however, other muscles participate, to a certain degree, in the debility. Moreover, the spine has nearly lost its normal curves, and therefore there is some reason to fear that the present condition is but the commencement of general progressive paralysis.

Mr. Barwell, *6th of February*, 1866.

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13. *Photograph of the foot of a man suffering from syphilitic* (?) *disease of the synovial sheaths of the extensor tendons on the dorsum of the foot.*

The patient was 45 years of age and had suffered from constitutional syphilis, chiefly developing itself in the form of periostitis during nearly twenty years. About two years previously a swelling had made its appearance over the tendons of the inner hamstring muscles, at their attachment to the tibia: the skin over the swelling ulcerated and exposed a pale-yellow fibrinous mass, which ultimately became detached, leaving the tendons exposed. The sore healed without impairment of the flexibility of the knee-joint.

At the time of the taking of the photograph exhibited, the instep was swollen; a roundish enlargement of the size of half-an-orange was to be seen; subsequently the skin over the most prominent part ulcerated, and a fibrinous mass, similar to that observed before, over the tendons of the hamstrings, became visible; the mass was composed of concentric layers of fibrine. After detachment the tendons were cleanly exposed, but were not injured by the ulcerative process by which the fibrinous lump was ejected. The case was brought forward as illustrating the tendency in constitutional syphilis to the deposit masses of fibrine in the internal organs, shewn by Dr. Wilks and others.

Mr. Nunn, *20th of February*, 1866.

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14. *New species of human tape-worm.*

The author exhibited a specimen of tape-worm, which had long been preserved in the Museum of the Middlesex Hospital, and which was described in the manuscript catalogue as an example of the common *tænia solium*. At first sight the specimen might be taken for Küchenmeister's so-called ridged variety of that worm; but a little closer inspection shewed that it was an entirely distinct form, and there was every reason to believe that it had been passed per anum from the human body. The variety from the Cape of Good Hope had the reproductive pores disposed as in *tænia solium*; but in the new worm the papillæ were all on one side of the chain of segments. He proposed to call this species *tænia lophosoma;* its specific characteristics, as far as the specimen enabled the author to give them, standing as follows;—Strobila of moderate length, probably not exceeding nine feet; average breadth of the joints $\frac{1}{5}''$, their greatest thickness being $\frac{1}{13}''$; final, mature segments (proglottides) $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in length; reproductive papillæ prominent, uniserially disposed at the margin on one side throughout the entire colony of segments; individual joints irregularly pentagonal in outline; average diameter of the eggs $\frac{1}{850}''$. The head and neck were unfortunately wanting. It could not be a malformed variety of either the beef or the pork tape-worm, because, in all such examples hitherto met with, the position of the generative openings had alternated more or less regularly. Dr. Weinland, of Frankfort, in his *Beschreibung zweier neuer Tænioiden aus dem Menschen*, and in his *Essay on Tape-worms*, had already described a small species of human tape-worm in which the reproductive papillæ were uni-

serially disposed. The specimen before the Society, however, could not be confounded with Weinland's *Tænia flavopuncta*. In a zoological point of view, it may be desirable, as Weinland has suggested, to elevate tape-worms having such distinctive features into a new genus; but, pathologically speaking, it would occasion much inconvenience. The cysticercal origin of this tape-worm might be conjectured to reside in mutton; but in the author's opinion, the larva was more likely to be obtained from some other kind of animal food less frequently eaten. It may be mentioned, however, that he has already obtained proof of the possibility of measles occurring in mutton, and he proposed to lay evidence in reference to this point before the Society on some future occasion.

Dr. Cobbold, *20th of March*, 1866.

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15. *The upper central incisor teeth, from a case of inherited syphilis.*

Mr. Hutchinson stated that he exhibited these because they were, as far as he knew, the first that had been yet obtained. Hitherto he had been obliged to be content with bringing before the Society either casts or sketches illustrating the peculiarities which he had described.

The pair of teeth which he now exhibited had been extracted from a patient who was suffering severely from the effects of inherited syphilis. She had been under Mr. Lawson's care at the Moorfields' Hospital for interstitial keratitis. The upper incisor teeth were mal-placed, there being a second pair exactly behind the central incisors. Whether this second pair were the lateral incisors or supernumerary teeth, it was difficult to say. If supernumeraries, then the first pair of bicuspids were wholly wanting. The patient consulted Mr. A. Coleman on account of the dental irregularity, and he advised the removal of the front pair of central incisors. These teeth were short, narrow and rounded, and each of them exhibited a vertical notch in the centre. At this notch the enamel was deficient, and a considerable portion of dentine exposed. The teeth did not differ in any essential feature from those commonly met with in the subjects of inherited syphilis. The supernumerary pair of teeth was not malformed, nor were the lateral incisors.

Mr. Jonathan Hutchinson, *3rd of April*, 1866.

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16. *Gun-shot wound of the scalp.*

John F., aged 36, was admitted into the Middlesex Hospital on the 12th of March, under the care of Mr. Nunn, with a gun-shot wound of the scalp. It appears that shortly before his admission he had put the mouth of a pistol to his forehead and then pulled the trigger, by accident, as he affirmed; the bullet indented the bone and fell back on to the floor without penetrating or glancing off. On admission there was an extensive scalp wound of a most remarkable shape.

In the centre of the upper part of the forehead the bone was laid bare for a space of about one inch and a-half in diameter, and in the centre of this was a distinct indentation. Diverging from this as its centre was a wound in the form of a six-rayed star, the rays extending over the top of the head and downwards to the level of the eyebrows. The distance from the tip of one ray to the tip of the opposite ray was five inches. The triangular flaps of scalp, between the rays, could be lifted up from the skull, but the bone beneath them was not laid bare. There was no loss of substance in the scalp, and the edges of the rays, which were remarkably regular in shape, appeared clean cut. There were no head symptoms for the first fourteen days. Pyæmia then supervened, and the patient died on the 31st of March.

On *post-mortem* examination, lymph was found smeared on the outer surface of the dura mater, corresponding to the centre of the wound, and there was a purulent deposit on the surface of the hemisphere at this point; the longitudinal sinus contained pus and broken-down clots, and there were pyæmic abscesses in the lungs and kidneys.

The preparation I shew to-night has much the same characters as were present after the injury, except that the margins of one of the rays have united, and the indentation in the bone is no longer visible. The forehead is a remarkably sloping one.

It seems almost inconceivable how such an injury could have resulted from a pistol-bullet. It is possible that as the pistol was held quite close to the forehead some of the powder, or perhaps some gas still in a state of tension, may have entered beneath the scalp and, as it were, blown it up. Dr. W. Cayley, *3rd of April*, 1866.

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17. *Malformation of the hand.*

The cast exhibited was from the left hand of a young woman, which presented the following malformation:—

The thumb and little fingers are well-formed and developed, with

the exception that the joint between the first and second phalanges of the thumb is anchylosed; but the other fingers are absent, being represented only by three little fleshy nodules (without nails) attached to the web which extends from the outer side of the little finger towards the metacarpus. The metacarpal bones of the three missing fingers are present and appear to be fairly developed. The patient has perfect power of opposing the finger and thumb, and can grasp an object firmly by closing them upon the hand.

Mr. Christopher Heath, 1*st of May*, 1866.

XII.—SPECIMENS FROM THE LOWER ANIMALS.

1. *Specimens and drawings illustrating the pathology of the cattle-plague now prevalent in Britain.**

My main object on the present occasion is to call attention to the appearances presented by the small intestine, in reference to the relation which has been supposed to exist between the cattle plague and the typhoid or enteric fever of the human subject.

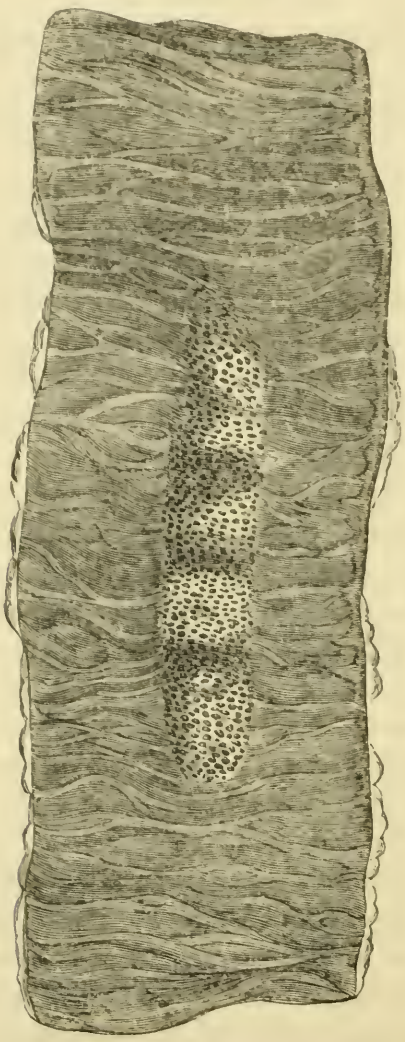
The *small intestine* is more or less inflamed throughout, and presents the appearances of the ordinary muco-enteritis of cattle. The inflammation is usually most intense about the middle and at the opening into the cæcum, but in extreme cases the bowel is equally affected in every part. Viewed from its serous surface the inflamed bowel presents a blueish aspect, and occasionally small ecchymoses may be seen beneath the serous membrane, but there is never any trace of peritonitis. The coats of the bowel are attenuated and softened. The inner surface, according to the intensity of the inflammation, presents every shade from a rose-red to the deepest claret and occasionally small patches of submucous ecchymosis. The mucous membrane is deprived in a great measure of its epithelium covering, is extremely soft, and is detached from the subjacent muscular coat with unusual facility. It is coated with a quantity of transparent and viscid or of opaque and puriform secretion; and in rare cases, particularly those where the vascular injection is most intense, masses of blood, or of solid exudation composed mainly of epithelial structures, which may be an inch or more in diameter, and which may be tinged with blood or bile, are found loosely attached to the surface, very often to the membrane covering Peyer's patches, or floating free in the contents of the bowel. On detaching the

* The researches, on which this communication is founded, were made prior to the appointment of the Royal Commission.

adherent masses of blood or lymph, the mucous membrane beneath is found to be free from ulceration, though deprived of its epithelium. In not one of thirty cases which I have examined have I found anything like a true ulcer extending through the mucous coat, although in several of the cases the disease had lasted from ten to fourteen days.

The lining membrane of the *large intestine* is also inflamed, but less so than that of the small. The inflammation is usually most advanced in the cæcum. The mucous membrane is more or less reddened, the redness being greatest over the prominences of the rugæ and in the

Woodcut 34.



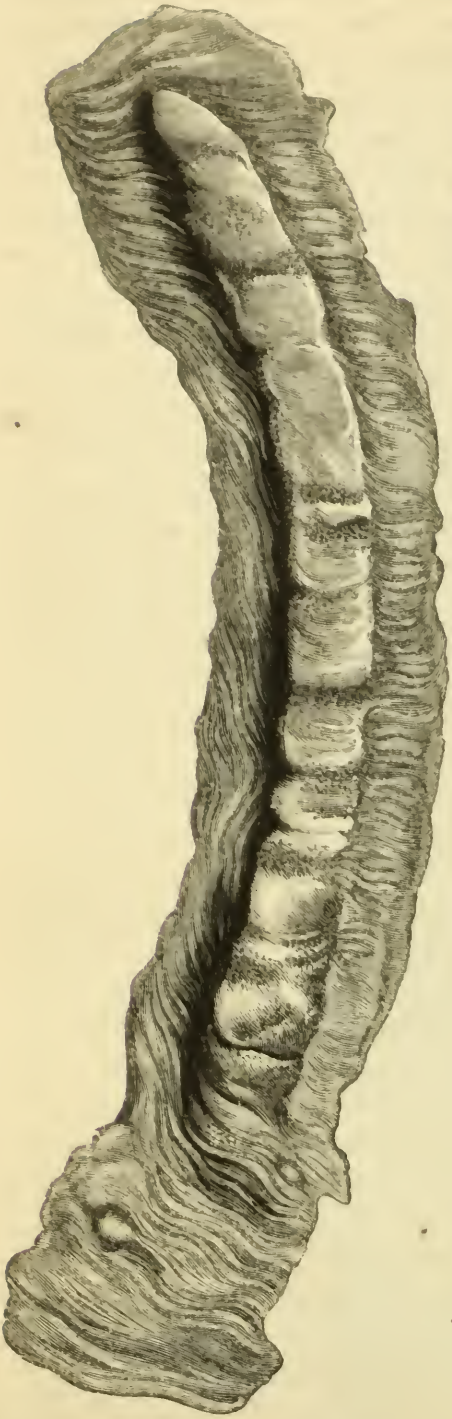
Represents the appearances of a Peyer's patch on the tenth day of cattle-plague, one-half the natural size.

rectum. Here also may be seen patches of ecchymosis and sometimes superficial excoriations or small ulcers. The surface is coated with a quantity of viscid mucus containing flakes of lymph and often blood.

The *contents of the bowels* are fluid, and consist of fæces mixed with inflammatory products and often with blood. In a few instances, where the inflammation was most intense, I have found the small intestine filled with a gelatinous substance closely resembling the whites and yolks of eggs whipped up together.

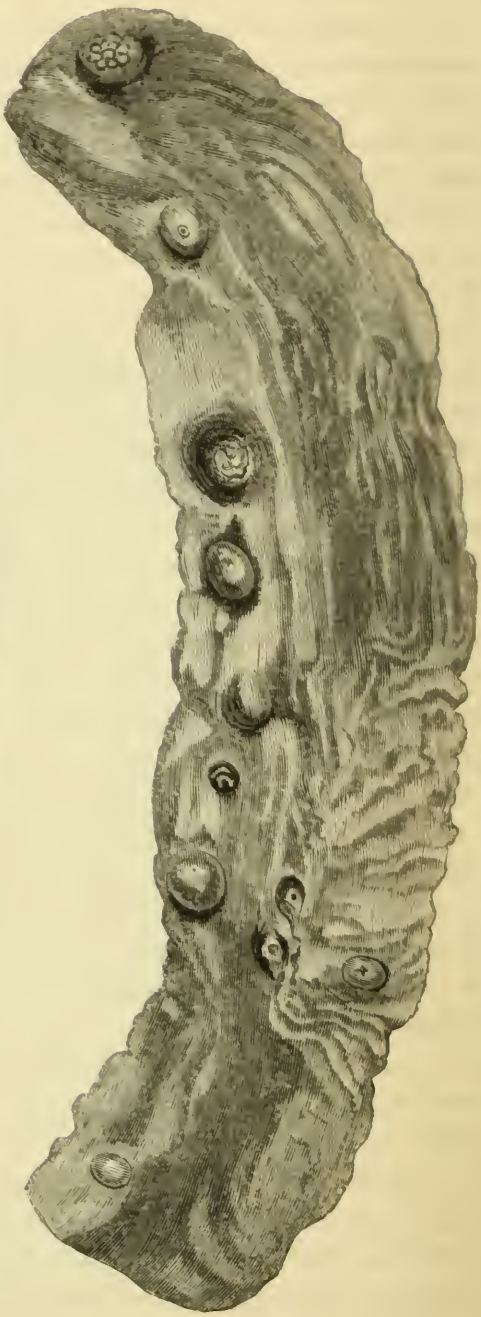
Intestinal glands.—I have failed to discover any enlargement of the solitary glands of the ileum which could be ascribed to the disease. Peyer's patches, in the early stages of the disease, are sometimes even less vascular than the surrounding mucous membrane, and from first to last they are much less elevated and much thinner than in a healthy animal. In the healthy ox these patches are much more prominent and developed than the corresponding parts in man; they are raised at least one-fifth or one-sixth of an inch above the general level of the mucous membrane (Woodcut 35), and they can be felt through the coats of the bowel before it is slit open. But in animals that have suffered for six or seven days from the cattle plague, it is impossible, with closed eyes, to indicate the situation of the patches with the finger passed even along the mucous surface (see Woodcut 34), and in cases where the inflammation is extreme it is sometimes impossible with the naked eye to discover any trace of them. This has happened to me on three occasions, on each of which the bowel was twice carefully examined throughout its entire length, two of the animals being examined in conjunction with my friend Dr. A. P. Stewart. In the early stage of the disease, although the entire patch is less elevated, the component glandules are more distinct than in health, for two reasons; 1. Because the epithelium covering, which obscures them in health, has been mostly removed; and 2. Because many of them contain a minute drop of opaque-yellow softened secretion like pus, which can be squeezed out on the slightest pressure. This fluid when submitted to microscopic examination is found to contain pus corpuscles, with numerous transitional forms between them and the corpuscles found in the interior of the Peyerian glandules of a healthy ox. As the disease advances, the opaque-yellow bodies burst and discharge their contents, and the Peyer's patch exhibits a pitted, reticular aspect, owing to the open and empty condition of the glandules. In the same patch certain of the glandules may sometimes be filled with pus, and present the appearance of opaque round bodies about the size of mustard

Woodcut 35.



Small intestine of a healthy ox, shewing great elevation of a Peyer's patch; one-half the natural size.

Woodcut 36.



Shews enlarged solitary glands in the small intestine of a healthy ox, one-half the natural size.

seeds, while others are empty. When the morbid process is still further advanced, all trace of the Peyerian glands often disappears; in rare cases their free surface is coated with lymph; but in not one of thirty cases have I found them to be the seat of ulceration. The changes which take place in Peyer's patches are obviously the result of the general intense inflammation of the mucous membrane. There are no submucous deposits, and none of the lesions running through definite stages to ulceration, which I am familiar with in the typhoid or enteric fever of man.

It is right to mention, however, that in most of the cases which I have examined, many of the solitary glands, and sometimes certain of the component glandules of Peyer's patches, have been greatly enlarged, filled with a soft or firm cheesy matter, and in rare instances (in the case of the solitary glands), even ulcerated on the surface. A drawing of an inflamed piece of bowel studded with these enlarged glands might readily be thought to represent the lesions of enteric fever. Careful examination, however, shews clearly that the appearances in question are of old standing, and quite unconnected with the disease of which the animals have died. They have a peculiarly hard feel, inconsistent with what we find in the enlarged solitary glands in the enteric fever of man, and when cut into they are found to consist of a thick firm cyst, out of which the contents can be scooped or squeezed as a globular mass. Both these characters distinguish them from the lesions of human enteric fever. The microscope, moreover, shows the contents to be made up of oily matter, compound granular cells and granular masses and a few scales of cholesterine, appearances which indicate a chronic rather than an acute affection. But what removes all doubt from the matter, is the fact that I have found precisely similar appearances (Woodcut 36)—usually, indeed, even more strongly marked, in the small intestine of every one of six successive healthy oxen, which I have examined. I remember also Professor Goodsir, of Edinburgh, describing this common condition of the intestinal glands in cattle in his lectures on Comparative Anatomy, nearly twenty years ago. The effect of the general inflammation on these enlarged glands is to render them smaller, and in rare cases to soften their contents into a substance resembling thick cream.

The *mesenteric glands* are sometimes slightly injected, but in most cases they present no alteration of appearance or structure, and they never contain the abnormal deposit met with in the enteric fever of man.

Human enteric fever is characterized by definite and easily recognised

anatomical lesions; and, for my own part, I have never been able to discover any analogy whatever with them in those of rinderpest. The alterations of Peyer's patches in the latter disease are clearly the result of the general inflammation of the mucous membrane, and tend to obliterate the glands, instead of rendering them more prominent. Their resemblance to the lesions of enteric fever is much less than that of the condition of the corresponding glands in cases of cholera, small-pox, scarlatina, pyæmia, and other blood-diseases. It is probable that the diminution in the size of Peyer's patches in rinderpest, as compared with the glands in a healthy ox, may be due in part to the length of time that has elapsed since digestion has been arrested, as it is well known that these glands are larger and more developed during the digestive process than during fasting. But whatever be the cause, nothing can be greater than the contrast between the appearance of these glands on the tenth day of rinderpest and on the corresponding day of human enteric fever. In the former case the glands have almost, if not entirely, disappeared; in the latter they are extremely prominent, owing to abnormal deposit in and around the glandules. The contrast is even more remarkable when it is remembered that the glands in the healthy ox are so much more developed and prominent than in the healthy human subject. Moreover, ulceration of Peyer's patches, consequent on the softening and sloughing of morbid deposit, which is the rule in enteric fever, is not found in rinderpest. There was no ulceration or sloughing in any one of thirty cases examined by me; and although it is possible that, in cases of extreme inflammation, there may sometimes be superficial ulceration or even sloughing of the bowel, as well as of the stomach, it is probable that masses of lymph coloured by fæces and adherent to the mucous membrane have often been mistaken for sloughs.

Cattle-plague also differs from human enteric fever in many other anatomical characters, as well as in its duration and extreme contagiousness.*

The prominent lesions of cattle-plague, in addition to those already mentioned, are an aphthous condition of the gums and interior of the mouth, nostrils and vagina, extreme hyperæmia with tendency to

* These differences are fully considered in my published Report to the Royal Commissioners. The views above expressed are also confirmed by Dr. Bristowe, who, in his able Report to the Commissioners, remarks, "I have never detected any important morbid change, referrible to this disease, in Peyer's patches."—C. M., May, 1866.

ecchymosis of all the mucous membranes, minute ulcers, or sometimes extensive patches of sloughing, followed by deep ulcers of the mucous membrane of the third and fourth stomachs, in rarer cases patches of similar sloughing of the mucous membrane of the larynx, interlobular emphysema of the lungs, or even emphysema of the general areolar tissue of the body, hæmorrhages beneath the endocardium, and an unusually dark condition of the blood.

Dr. Murchison, 17*th of October*, 1866.

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2. *Preparations exhibiting the various stages of cattle-plague.*

Thirty-six preparations and drawings as well as the morbid parts in spirits were exhibited, to shew the various phases of cattle-plague and to illustrate Dr. Crisp's conclusions respecting the nature of the disease. The preparations were intended to shew the exanthematous nature of the affection: among them were examples of ecchymosis of the endocardium and extravasation of blood under the membrane, of exanthematous spots in the cæcum and bladder, a congested state of the ileo-cæcal valve, old ulcers in the large intestines, and tubercular elevations unconnected with cattle-plague.

Dr. Crisp made the following remarks:—

I can fully confirm the statement made by Dr. Murchison, as to the diminished size of the aggregate glands or crypts, but my explanation is different from that made by him. We know but little respecting the use of these glands, but the disease appears to throw some physiological light upon the subject, for here the process of digestion is arrested, and the glands therefore are scarcely perceptible. The term "ulceration" is not warranted, I think, for ulceration seldom occurs in this disease, and when ulcers are met with, they are often of old standing. The red patches are not confined to the fourth stomach; they are even present in many cases in the bladder, as the preparations shew.

They are probably formed first by slight effusion of serum under the cuticle, then by the detachment of the cuticle, exposing the red membrane underneath. I have never seen the spleen or liver in an abnormal condition in this disease—another fact as regards the former organ, that militates strongly against the typhoid nature of the affection.

There is a point of great practical importance as regards the pathology of the disease, viz., the rapid disengagement of gas in many parts soon after death, or even during life, rendering the fat over the kidneys and

under the skin "boggy," and resonant when struck with the hand, but this is not peculiar to cattle-plague. I have met with it in many species of ruminants, especially in sheep that are "blown," as it is called, after gorging themselves with clover, coleworts, or other green food.

As regards my conclusion respecting the innocuous nature of the cattle-plague poison, I have eaten a part of the heart from which this preparation was taken and which shews extravasation of blood under the endo-cardium, and I have partaken of other parts of diseased oxen. I tried these experiments upon myself, before subjecting the lower animals to them. I fed a hedgehog on the worst parts of the intestines of animals dying of cattle-plague, and five days since the said animal brought forth four young ones, which are all doing well. I have, moreover, met with a great many men with cuts and scratches on their hands, daily engaged in flaying diseased cattle, who have received no injury, with the exception of a papular eruption on the skin.

Dr. Crisp drew the following conclusions:—

1. That the so-called "cattle-plague," or typhus fever, bears but slight resemblance, either in its symptoms or morbid appearances, to the typhus or typhoid fever of man.

2. That, looking to the symptoms and pathological changes, and especially to the rapid recovery in some cases, the malady bears a greater resemblance to some exanthematous diseases in the human subject, affecting in ruminants chiefly the mucous membranes.

3. That the specific poison of this disease alters the condition of the blood, and affects especially certain parts of the nervous system, paralyzing the digestive organs and thus sapping the foundations of life.

4. That the disease is attended in most cases with a specific eruption, or exanthematous blush, affecting more or less all the mucous membranes of the body.

5. That an animal may be suffering from this disease in its first stage without the possibility of detecting it, and in this way the plague may be disseminated, in our fairs and markets, to a fearful extent.

6. That there is no sufficient proof, that the meat of bulls, cows, oxen, calves, and sheep, in the first stage of the disease, is injurious to human beings who partake of it.

7. That the poison of "cattle-plague" (with the exception of a papular or vesicular eruption on the skin) produces no injurious effects when introduced into the human system.

8. That the best means of eradicating the disease is to prevent all movements of cattle and sheep for a month or six weeks (except under special circumstances), and to establish dead meat markets in all our cities and towns. Dr. Crisp, 17*th of October*, 1866.

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3. *Specimens of the "cattle-plague," so called, in sheep.*

A large number of specimens and drawings of sheep-plague were exhibited, by way of contrast with specimens of the same disease in the ox. In October the exhibitor had carefully examined twenty-eight sheep that had died of this disease. He had seen healthy sheep that had been affected when turned amongst diseased sheep, and had examined the viscera of a sheep which had died from inoculation from the veins of a cattle-plague ox, so that there could be no question about the identity of the affection; the chief points of difference in the morbid appearances were the absence of the dry food in the first and third stomachs of the sheep; the less definite character of the spots; the absence of the swelling and redness of the ileo-cæcal valve; the general absence of the spots on the lips, cheeks, tongue, and palate; and the greater detachment of the epithelial lining of the stomach.

The blood in all these sheep was so fluid, that after death the uppermost eye was bloodless, whilst that nearest to the ground was very vascular, and so with many other parts, a fact of great importance in relation to the morbid appearances in this disease. The stellate appearance of the blood-corpuscles described by Dr. Smart of Edinburgh had not been seen by Dr. Crisp, either in the blood of sheep or oxen.

Dr. Crisp thought the most appropriate name for the disease was the Malignant Spotted Fever (*Febris maligna guttata*). As judging from the numerous animals of this class he had examined, there was no other disease attended with a like eruption, he had reason to believe that all ruminants might be affected with it, for he had already examined six different species that had died of this exanthematous fever. This was an important matter, because the Government had stopped the movements of cattle and allowed sheep to go free.

Dr. Crisp, 21*st of November*, 1865.

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4. *Inoculation by cattle-plague poison producing a vaccine-like vesicle.*

The subject of this phenomenon is Mr. Hancock, who is present at

our meeting, a veterinary inspector of the Uxbridge district, and who, while superintending the *post-mortem* examination of a bullock dead of cattle-plague, received a slight wound on the back of the left hand. The operator was engaged at the moment in removing the skin from the neighbourhood of the scrotum. The subject of the injury (aged about thirty) was at the moment in perfect health, and took no note of the accident, which occurred on the 3rd of December. On the fifth day (*i.e.*, 8th of December) a pimple, hard and slightly raised, was felt and seen in the site of the puncture. This gradually increased in size till the 12th of December, when a distinct vesicle appeared at the site of the papule, and then he began to feel ill. On the following day he felt more ill; he had pains in the back and limbs and felt feverish. He then consulted Mr. Rayner, a surgeon of Uxbridge of great experience, who recognised the appearance on the hand as being due to vaccination. The vesicle on this (tenth) day resembled that of vaccination on the ninth day. It was full of lymph; the edges elevated, of a brownish colour; the centre depressed, of a brownish colour also; the whole surrounded by a large red areola. The hand was swollen over the knuckles, and the swelling extended also up the arm. The lymphatic vessels were inflamed, and pain and uneasiness were felt in the arm-pit. There was much febrile disturbance. On the 15th and 16th of December, the symptoms were more severe; there was evidence of fever, and severe pains were felt in the back and head. He then resolved to come to town for advice, and on the 18th of December, he called on Professor Spooner (who recognised the vaccine character of the vesicle) and Mr. Simonds, at the Royal Veterinary College, and shewed them his hand. These gentlemen were so good as to approve of his desire to see me, and I saw him on that day. The feverish symptoms had partially subsided; so likewise had the local inflammatory action. There was still the vesicle, now filled with rather turbid, brownish fluid; the outer edges, resting on an inflamed basis, being somewhat irregular, the centre brownish and depressed. The appearances were exactly those of a declining vaccine vesicle. They are figured in the drawing.* I asked Dr. Murchison, who was engaged in seeking the analogies which cattle-plague bears to the disease of man, to see this case. Dr. Murchison was struck with the appearance which he saw, and has followed up the inquiry with great zeal and ability. I communicated the fact to Mr. Ceely also, who saw

* Coloured drawings of the vesicle on Mr. Hancock's hand, in different stages, are published in the *Third Report of the Cattle-plague Commissioners.*

Mr. Hancock on the 20th of December, the fourteenth day of papulation, the nineteenth of punctuation. Mr. Ceely was quite satisfied of the vaccine-like character of the appearances which he saw. Mr. Hancock has called on me once since then, and again yesterday. The appearances presented by the hand on that day seemed so very characteristic that I requested him to attend this meeting, and he has done so. These appearances are also shewn in a drawing. There is the dry, black, central, depressed crust; the red, semi-transparent, glistening, elevated margin, and the surrounding reddish halo—an appearance almost identical with the declining vaccine vesicle figured on the temporal region, in Plate I. of Mr. Ceely's *Further Observations on the Variola Vaccinæ.*"*

Dr. Quain remarked that this case was of the greatest possible interest in connection with the cattle-plague. When the disease first appeared in the country, analogies for it were sought amongst the diseases incident to human beings, and it was compared with typhoid, typhus, and other specific contagious disease. Mr. Ceely, whose researches on the subject of variola are so well known, was struck by the fact, that in former outbreaks of the disease the presence of an eruption was frequently notified, and that the disease itself was said to be malignant small-pox. Attention was then called to this point, and an eruption was sought for; not merely the eruption which appeared occasionally on the udder and vulva of animals, but one diffused over the skin. It had been found by the Medical Committee of the Cattle-Plague Commission, and more especially by Dr. Murchison, Dr. Sanderson and Dr. Bristowe, who had been appointed by the Royal Commission to investigate the phenomena of the disease. The eruptive character being thus established, the next and most important point was to determine its nature. The present case was an important link in the chain of evidence. Mr. Rayner of Uxbridge who first saw the case, Professor Spooner, Dr. Murchison, and Mr. Ceely, who, with himself (Dr. Quain), saw it in different stages, had all been struck with the very close resemblance which the eruption in this case bore to that of vaccination. It only differed in the duration and (so to speak) the exaggerated character of the vesicle—facts which might, in some measure, be accounted for by the character of the infection. The case itself had given a decided impulse to the investigation, and had led to a very valuable communication on the probable identity of cattle-

* Transactions of the Provincial Medical and Surgical Association, 1842, vol. x.

plague with small-pox, published by Dr. Murchison in the *Lancet*, of December 30th, 1865. Dr. Quain, *2nd of January*, 1866.

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5. *Mucous membrane of the gums, lips, and cheeks of a cow affected with cattle-plague.*

In cattle affected with Rinderpest, changes occur in the mucous membrane of the mouth, which are of great importance in the diagnosis of the disease, inasmuch as they occur at a period of the disease so early, that the animal exhibits no sign of disturbance of health, excepting increase of temperature.

The earliest change seen (or rather felt) consists in the formation on the gums of minute red elevations, or nodules, often not larger than a poppy-seed, which are so little redder than the surrounding surface that they can only be discovered by touch. Twelve hours later they have become opaque, larger, and more visible. A day later they are found to have not only extended into patches, but to have softened in the centre. As they increase in size they become confluent, assume a greyish-yellow colour, and become softer. Having arrived at this stage, they either peel off, leaving a red, easily bleeding surface, or remain, assuming the appearance of moist diphtheritic concretions. In this preparation both of these results are met with in different parts. From first to last these structures are epithelial. The process of their formation appears to consist, first, of exuberant development of young epithelium at the surface of the membrana propria; secondly, of the breaking down of these structures, so as to form a granular mass, in which numerous nuclei are still visible. On the surface of the papillæ a similar change takes place; but there is no visible thickening of the epithelium; the obvious change being that the true structure is detached in patches, sometimes leaving the tip of the papilla bare and red, sometimes the base. This alteration is very striking, in consequence of the brightness of the colour which these patches of denudation exhibit. Dr. Burdon Sanderson, *2nd of January*, 1866.

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6. *Microscopic bodies from the muscles of diseased cattle.*

The author introduced the subject by referring to the writings of

Hessling, Rainey and Miescher, who had previously found similar bodies in the sheep, roe, pig and mouse. He regarded them as psorospermial sacs, and they had been variously described as worm-nests, worm-nodules, psorospermiæ, stages of growth of gregarinæ, young measles, degeneration-corpuscles, eggs of distoma hepaticum, egg-sacs, amæboid bodies, and larval entozoa of some unknown species. Organisms of a similar kind taken from the human liver had been described by Gubler in 1858, and also, subsequently, by Virchow and Dressler. Many other authorities had written upon the *gregararinida* and their allies, the more important data being those supplied by Dufour, J. Müller, Creplin, Kölliker, Keferstein, Stein, Robin, Leydig, Lieberkühn, Dujardin, Drummond, E. R. Lankester, and especially Leuckart. Perhaps, however, the most important Memoir of recent date was that of Lindemann of Nischney-Novgorod. The sacs discovered by this gentleman attached to the hair (in the case of a chlorotic girl) very closely resembled those which we have recently found both in healthy and diseased cattle. Lindemann refers to Lebert as having noticed similar bodies in a case of favus, and he concludes that these organisms are of a vegetable character. He also describes bodies of this kind from the *tunica albuginea* of the kidney (see his paper in *Bulletin de la Soc. Impér. des Naturalistes de Moscou*, 1864). The author of the present communication referred to his own experiences as follows :—

In the flesh of cattle the sacs vary from $\frac{1}{120}$th of an inch to $\frac{1}{12}$th of an inch in length, and in the heart of the sheep from $\frac{1}{225}$th of an inch to $\frac{1}{80}$th of an inch. The bodies are enclosed in a well-defined transparent envelope; their contents under low magnifying powers displaying more or less distinct indications of segmentation. In some specimens there exists a distinct polygonal cell-formation, the contents of each cell being uniformly granular. Magnified two hundred and twenty diameters, the contained granules shewed their true nature. Each particle or corpuscle was now seen to represent what has been termed by vegetable parasitologists, a pseudo-navicel. All the pseudo-navicellæ exhibited uniformity of size, averaging the $\frac{1}{2000}$th of an inch in their longest diameter. Some of them were spherical, others oval, several bluntly pointed at one end, many curved and fusiform, not a few being curved or kidney-shaped. They contained several more or less highly refracting nuclei in their interior. Obviously they had no genetic relation to the entozoa properly so called. They abound alike in healthy and diseased animals, and are probably quite harmless. The author had eaten about eighteen thousand of these sacs at two

separate meals, from meat properly cooked, and had suffered no inconvenience. In his opinion, it was ridiculous to suppose these bodies had any necessary connection with the rinderpest.

Dr. Cobbold, *16th of January*, 1866.

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7. *Pathology of cattle-plague in relation to small-pox.*

Fresh specimens obtained the day before were exhibited to illustrate the pathology of the cattle-plague in its first and later stages, in reference to the identity of the disease with small-pox. The specimens consisted of part of the fourth stomach, a portion of the ileum, and parts of the skin of a cow that was killed thirty hours after the first appearance of the symptoms, and examined immediately after death. There was no appearance of eruption on the skin; but one irregular-shaped red spot was present on the inner part of the lower lip, and the subcutaneous layer of the nose was much congested. The endocardium did not present the usual appearance of red marking and staining from extravasation of blood. The lining membrane of the vagina was much reddened, and under the microscope presented the mottled aspect af the skin in scarlatina. The mucous membrane of the fourth stomach was reddened, and in various parts small spots of a deep lake-colour varying in diameter from the fifteenth to the fifth of an inch were present, the epithelial covering being absent. Some parts of the bases of the intestinal ridges were intensely red. On the same day, the 14th of January, another cow that Dr. Crisp had seen several times when labouring under cattle-plague was killed seven weeks after the first appearance of the attack. She had the disease very severely, and suffered much from diarrhœa (which was checked by opium and sulphate of copper). She also passed bloody urine and a portion of the lining membrane of the bladder came away. There was much emaciation, and although the result of the examination shewed that the animal would probably have recovered, it was thought better to kill her. No trace of eruption was visible on any part of the skin examined. The epithelial lining of the first stomach was entire. Large brick-dust coloured patches were present in the fourth stomach, but over the greater number of these the epithelium had been restored, although in a few there was partial abrasion. The intestines were not mottled externally, and those parts of them examined had recovered their normal state. Patches of brick-dust colour were present on the prominence of the left

cardiac ventricle; but they had lost the dark appearance they usually present in the first stage of the disease.

The contrast in these cases was considered especially interesting, and the parts were shewn particularly in reference to the question of the identity of this disease with small-pox, the exhibitor believing that cattle-plague has but little resemblance either in its symptoms or morbid appearances to small-pox, and he anticipated that no good would result from inoculation with small-pox or vaccine matter. He had seen several cows that had had cow-pox, and yet several of them had died of the plague, and others had had the disease very severely. His experience told him that the only way to get rid of the pestilence was to stop all movements of cattle, sheep and pigs, kill and bury all affected, and compensate the owners. There was one important fact, in connection with this disease, that he had alluded to in his first communication on the 17th of October, which had an especial bearing upon the identity of the plague and small-pox. Men employed in flaying diseased animals had often an eczematous eruption upon the arms and thighs, which sometimes continued for three or four weeks. It evidently arose from the acridity of the virus, for these men were in the habit of placing the knife between the thighs, and hence the presence of the eruptions on these parts. The eruption first appeared as a red pimple, then slight vesication and desquamation followed, with intense itching.

Dr. Crisp, *16th of January*, 1866.

Report on the above and other specimens.—We have examined portions of skin removed from cattle which had died at different periods of the disease; and also through the kindness of Dr. Sanderson, Professor Gamgee, and Mr. Duguid, we have been enabled to observe the appearances presented during life.

It appears that the cutaneous eruption is by no means a constant character of the disease; whereas the affection of the mucous membrane is always present. We may instance, as an illustration of the former statement, the case of a calf suffering severely from the disease, in which a careful examination of the skin, at various periods, failed to detect any departure from the natural state.

The eruption, when present, is generally observed on the third or fourth day, and increases until the seventh or eighth day.

The first change observed, and sometimes the only change, is an irregular injection of the skin, observable about the parts least covered with hair, particularly the neighbourhood of the udders. The skin is

traversed by a fine vascular appearance, almost as if chafed by friction.

The next alteration, which must be regarded as most characteristic of the disease, is the appearance of a number of small, indurated, and discoloured spots, which are slightly raised above the surface. The skin above them is greasy to the touch, and scurfy in appearance. If one of these hard elevations be examined with the microscope, it is found to consist of scabs of epithelium, more or less mixed with granular matter. The only change in the cutis is that the papillæ are somewhat prominent and injected. The more rare form of eruption, of which we have seen two instances, consists of cream-coloured elevations, varying in size from that of a mustard-seed to the diameter of a-third of an inch. It is right to mention that each of these two specimens had been immersed in spirit before examination. The smaller spots are circular in outline; the larger are very irregular both in outline and in amount of elevation. The raised part is nearly white and opaque, so that by the naked eye the spots are not to be distinguished from pustules. They are surrounded by a dusky-red halo. Some come off as crusts, leaving a disc of cutis exposed and raw-looking beneath, having in its centre some raised and injected papillæ. Six or eight of these prominences existed in a portion of skin six inches square, from the neighbourhood of the udders.

We have never observed vesicles.

A section through one of the large elevations described shewed that the formation was upon the surface of the cutis, from which it could be easily displaced. The cuticle was separated from the cutis, the interval being occupied by a soft yellow material, solid, and very easily broken up. Beneath this the papillæ shew a great increase of vascularity. The soft material, between the cutis and the outer layer of cuticle, consisted of a great accumulation of epithelial scales, in various stages of development, some of which were irregular, granular, and broken up. These were mixed with granular and fatty matter and with a good many bodies, possibly rather smaller than pus corpuscles, which, however, some of them much resembled. They were irregular in shape, round or ovoid, and others angular. Some of them were evidently epithelial nuclei, while others had two or three separate nuclei of their own. The latter were such that had they been found in undoubted pus, they would have been regarded as pus corpuscles. (See Woodcut 37.)

With regard to scars left by the eruption, we have examined two animals recovering from the disease, as well as a portion of the skin

of one killed in the seventh week, which was exhibited by Dr. Crisp.

Woodcut 37.

Structures found in the soft material separating the cuticle from the cutis.

a. Epithelial cells which, with granular matter, constitute a large proportion of the structure.

b. Nuclei of epithelial cells.

c. (After acetic acid) cells resembling pus corpuscles found in small numbers.

In none were any marks present. We are not able, however, to find out what amount of eruption, if any, had existed during the progress of the disease in these animals.

Conclusions.—From these observations we come to the following conclusions:—

1. The eruption in cattle-plague is not constantly present.

2. The ordinary form consists of small hard elevations composed of altered epithelium.

3. In a few exceptional cases an eruption is observed, at first sight composed of pustules, but which minute examination shews to consist, like the other, chiefly of altered epithelial formations.

Mr. Sibley,

Dr. Dickinson, *6th of February*, 1866.

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8. *Extensive ulceration of fourth stomach of a cow which had died of the cattle-plague.*

At the first meeting of the session, on the 17th of October, I called

attention to the frequent occurrence of ulcers in the third and fourth stomachs of cattle which have died of the plague. These ulcers are, for the most part, minute and superficial; but in other cases, as in the specimen now exhibited, which is the most remarkable that has come under my notice, they are numerous, an inch or more in diameter, and deeply excavated, extending at many places through the entire muscular coat to the subjacent fat. These ulcers result from sloughing of the coats of the stomach over circumscribed patches, the ulcer remaining after detachment of the slough. Some of the sloughs in the specimen are not yet detached. Most of the ulcers, or slough-patches, are surrounded by a rim of extreme vascular injection, and at some places even by submucous hæmorrhage.

For the opportunity of exhibiting this specimen I am indebted to Dr. Quain, to whom it was sent by Mr. Cadge, of Norwich. The animal had been ill about eight or ten days.*

Dr. Murchison, 16*th of January*, 1866.

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9. *Drawings illustrating the morbid anatomy of the cattle-plague.*

One series of drawings exhibits the intestines in cattle-plague as contrasted with human intestines at corresponding stages of enteric fever. As I shewed in a former communication (October 17th), the anatomical lesions of the two maladies are entirely distinct.

Another series of drawings exhibit the morbid appearances presented by stomachs of cattle which have died of the plague. The first two stomachs, the *paunch* and the *reticulum*, are always greatly distended with food, owing to the function of rumination having been suspended for some time before death; but the ingesta are precisely similar to what are found in the stomachs of healthy animals. On scraping off the thick layer of epithelium from these two stomachs, which is done with abnormal facility, the subjacent membrane is found to be unusually red. The *omasum*, or third stomach, is also full of food, which is usually hard and dry and so adherent to the lining membrane, that large portions of the epithelium are often detached in attempting to separate it. These characters, however, are not peculiar to the disease, as some continental pathologists have imagined. The mucous membrane of the *omasum*, after separation of the epithelium, is usually

* The specimen has since been figured in my Report to the Cattle-Plague Commissioners. Plate IX. C. M.

redder than that of the first two stomachs, and sometimes presents ecchymosed patches of a claret colour, or actual eschars, similar to those to be described under the head of the fourth stomach. It is in the fourth stomach, or *abomasum*, however, that I have found the inflammation most advanced. Here there is not only more or less intense redness with much adhesive mucus on the surface; but the membrane is often studded with numerous superficial erosions, like these which are so common in the ordinary catarrhal inflammation of the human stomach. On washing away the viscid mucus, the membrane often appears denuded of epithelium; it is soft and friable, and may be peeled off with ease. The gastric glands are filled with epithelium, which is unusually granular, and not unfrequently blood is found extravasted into the interior of the glands. In addition to the general redness, which is most intense in the pyloric region, the mucous membrane at this part often presents circular or irregular patches of a claret colour, varying in size from a mere speck to a crown-piece. This appearance is due to extreme vascular injection of the parts in question, and sometimes to actual ecchymosis. The colour may be uniform over the patch; but at other times it is limited to its circumference, forming a coloured rim with a central greyish-yellow portion. Occasionally these patches may be seen surrounded by a distinct fissure, and in rare cases the membrane corresponding to the patch separates as a slough, which may be found more or less extensively adherent. On separation of the sloughs, deep excavated ulcers penetrating the mucous and even the entire muscular coat may remain, as in the remarkable case exhibited at last meeting.

It is to be noted that these sloughs are not preceded by submucous deposit of lymph or of exudation of any sort. The circumscribed patches of discoloration, moreover, are not invariably present. They were absent in more than one-half of the cases examined by me, and the sloughs were present in only five of twenty-nine cases. Similar patches of discoloration and gangrene are also occasionally met with in the *omasum*, and even in the *rumen*, but there, according to my experience, they are comparatively rare. In one case, however, I have known large ragged openings, through which several fingers could be passed, in the leaves of the omasum, resulting from gangrene.

Lastly, there is a very admirable drawing of the cutaneous eruption, which is present in most cattle that survive the sixth or eighth day of the disease. In animals dying before the fourth or fifth day, as often happens, there may be no eruption. The appearances presented by the eruption

vary in different animals, and according to the stage of the disease. Sometimes, more especially in the early stages, the cutis presents many patches of congestion (roseola). At other times, as in the case from which the drawing exhibited was taken, the surface of the cutis is studded with numerous prominent scabs. The portions of cutis on which these patches are situated are mostly congested. The scabs vary greatly in number. They may be discrete or confluent; and, in the latter case, the appearance presented by the scabs and hairs matted together is not unlike that of *impetigo capitis* in the human subject. The scabs are occasionally, as shewn in the drawing,* mixed up with small elevations of the cuticle, which vary in size up to that of a split-pea, and which are softened in their interior into an opaque yellowish-fluid, so as to form distinct pustules, the fluid being confined by a membranous elevation of the cuticle, without any superimposed scab. I have not succeeded in discovering anything like a distinct vesicle, with a diaphanous membrane and limpid contents, preceding the pustular stage. On detaching the scabs, the corresponding surface of the subjacent cutis sometimes appears to be superficially ulcerated, and the site of the scab, after separation, is sometimes marked by a minute pit or cicatrix. Between the scab and cutis there is often a small quantity of opaque-yellow fluid, similar to that already described. The scabs, when submitted to microscopic examination, are seen to consist of epidermal scales, granular matter, and globular bodies, resembling pus corpuscles in size and general appearance, and with acetic acid exhibiting the reaction of nuclei.† The fluid found in the pustules, and beneath the scabs, is made up of epidermal cells, more or less modified in form, nuclear bodies, occasionally true pus-corpuscles, and granular matter. The specimen, from which the drawing was taken, was also examined by Dr. Quain and Mr. Campbell de Morgan, both of whom were satisfied as to the existence of pustules, containing true pus-corpuscles, with altered epithelium in their interior. Mr. Sibley, also, who saw the contents of one of these pustules under the microscope, recognised "model pus-corpuscles." It is right, however, to add that in many cases I have observed only the scabs, and nothing like the pustules here described. Dr. Murchison, 20*th of February*, 1866.

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* A copy of this drawing is appended to Mr. Varnell's Report, published in the Third Report of the Royal Commission on Cattle-Plague.

† According to the view now generally received, in epidermal suppuration, the pus is derived from the nuclei of the pre-existing epidermal cells.

10. *Descriptions of models illustrative of cattle-plague, from the Museum of the Royal Veterinary College.*

Model No. 1. Is illustrative of the ravages effected by cattle-plague on the mucous membrane covering the hard palate, shewing to what a considerable extent the epithelium of that membrane becomes desquamated in some cases.

No. 2. Is a model of the larynx and upper portion of the trachea laid open, exhibiting an intensly inflamed lining membrane, having upon its surface a large quantity of effused lymph. This inflamed condition of the membrane is very common, but the effusion of lymph in such large quantities is not so frequently seen.

No. 3. Consists of a portion of the rumen, shewing several large patches where death of the mucous membrane has taken place; this state of rumen is very rarely seen.

No. 4. Is a model of one of the folds of the lining mucous membrane of the third stomach, exhibiting considerable congestion of the greater part of its surface, while in places absolute death of structure has taken place.

No. 5. Is a model of a portion of the fourth stomach, near to the pylorus, shewing the congested condition of the lining membrane so frequently seen in cattle-plague. In this specimen, depressions may be noticed where sloughing of the membrane has occurred.

No. 6. Exhibits an ulcerated state of one of Peyer's patches located in the small intestine. This condition of the glandular structure is very unusual in cattle-plague.

In frame No. 7, are several models illustrating the congested condition of various portions of the lining membrane of the intestinal canal so commonly seen in cattle-plague. The portions selected for examples are from the ileum, cæcum, and rectum.

No. 8. Is a model shewing the left side of the heart laid open, the lining membrane of which has a quantity of dark petechiæ upon it. This appearance is very common in cattle plague, but the petechiæ are not usually so large or numerous as in this particular case.

No. 9. Is illustrative of the eruption which is usually met with on different parts of the body (on the inner surface of the thighs, around the vulva, and surrounding the testes) in cattle-plague. The portion selected in this instance is the integument covering the mammary gland. Mr. Charles Spooner, *5th of March*, 1866.

11. *Specimnes of cystic entozoa from veal and mutton.*

The author introduced the subject by remarking that although he had (in conjunction with Mr. Simonds) communicated to the Royal Society some account of the production of measles in a calf by experiment, yet he had not hitherto had an opportunity of exhibiting the parasites. The specimens of veal now before the Society shewed numerous tape-worm larvæ (*Cysticercus bovis, T. S. C.*), of about thirteen weeks' growth. They were well developed, having their head, neck, caudal vesicle and suckers complete. Those examples which existed in the muscular substance of the heart were only partially developed, most of them having no distinct head and neck, but some shewing a more or less well-marked head, with one, two, or three suckers. He did not find a thoroughly perfect cysticercus in this organ. In this situation the stunted cysticerci were not larger than a pin's-head, and resembled the measles of three weeks' growth, which he had removed by operation whilst the calf was alive. (Reported in the *Lancet* for February 25th, 1865, and in *Proceedings of the Royal Society*, for May 4th, 1865.) The fully-developed cysticerci from the superficial muscles of the body generally were about the size of small peas, in their fresh condition. They were not, however, so large as those specimens which he had obtained from mutton; the latter, at first sight, resembling the ordinary pork measles. The author had, on three separate occasions, noticed measles in joints of mutton sent to his table. In all cases, however, they had previously undergone more or less calcareous degeneration, so that he must wait for their occurrence in younger and uncooked specimens, before he could pronounce anything definite respecting their precise characters and probable origin. It was more than a year since he had first observed measles of the kind now exhibited in mutton, but in the course of a conversation lately held with Dr. Kirk, that gentleman had informed the author that he also had recently noticed similar appearances in mutton sent to table. From their mode of distribution, and their size and appearance, there could be no doubt whatever in the author's mind, that the specimens were true measles, and not small echinococcus-hydatids. They probably represented a distinct species of tape-worm, possibly the *Tænia lophosoma*, which the author had already described to the Society (see p. 438).

Since the above was communicated, the author has received from Mr. Heisch, Lecturer on Chemistry at the Middlesex Hospital, a most interesting confirmation of the facts above mentioned. Mr. Heisch has

obtained a perfect cysticercus from the interior of a mutton chop. The head is furnished with the usual characteristic suckers, four in number, and also with a double crown of twenty-eight large and well-developed hooks. The hooks are longer and more slender than those of the pork-measle. The mutton cysticercus is, therefore, the larva of a distinct species of tape-worm, which may or may not infest the human body.

Dr. Cobbold, *3rd of April*, 1866.

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12. *Beef-measles from a cow.*

The author brought the present examples before the notice of the Society, not merely with the view of recording a second successful case of experimentation with the proglottides of *Tænia mediocanellata*, but rather for the purpose of demonstrating the rapidity of the curative process which follows a prolonged retention of tape-worm larvæ in the flesh of any animal. This he believed to be the only experiment on record where such a result as that to be described had been obtained.

On the 3rd of March, 1865, Mr. Simonds and himself fed a two-year old heifer with several ripe proglottides of *Tænia mediocanellata*; and, as no ill effects or symptoms of acute cestode tuberculosis set in for several days, they repeated the worm administrations on three subsequent occasions, namely, on the 15th of March, and on the 5th and 13th days of April, respectively. Altogether, not less than five hundred separate joints were thus given in a little warm water a few days before the last feeding; and, therefore, probably in consequence of the two former feedings, the animal betrayed some uneasiness, bellowing repeatedly.

On the 15th of April, the restlessness and excitement increased, but the animal continued to take its food as usual. Mr. Simonds, who watched the animal with considerable care, noticed (on the 17th) several symptoms which were similar to those betrayed by the calf on which they had first experimented; only, in the present case, these symptoms were much less strongly marked. There was the same repeated stretching of the body, arching of the back, and vacant staring, accompanied with a peculiar expression of the eye. All these features, however, gradually subsided, and the animal remained healthy and strong up to the 4th of April, 1866, when she was slaughtered to ascertain the result. Thirteen months having elapsed since their first feeding, and twelve months since their third feeding,

the heifer had consequently grown up into a large three-year old cow, and appeared quite fit for the market. On examining the flesh, which had a rich, healthy, firm, carneous texture, not a trace of measles could, at first sight, be recognised by those present; but, after a little while had elapsed, the author espied in the diaphragm several whitish-yellow specks, scarcely half the size of a small pin's-head. Closer scrutiny enabled him to detect a great many more, not only in the substance of the diaphragm, but also in the superficial muscles of the body generally. Some of these were now before the the Society, but it required considerable care to bring them properly into view. To the author it was quite clear that these remarkably minute specks represented calcified or degenerated "beef-measles," whose origin was, of course, attributable to the worm-feedings, which himself and Mr. Simonds had conjointly administered. No possible harm could result from the ingestion of meat in which, practically speaking, the measles had disappeared. No butcher would ever detect these appearances, and the flesh was, in all respects, healthy. The most interesting practical question which this experiment threw light upon, referred to the duration of time necessary for the perfect calcification of those tape-worm larvæ ordinarily termed "measles." It is perfectly clear that one year fully suffices to effect a natural cure of the disease, and, it is probable that the parasite is sufficiently calcified in six or eight months to prevent its doing any harm when swallowed by the meat consumer. Microscopically, the author found these degenerated measles to be represented only by a thin and shrivelled fibrous cyst, in which was embedded a partly crystalline, partly amorphous, calcareous mass. All structure of the cysticercus itself had entirely disappeared. In conclusion, he would remark that it was a somewhat interesting fact that this cow resisted the infection of rinderpest when all the other cattle kept at the Royal Veterinary College were attacked. A third animal (the second calf), on which we had commenced experimenting with *Tænia mediocanellata*, died of the plague after thirty-six hours' illness. The author had not an opportunity of examining that animal after death. Its flesh was, however, inspected by Mr. Simonds, who failed to detect any cysticerci. Five months had elapsed since the first feeding, and no symptoms had supervened in this case.

Dr. Cobbold, 15*th of May*, 1866.

13. *Abnormal gall-bladder from a horse, affected with malignant disease.*

It has been known since the time of Aristotle, that the horse is one of the animals wanting a gall-bladder, but it occasionally occurs as an anomaly (Wagner).

This specimen was taken from an old grey mare. The liver was said to have malignant disease. The cyst was pyriform, with thick walls adherent to the capsule of the liver, and a distinct cystic duct lined with mucous membrane. The inner coat of the gall-bladder shewed some patches of the characteristic reticular mucous membrane, and between this and the serous coat was a muscular layer, which shewed ordinary unstriped fibre under the microscope.

It was completely filled with a loose spongy growth, which, when unravelled under water, shewed the dendritic character described in cancer of the human bladder by Rokitansky, as zotten-krebs, and well shewn in a specimen (No. 1955[25]) in the Guy's Hospital Museum. Its microscopic characters confirmed this view.

Dr. Pye Smith, 15*th of May*, 1866.

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