

## Index

Liebig's pupils are listed in Appendix 2 and are not indexed here unless they are also mentioned in the text. For L. *read* Liebig.

- Accum, Frederick, 215–16  
 Acland, Sir Thomas Dyke, 173  
 Acton, Eliza, 219–20  
 agricultural research stations, 169–70  
 Adrian, Johann, 38  
 Albert, prince consort of Queen Victoria, 104–5, 181; Balmoral, 109; Osborne House, 111; relations with L., 111–13; and J. S. Muspratt, 127  
*Allgemeine Zeitung*, 277, 280, 290  
 alkaloids, 77, 120  
 Altenstein, Karl von, 12, 69  
 analysis, organic, 29, 45, 48–51, 56, 72; L.'s "alphabet," 45–6, 62  
 Ansell, Henry, 207  
*Annalen der Pharmacie u. Chemie*, x, xiii, 52–7, 60, 65, 120  
 Anderson, Thomas, 83, 159, 342  
 aquarium, 211  
 Aubel, janitor at Giessen, 336  
 Austria, state of chemistry, 65–6
- Bacon, Francis: reputation, 291, 298; key to British mind, 299–300, 302–3; L.'s critique, 302–3, 314; British support, 304  
 Baeyer, Adolf von, 329  
 baking powder, 238–41  
 Balard, Antoine J., 117, 323  
 Barclay, Robert, 130–1  
 Bastick, William, 55, 342  
 Bavarian Academy of Sciences, 293–4, 321, 326  
 Bayer, J. M., 58  
 Bazelgette, Sir Joseph, 253–4, 258  
 Becker, Ernst, 111, 113  
 Beeg, Johann, 137, 139  
 beer, strychnine affair, 140  
 Benecke, William, 218
- Bennert, Josef, 226, 231; criticised by Davidis, 234  
 Bergemann, Carl Wilhelm, 69, 33; criticism of Giessen, 338–40  
 Bernard, Claude, 189, 192, 200, 311  
 Berzelius, Jöns, 51–3, 60, 67, 72, 91–2, 164, 172; organic analysis, 48–9, 51; isomerism, 76; radicals, 80–2; electrochemistry, 85; rift with L., 86–8; L. gives opinion of English, 97–8; humus, 147, 171; dedication of *Animal Chemistry*, 155, 193–4; views on *Agricultural Chemistry*, 168; dislikes *Animal Chemistry*, 193–5; catalysis, 203  
 Bidder, Friedrich, 199  
 Biegeleben, Ludwig von, 281  
 Bird, Golding, 201, 208  
 Biot, Jean Baptiste, 25, 29  
 Bischof, Karl, 12  
 Bischoff, Theodor, 65; called to Giessen, 198; physiological chemistry, 199–200; spontaneous combustion, 285–6; L.'s autopsy, 328  
 Blumhof, Professor, 42  
 Blomfield, Charles J., Bishop of London, 105  
 Blyth, John, 342–3; translates *Laws of Husbandry*, 177; *Letters on Agriculture*, 277, 282; Ireland, 287  
 Boettger, Rudolph, 137  
 Boner, Charles: translates *Sewage Letters*, 268; letters from L., 322  
 Bopp, Friedrich, 324–5  
 Böttinger, Heinrich, 205  
 Bonn, University of, 11–15, 17  
 Boulton, Mathew, 19  
 Boullay, Pierre, 80–1  
 Boussingault, Jean Baptiste: farming experiments, 148, 159, 176; on nitrogen,

- Boussingault, Jean Baptiste (*cont.*)  
159; quarrel with L., 169; Pusey's  
praise, 171; physiological chemistry,  
185-7; attack on Giessen, 186
- Brady, John, 260, 262
- Brandes, Rudolph, 52-3
- Braun, Alexander, 63
- Brillat-Savarin, Anthelme, 281
- British Association for the Advancement of  
Science, 12, 50, 105; Liverpool, 96-  
8, 150-1; York, 100-1; *Agric-  
ultural Chemistry*, 153, 155;  
Glasgow, 176, 179, 241; sewage  
committee, 269-70
- Brodie, Sir Benjamin Collins, 105, 111,  
343; L.'s testimonial, 142; polarity,  
284
- bromine, 76
- Brown, J. Campbell, 1
- Brugnatelli, Luigi, 10
- Buchholz, Christian F., 13
- Buchner, Eduard, 209
- Buchner, J. A., 11
- Büchner, Georg, 39
- Buckland, Frank, 45-6, 343
- Buckland, William, 142; meets L., 98-9,  
111; coprolites, 99, 163
- Budd, William: describes L., 99; cholera,  
209
- Buff, Heinrich, 44, 53, 63, 111
- Bullock, Lloyd, 104, 343; quinidine, 130-  
4; Royal College of Chemistry, 104,  
135, 280
- Bunsen, Robert, 109
- Burschenschaften, 19-20
- Cagniard-Latour, Charles, 204
- Carrière, Moritz, 22, 44, 321; marriage to  
Agnes L., 318-19; political views,  
320, 324; son Julius, 273
- Chadwick, Sir Edwin, 251  
chemistry, the central science, xi, 115
- Chester, Harry, 227-8
- Chevreul, Eugène, 186-7, 323; creatine,  
217
- Christison, Sir Robert, 29, 286
- Clark, Sir James, 142; Royal College of  
Chemistry, 104; meets L., 109, 111;  
promotes Muspratt, 127; L. dedi-  
cates *Chemical Letters*, 276
- Clément, Nicolas, 29-31
- Combe, George, 102-3
- combustion, spontaneous, 284-6
- coffee, 242-3
- cookery books, 233-8
- coprolites, 99, 163
- Cotta, Johann Georg, 277-82
- Cronin, Dennis, 113-14
- Crum, Walter, 111, 142; calico factory, 97;  
quinidine affair, 122; L. on Amer-  
ica, 255; school of farming, 255
- Cuvier, Georges, 33
- Dalwigk, Reinhard von, 321
- Darmstadt, 1-2, 8-10, 17, 19-21, 24, 33,  
38; L.'s birthplace, 2-3, 330; Gym-  
nasium, 5; Ducal library, 9; statue  
of L., 329-30
- Daubeny, Charles B., 142, 173, 344; meets  
L., 98-9, 111; gypsum, 164;  
humus, 171; critical of L., 174
- Davidis, Henriette, 215, 234, 237
- Davy, Edmund, 76
- Davy, Sir Humphry, 145-6, 250
- Désormes, Charles, 29
- Dieffenbach, Ernst, 53, 282, 325, 344; fer-  
tilizers, 122; translates *Chemische  
Briefe*, 280-1
- Döbereiner, Johann W., 12, 36, 47, 212;  
acetaldehyde dispute, 83-4
- Döllinger, Ignaz, 320
- Drayton, Thomas, 136-7
- Dulong, Pierre, 29, 32
- Dumas, Jean Baptiste, 46, 53, 83, 91, 322;  
quarrel with L., 60, 169, 189; es-  
ters, 80; alcohol, 80-2, 85; Gay-  
Lussac's opinion of, 87; agricultural  
chemistry, 153; physiological  
chemistry, 185-8; plagiarism, 186;  
dedication of *Chemische Briefe*,  
276; final meeting with L., 323
- Ebersberg. *See* Lersner-Ebersberg, Baroness
- Egerton, Lord Francis, 154-5
- Eliot, George, 320
- Ellis, Thomas, 260, 262-3, 265, 271
- Emil, Prince von Hessen, 66  
eremautis. *See* fermentation
- Erlangen, University of, 12, 15-27, 33-4
- Erlenmeyer, Emil, 62; extract of meat, 233  
essays, chemical, 274-5, 279
- Ettling, Karl, 45, 71; Kaliapparat, 50, 76
- Faraday, Michael, 142; reads L.'s paper at  
Liverpool, 97; L.'s comments on  
English, 100-1; R. Thames, 251;  
English agricultural school, 255;  
electricity, 283
- Farr, William, 208
- Fehling, Hermann von, 56
- fermentation, 203-5
- fertilizers, 120-9, 160-2, 164, 174-5,  
179

- Fick, Adolf, 201
- Finlay, Mark, 169, 177
- Feuerbach, Ludwig, 27
- Fleitmann, Theodor, 196
- Follen, Karl, 19
- Fownes, George, 207, 344
- Francis, William, 344; faeces anecdote, 250
- Frankland, Sir Edward, 81, 323, 344; calorific experiments, 201–2; water, 210; baby milk, 244, 247; sewage absorption, 270
- Fresenius, Karl R., 135
- Fries, Ernst, 20
- Fruton, Joseph S., 63–4
- fulminic acid, 72, 75
- fume cupboard, 58, 335
- Galton, Francis, 57
- Gardner, John, 104, 345; quinidine, 130–3; resignation from RCC, 135; *Chemische Briefe*, 280
- Gaultier de Chaubry, H. F., 31
- Gay-Lussac, Joseph Louis, 76, 78, 80, 186, 323; embarrassing metaphor, 25; life, 28–9; dance anecdote, 31–2; titrimetry, 35–6; analysis, 48–9; opinion of Dumas, 87; dedication of *Traité*, 152
- Gehlen, Adolph F., 11
- Geiger, Philipp L., 52–5, 129
- Geiger, Friedrich, 55, 139
- Gerhardt, Charles Frédéric, 81–2, 92; melam dispute, 89–91; translates L.'s organic chemistry, 152
- Gervinus, Georg, 6–7
- Gesellschaft Deutsche Naturforscher und Aerzte, 12
- Gibbs, Oliver Wolcott, 46, 62, 345; on L.'s talent, 62
- Giebert, Georg Christian, extract of meat, 224–7; buys out Tooth, 230; death, 231
- Giessen, town, 4, 37–8, 46
- Giessen, University of, 5, 13, 17, 19–20, 33, 35, 37–9, 59; laboratory, 16, 40–1, 47, 54–5, 333–41; research school, 56–65, 288, 293; L.'s departure, 291–2; Liebig medal, 317; Liebig Memorial, 329–30; Liebig Museum, 330
- Gilbert, Sir Henry, controversy with L., 154, 166–8, 173–7, 287, 303, 345; superphosphate, 164; nitrogen, 169; contact with Wolff, 170; soil absorption, 179, 181–2; praise for L., 182; animal fat, 189–90; fertilizer interests, 261; sewage, 269
- Glasgow, chemistry at, 65; L.'s visit 96–7, 101–2
- Gmelin, Leopold, 73, 75, 108
- Görlitz, Count Friedrich von, 285–6
- Gorup-Besanez, E. von, 16
- Göttling, Johann F. A., 9
- Graham, Thomas, 53, 114; acids, 85–6, 160; testimonial to L., 94, 141–2; meets L., 97–8, 111; strychnine affair, 140
- Gregory, William, 57, 69, 71, 83, 96, 345; animal magnetism, 67, 286; translations, 99, 139, 155; L.'s support, 101; phrenology, 102–3; L.'s spokesman at BAAS, 153–5, 176; state of chemistry, 154; *Animal Chemistry*, 155, 184, 195, 298; death, 175, 177; *Chemistry of Food*, 216–17; “on motion of juices,” 221; *Chemical Letters*, 282; hosts Hermann L., 317
- Grimm, Jacob, 274
- Grove, John, 134
- Gundlach, F. W., 188
- Güsfefeld, Emil, 128
- Gustin, Bernard, 17–18, 44, 60
- Hales, Stephen, 220
- Hall, Vance, 166, 171–2, 182
- Hartley, George, 223, 321, 345–6
- Harrison, Tony, 250
- Hall, Spencer, 102
- Hassall, Arthur, 246–7
- Heine, Heinrich, 21
- Heijningen, J. van, 129–30
- Helmholtz, Hermann von, 200, 313
- Henry, William Charles, 71, 95, 99, 346; entertains L., 96
- Hensing, Johann, 39
- Hessen-Darmstadt, history, 4, 7
- Heuser, Emil, 69
- Hildebrandt, Georg, 16
- Hillebrand, Joseph, 38
- hippuric acid, 50, 75
- Hofmann, August Wilhelm, 45, 50, 70, 292, 346; marriage, 44; on Liebig-Wöhler friendship, 74; on Prince Albert, 112; sustains L.'s reputation, 113–14; fertilizers, 124; Muspratt collaboration, 125–6; quinoline, 129; quinine, 130; quinidine affair, 131–6; strychnine affair, 140; testimonial for L., 142–3; manures, 164; L.'s views on chol-

- Hofmann, August Wilhelm (*cont.*)  
 era, 210; L.'s views on meat, 218;  
 L. as housewives' benefactor, 249;  
 problems at RCC, 302; love for  
 Nanny L., 318; Paris meeting with  
 L., 323; commissions busts, 327;  
 Giessen memorial to L., 330
- Holmes, Frederic L., 82, 91–2, 190, 198,  
 214
- Hope, William, sewage scheme, 259–69;  
 Breton farm, 269–70
- Horlick, James, 347
- Horsford, Eben Norton, 4, 20; on L.'s  
 character, 71; on L.'s baronetcy,  
 107; baking powder, 238–40; L.'s  
 ageing, 297
- Howard, Charles, 10
- Homburg, Ernst, 63
- Hufbauer, K. G., 18
- Humboldt, Alexander von, 31–2, 35–6;  
 letters to Ludwig I, 32; dedication  
 of *Agricultur Chemie*, 152
- humus theory, 146–7, 156–8, 171
- Ingenhausz, Jan, 146, 157
- isomerism, 72–3
- Jesowitz, Heinrich, 66
- Johnson, Samuel W., 171, 347
- Johnston, James F. W., 142; isomerism,  
 153–4; supports Mulder, 171; L.'s  
 influence, 181
- Jones, Henry Bence, 195, 346; urinary  
 stones, 207–8
- Kaliapparat, 50, 76
- Kastner, Karl W. G., 11–17, 19–20, 22,  
 35, 39, 65; *Die Gewerbsfreund*,  
 12–13; lectures, 26; letter to Lud-  
 wig I, 27; L.'s doctorate, 33–4
- Kane, Sir Robert, 80, 96, 347
- Kaup, Jacob, 6–7
- Kayser, Gustav, 66
- Kekulé, Friedrich August, 51, 62, 81;  
 Görlitz affair, 285; advised to work,  
 319
- Kekulé, Karl Ludwig, 281
- Kemmerich, Emil: extract of meat and  
 nerves, 231; rival business, 232
- King, James: Australian extract of meat,  
 224; sends wines, 248
- Knapp, Friedrich, 3, 63; fertilizers, 122–3;  
 quinidine, 131–3
- Knapp, Karl, 44
- Kobell, Luise von: account of Munich life,  
 297–8
- Kohut, Adolph, 6, 22
- Kolbe, Hermann, 56
- Kopp, Hermann, 53–4, 283
- Kuhlmann, Carl F., 138
- laboratory, teaching, 47, 54–5; Giessen,  
 47, 90, 57–8, 60, 110
- Lancet, The*, 99, 139, 207, 280
- Laskowski, Nikolai, 196
- Laurent, August, 82, 91–2
- Lavoisier, Antoine, 76, 80, 85–6
- Lawes, Sir John Bennet, 142; superphos-  
 phate, 121–2, 163–4, 253, 255–6,  
 303; L.'s fertilizers, 127–8; dispute  
 with L., 154, 160, 166–8, 173–7,  
 287, 298; praises L., 181; animal  
 fats, 189–90; sewage, 252, 260–1
- Lehmann, Carl G., 189
- Leopoldina, The, 12
- Lersner-Ebersburg, Baroness Eliza von,  
 246–7
- letters, importance of, 273–4
- Lewell, Charles, 256–7
- Liebig, Agnes, 44, 95; marriage, 44, 317;  
 ill health, 123, 297; death, 317
- Liebig, Elizabeth, sister, 2–3
- Liebig, Georg, Freiherr von, 1, 44, 95,  
 233; work on muscle, 199;  
*Chemische Briefe*, 273; doctor in  
 Reichenhall, 297, 316; son,  
 Heinrich, 317; political activity  
 324–5
- Liebig, Henriette (Jettchen, *née* Mold-  
 enhauer), Frau Liebig, 43–4, 94;  
 description, 44; Heidelberg negotia-  
 tions, 109; Catholicism, 295;  
 hostess, 297; 25th wedding anniver-  
 sary, 316; death, 329
- Liebig, Hermann, Freiherr von, 44, 95,  
 233, 297, 345; fertilizers, 128; rift  
 with L., 169; career, 317
- Liebig, Johann Georg, father, 1–2, 7–8,  
 16–17, 28, 31, 33; life, 5; Kastner's  
 journal, 12–13; L.'s letters, 16–17,  
 28; financial support for L., 40
- Liebig, Johann Ludwig (Louis), brother, 2–  
 3, 5, 15
- Liebig, Johanna (Nanny), 44, 95, 222,  
 297, 321; marriage, 44, 110, 318
- Liebig, Justus von:  
 chemical work: fulminates, 10–11, 32,  
 35; sulphuric acid, 14, 117–18;  
 dyestuffs, 15, 116, 118; mammalian  
 teeth, 33; Kaliapparat, 49–51; hip-  
 puric acid, 50; nitrogen, estimation,  
 50–1; fermentation, 56; fulminic

- acid, 72–3; spongy platinum, 75–6; benzoyl radical, 77–80; organic acids, 77, 85–8; alcohol, 80–2; chloral and chloroform, 83; aldehydes, 83–4; urine, 88–9; ideas on synthesis, 89; potassium cyanide, 89; melamine dispute, 89–91; Salzhausen waters, 117–19; sugar beet, 118–19; artificial fertilizers, 120–9; quinidine, 129–36; aldehyde reaction, 136; law of minimum, xi, 147, 161, 287; plastic and respiratory foods, 184, 200–1, 213, 217, 222; fats, 185–90, 192–3; animal heat, 190–1; urine nitrogen as measure of work, 193, 199–201; fermentation, 203–5; contagia, 205–9, 211–12, 284; cholera, 210; aquaria, 211; cookery, 215–24; meat studies, 216–24; osmosis, 220–1; bread, 238–42, 281; baby's milk, 243–8; condensed milk, 247–8; wines, 248–9; soil erosion, 250; sewage, 254–68
- events: birth, 2; schooling, 5–7; learns Greek, 15; botany, 16; apprenticeship, 7; reading, 8–9, 13; Bonn, 11–15; industrial interests, 14, 30; Erlangen, 16–17; plans pharmacy institute, 18–19; joins Rhenania, 20–1; imprisonment, 20–1, 24; Paris stipend, 21; sexuality, 22, 44; meets Platen, 22; affair with married woman, 24; marriage, 26, 43–4; Naturphilosophie, 26; life in Paris, 28–35; learns organic analysis, 29; mathematics, 29; works with Gay-Lussac, 29, 31–2; meets Humboldt, 31–2; Erlangen doctorate, 33–4; appointed to Giessen, 39; salary, 40; laboratory, 40; plans for pharmaceutical institute, 42–5, 47; marriage, 43; Saturday exams, 45; teaching style, 46; pupils' impressions, 45–7; plans for *Annalen*, 53; research school, 56–65; complaints about salary, 61; rejected by Göttingen, 60; salary rises, 61; buys laboratory for Will, 61; move to physiological chemistry, 62; Stammbaum, 63; elected dean, 63–4; students of chemistry and pharmacy, 64; teaching style, 70–1; visits France, 71; controversy with Wöhler, 72; the Wöhler partnership, 72–80; French alliance, 82–3, 91–2; disillusioned by organic chemistry, 92; holidays, 94; significance of letters, 94; visit to UK (1837), 95–8; views of British, 97, 100–1; elected FRS, 98; visit to UK (1842), 98–9; elected FRASE, 99; visit to UK (1844), 100–3; Glasgow dinner, 101–2, 170; has head “read,” 102–3; visit to UK (1845), 104; offered King's College chair, 105; baronetcy, 105–7; buys land, 107–8, 123, 135, 172; decorations, 108, 110; visit to UK (1851), 108–11, 126; Heidelberg chair, 108–9; visit to Ireland, 108–9; entertained by Royal family, 109; Marchioness of Douro's beauty, 109; visit to UK (1855), 110–13; lectures Bavarian royal family, 111; revisits France, 118; quinidine affair, 129–36; business failures, 136; mirrors, 136–9; strychnine in beer, 140; English agricultural testimonial, 142–3, 255; influence on German industry, 143–4; attacks humus theory, 147–8, 156–8; identifies law of minimum, 147, 161, 287; exhausted by writing, 151–2; role of dedications, 152–3; nitrogen assimilation, 159–60; soil exhaustion, 162, 288; superphosphate, 162–3; mineral theory, 165, 170; American views, 168–9; French views, 169; German views, 169; agricultural stations, 169–70; scandal of *Einleitung*, 177; Malthusian interpretations, 177–8, 258–9; soil robbery, 178; disease, 206–7; interest in cookery as youth, 216; treats Emma Muspratt, 222–3; founds Extract of Meat Co., 225–33; Albert medal, 229, 327; coffee making, 242–3, 281; baby milk, 242–6, 281; depressed moods, 255, 319; sewage lectures, 256–7; value of sewage, 256–7; critique of Napier-Hope, 265–6; Lord Mayor's award, 266–7; history of chemistry, 283; pure and applied science, 288; called to Munich, 291–3, 295–6; President of Bavarian Academy, 293; impressions of Munich, 296–7; scientific method, 302–3, 305; criticism of Bacon, 299–304; role of imagination, 305–7; history of science, 307–8; attacks materialism, 309–

Cambridge University Press

978-0-521-56224-9 - Justus von Liebig: The Chemical Gatekeeper

William H. Brock

Index

[More information](#)

370

## Index

- Liebig, Justus von: (*cont.*)  
 12; lifestyle in Munich, 313–14; religion, 318–19, 327; health, 318–19; call to Berlin, 320; accidents, 321; visits Paris Exposition (1867), 322–3; views of French, 323–4, 326; thoughts on death, 326–7; meningitis, 327; death, 328; death mask, 329; memorials, 329–30  
 gatekeeper, ix, xi, 214, 279  
 patents: amorphous quinine, 132; mirrors, 138; artificial fertilizers, 122, 140; milk, 246  
 physical appearance: 4, 20, 30, 59, 99, 116; Budd, 99; Muspratt, 110; Horsford, 297; Platen, 318; Eliot, 320; at death, 329  
 portraits: 20, 30, 95, 116, 225, 278, 321, 328  
 relations with Britain, viii, 100–1, 178, 257–8, 304–5  
 sculptures: 316, 326–7, 329–30  
 views and opinions: ecological, xi, 177–8, 257; history of science, 307–8; Malthusian, 177–8, 258–9; political, 43, 324–6; recycling, ix, 257–9; religion, 318–19, 327; vitalism and materialism, 158, 177, 185, 211–12, 274, 284, 309–12  
 writings:  
*Agricultural Chemistry*, 33, 66–7, 98, 120, 124, 145–82, 203, 250, 258, 287; 7th edition, 179  
*Animal Chemistry*, 139, 154–5, 183–214, 217, 220, 284, 310–11; praised by Mill, 298–9; on force, 312  
*Artificial Manures*, 124  
 “*Autobiography*,” 1, 6–7, 9–10, 46, 74, 89  
*Familiar Letters on Chemistry*, 55, 139, 174, 197, 273–90; function of clothes, 184; influence on cookery writers, 216; historical letters, 220; extract of meat, 223–4; purpose, 275–6; publication history, 276–80; quotes Bacon, 299; attacked by Moleschott, 311  
*Handbuch der Pharmazie*, 54–6  
*Handwörterbuch der . . . Chemie*, 55–6  
*Instructions for analysis*, 50  
*Jahresbericht*, 53  
*Lancet, The*, lectures in, 99, 139  
*Laws of Husbandry*, 113, 170, 177, 261  
*Letters on Agriculture*, 256–7, 277, 287–8  
*Letters on Metropolitan Sewage*, 254, 262–6, 272  
 Letters to *The Times*, 257–8, 261  
 “Lord Bacon,” 299–305  
*On Motion of Juices*, 221  
*Research on Chemistry of Food*, 216, 218  
*Researches on Motion of Juices*, 220–1  
 “State of chemistry in Austria,” 65–7  
 “State of chemistry in Prussia,” 67–9, 282–3  
*Suppe für Kinder*, 244–5  
 Liebig, Karl, brother, 2–3; guano, 122  
 Liebig, Marie, 44, 95, 222, 318  
 Liebig, Maria Caroline, L.’s mother. *See* Möser, Maria Caroline  
 Liebigbilder, 225, 237–8  
 Liebig condenser, 84–5  
 Liebigite, mineral, 350  
 Liebig Medal, for agricultural chemistry, 179, 327–8; of Giessen University, 317; of Verein Deutscher Chemiker, 329  
 Linde, Justin von, 47, 59, 63; negotiates baronetcy, 106–7; quinidine affair, 129–36; calls Bischoff to Giessen, 198  
 Lister, Sir Joseph, 253  
 Ludwig I, Duke of Hessen-Darmstadt, 4, 19, 32, 116  
 Ludwig II, Duke of Hessen-Darmstadt, 4–5, 8, 17; library, 9; stipend for L., 21, 24, 27; confers baronetcy, 106–7; abdication, 295; materialism anecdote, 309  
 Ludwig II, King of Bavaria, 315, 319  
 Lyell, Sir Charles, 142; publicises L.’s views on Britain, 101  
 Macaire-Princep, J., 160  
 Macaulay, Thomas Babington, 299  
*Magazin für Pharmazie*, 52  
 Magendie, François, 217, 221  
 Magnus, H. Gustav, 138  
 Manning, James, 271  
 Marchand, Richard, 75  
 Maplin Sands project. *See* Hope, William  
 Marggraf, Andreas, 18, 118  
 Marquart, Ludwig, 240–1  
 Martin, John, 251  
 materialism, 177, 284, 309–12  
 Masson, David, 303

- Maximilian II, King of Bavaria, 136, 199–200, 255, 276, 287–8; court life, 292, 295–6, 311; brings L. to Munich, 315
- Mayer, Julius Robert, 283, 312–13
- meat, chemistry of, 216–24
- meat, extract of, 202, 203, 221–2; Company, 225–33; process, 226; Nightingale recommends, 229; travellers endorse, 229; oxo cube, 230; rivals, 230, 232; criticism of, 231–2; Bovril, 232; dried soups, influence on, 232–3; cookery books, 233–7
- Mechi, John, 142; stupidity of farmers, 175; supports L., 179, 229; sewage recycling, 257–9, 261, 265, 271; Alderman, 262
- Meissner, Paul, 66
- mellitic acid, 74
- Merck, Emmanuel, 6, 52, 120; L.'s baronetcy, 107; quinidine, 129–30; spontaneous combustion, 286
- Merck, Georg, 120
- Mettenheimer, Johann, 45, 47
- Metternich, Prince Clemens, 66
- Mill, John Stuart, 298–9
- Miller, William Allen, 57, 347; King's College chair, 105
- milk, formula for human, 243–8
- mineral theory, 149, 156, 168, 170, 173; Sprengel's priority, 165; food minerals, 218
- mirror-making, 136–9
- Mitscherlich, Eilhard, 78, 194; catalytic force, 204; death, 320
- Mohr, Karl Friedrich, 53, 85, 92; opposes L.'s vitalism, 177; *Animal Chemistry*, 195; makes extract of meat, 223–4; on unity of forces, 312
- Moleschott, Jacob, 177, 284, 311
- Moldenhauer, Elise, marriage to Hofmann, 44
- Moldenhauer, Helene, marriage to Hofmann, 44
- Moldenhauer, Henriette (Jettchen). *See* Liebig, Henriette
- Moldenhauer, Johanna, marriage to Buff, 44
- Moldenhauer, Michael, 43
- Montague, Lord Robert, 261–3, 265
- Morrell, Jack B., 56, 58, 61
- Morson, T., 97
- Möser, Maria Caroline, L.'s mother, 3–5, 13, 16–17, 23–4, 28, 47
- Müller, Johannes, 198, 310
- Mueller, K. W. C., 39
- Mulder, Gerrit Jan, 171, 196–7, 202; protein, 183–4, 191, 195
- Munday, Pat, 2, 10, 119
- Munich, city: religious tendencies, 319–20; Liebig Memorial, 329
- Munich, University of, 57, 293–4; lecture theatre, 294; laboratory, 293
- Murray, Sir John, 121–2
- Muspratt, Edmund K., 32, 348; with L. in Ireland, 108–9; describes L., 110; with L. in Paris and Osborne House, 110–11; Liverpool University, 127; in Munich with sister, 222
- Muspratt, Emma (Mrs Hartley), 321, 346; illness in Munich, 222–3; daughter Ethel, 321
- Muspratt, James, 108, 122, 222; soda factory, 97; sons Frederick and Richard, 122, 348; daughter Julia, 342
- Muspratt, James Sheridan, 348; fertilizer patent, 122, 171; angers L., 124–8; character, 124–7
- Napier, William, 359–69
- Napoleon III, Charles Napoleon Bonaparte, 323–4
- Naturphilosophie, 26, 67–8, 298, 310–11
- Nees von Esenbeck, C., 12
- Nestlé, Henri, 247–8
- Ney, Elizabeth, 315–16, 326–7, 330
- odylic force, 67, 104
- Oehler, Karl, 31, 143
- Oersted, Hans Christian, 36
- Oken, Lorenz, 12, 26
- Palmerston, Viscount Henry, 111
- Paris, Exposition Universelle (1867), 322–3
- Parloa, Maria, 237
- Pasteur, Louis, 211–13
- Paul, Benjamin, 348; translates *Einleitung*, 177; refrigeration, 228; sewage, 269–70
- Peel, Sir Robert, 142; meets L., 99; conversation with, 112; Corn Laws, 120–1, 150
- Pelouze, Théophile, 78, 82, 86–7
- Penny, Frederick, 62, 348
- Pepys, William H., 58
- Perkin, William, 119
- Pettenkofer, Max von, 51, 316; invites L. to Munich, 136, 293; respiratory chamber, 200; creatinine in urine,

- Pettenkofer, Max von (*cont.*)  
217; makes extract of meat, 223–4; tests extract 229, 233; advertises as condiment, 231; literary ability, 290
- Petzholdt, Alexander, 179, 279; translates *Artificial Manures*, 124
- Pfeuffer, L.'s doctor, 222; endorses extract of meat, 223; on coffee, 242
- Pharmaceutical Journal*, 134
- pharmacy, 10–11, 33, 40, 57, 63; L. family and, 2–3, 14; Heppenheim, 7; status of, 10–11; private institutes for, 17–19, 42, 57, 116, 126; periodicals, 52–3; inspection of pharmacists, 120, 293
- picric acid, 73, 75
- Pirsch, Gottfried, 7–8
- Pfannkuche, Heinrich, 43
- Platen, August Graf von, 21–6, 309; Liebig sonnets, 23; Liebig ghazel, 25; description of L., 318
- platinum, spongy, 75–6
- Playfair, Sir Lyon, 98–9, 101, 104, 164, 323, 348; agricultural activities, 150; translates *Agricultural Chemistry*, 152; activities at BAAS, 154–5; humus, 156; superphosphates, 162; analysis of faeces, 164, 250; on L.'s personality, 176, 182; supports *Animal Chemistry*, 195
- Pocci, Franz, 321
- Poggendorff, Johann C., 55–6, 73
- Portmann, Christian Julius, 30
- Prato, Katherina (*pseud.* Katherina von Scheigger), 234–5
- protein, 183, 191, 195–7, 213
- Prout, William, 48, 51, 88, 119; physiological chemistry, 186–7, 213; vitalism, 309
- Prussia, state of chemistry, 67–9
- Pugh, Evan, 295
- Pusey, Philip, 99; critical of L., 142, 172–3; nitrate fertilizer, 164; praises Dumas, 171; editorial policy, 171–2; death, 175
- quinidine, 129–36
- quinine, 129–36
- radical theory, 79–81
- Ragsky, Franz, 66
- Redtenbach, Joseph, 66
- Redwood, Theophilus, 133–4
- Regnault, Henri, 77
- Reichenbach, Carl, 66–7, 102
- Reuling, Ludwig, 6–7
- Reuning, Theodor, 170, 268; Liebig Medal, 327
- Ringen, Hugo von, 54
- Robiquet, Pierre, 78
- Rochleder, Friedrich, 66
- Roller, F. W., 130
- Ronalds, Edward, 109
- Rossiter, Margaret, 150, 168
- Royal Agricultural Society of England, 99, 149, 171, 175
- Royal College of Chemistry, 69–70, 104–5, 112, 125, 142, 207; L. invited to direct, 104–6; quinidine affair, 131, 133–5
- Rue, Warren de la, 62, 349
- Salzhausen, 117–19
- sauerkraut, 87
- Saussure, Théodore, 146, 148, 157, 160
- Scheigger, Katherina. *See* Prato, Katherina
- Schelling, Friedrich, 26–7
- Schleiden, Matthias, 157
- Schleiermacher, Ernst, chancellor of Hesse-Darmstadt, 13, 24, 28, 32, 40–2, 282; collects fossils, 33; modernisation of Giessen university, 38; L. sends prospectus, 42; promotes L., 43
- Schleiermacher, Friedrich, 11
- Schlieper, Adolph, 119
- Schlosser, Theodor, 66
- Schmidt, Carl, 199
- Schmidt, Georg, 42–3, 45, 47
- Schulz, E. Friedrich, 31, 38, 117
- Schulze, Johannes, 69
- Schönbein, Christian Friedrich, 92, 284; ozone, 306; death of Agnes Carrière, 317
- Schwann, Theodor, 204, 313
- Senebier, Jean, 146, 157
- Shenstone, William A., 330
- selenaldine, 74
- Sheppard, George, 259
- Sigwart, Christopher, 303
- Simon, J. F., 244
- Simpson, Sir James Young, 83
- Smith, Angus, 209, 269, 349
- Smith, Edward, 227; extract of meat, 231
- Snow, John, 209–10
- Soldan, Friedrich, 58
- Soubeiran, Eugène, 83
- Sprengel, Karl, 147–8, 181; law of minima, 161; soil analysis, 164–5; mineral theory, 165
- Steinheil, Karl August, 137



- Stenhouse, John, 183  
 Stöckhardt, Julius Adolph, 169–70, 179  
 Storck, Johann, 6  
 Strange, Carl, 78  
 Stromeyer, Friedrich, 12, 47  
 sugar beet, 118–19  
 sulphuric acid, 117–18
- Taylor & Walton, publishers, 58, 100, 140, 281; destroy *Einleitung*, 177  
 Tchihatchef, Pierre de, 303–4  
 Thenard, Louis J., 28–9, 32, 186; analysis, 48, 76; dedication of *Chimie organique*, 152  
 Thaer, Daniel, 146–7  
 thialdine, 74  
 Thiersch, Karl, marriage to Nanny L., 110, 318; cholera, 210; father's Munich fresco, 295  
 Thompson, H. S., 142; tests L.'s ideas, 171; opposes L., 172; soil absorption, 179  
 Thomson, Robert Dundas, 208–9, 350  
 Thomson, Thomas, 36, 95, 208  
 Thomson, Thomas jr., 95, 350  
 Thudichum, Ludwig, 350; cholera, 210; analysis of extract of meat, 230; sewage, 252; obituary of L., 330  
 Tindal, C. G., 232, 350  
 Tooth, Robert, 230  
 Traube, Moritz, 201; putrefaction, 212; ferments, 213  
 Trautschold, Wilhelm, 54–5, 58, 318  
 Trommsdorff, J. B., 17–19, 42, 44–5, 52, 126; death, 53  
 Turner, Edward, 99–100, 139  
 Turner, William G., 99–100, 351  
 Tweedie, Mrs Alec (Ethel Brilliana), 223  
 type theory, 81, 92
- Umpfenbach, Hermann, 38, 42, 45, 47  
 Ure, Andrew, 48  
 urine analysis, 88–9, 199
- Varrentrapp, Franz, 51, 74; fertilizers, 128; nitrogen analysis, 51, 183–4  
 Vauquelin, Nicolas, 31–2  
 Versammlung deutscher Naturforscher, 52  
 Vienna, state of chemistry, 65–7  
 Viennese Polytechnic (Hochschule), 66  
 Vieweg, Hans Heinrich Edward, publisher, 55, 119, 279, 281, 324; fertilizers, 122, 124; *Agricultural Chemistry*, 152, 165; worried by *Einleitung*, 177; *Animal Chemistry*, 184; cookery book, 216; *Suppe*, 244, 246; *Chemische Briefe*, 282; Mill's *Logic*, 299
- Ville, Georges, 169  
 Voelcker, Augustus, 196; soil absorption, 256; sewage unprofitable, 271  
 Vogt, Carl 37–9, 45, 57, 63, 70, 99; L.'s teaching, 70; *Physiologische Briefe*, 282; materialism, 311; politics, 324–5  
 Vogt, Philipp, 38–40, 43  
 Voit, Carl, 190; experiments on urine and work, 200–2; attacks L., 202–3, 212; extract of meat, 231; father designs Munich laboratory, 294  
 Volhard, Jacob, 16, 24, 151; biography of L., 3, 6, 22, 254; on Frau L., 44; describes L.'s teaching, 70; L.'s death, 329
- Waidele, Erwin, 66  
 Walloth, August, 28, 40  
 Wakely, Thomas, 133, 139, 207  
 Warington, Robert, 97, 111; quinine patent, 135; aquarium, 211  
 Way, Thomas, 179, 256  
 Wernekink, Friedrich, 38, 42, 45, 47  
 Wheatstone, Charles, 351; invites L. to King's College, 105  
 Wiegleb, Johann, 18–19  
 Wilbrand, J. B., 39–40, 198  
 Will, Heinrich, 51, 53, 74, 104; separate Giessen laboratory, 61; research supervisor, 62; promotion, 131; quinidine, 135; nitrogen analysis, 51  
 Williamson, Alexander William, 82, 269, 351  
 Winckler, Ferdinand, 129–30, 134  
 wine, 248–9  
 Winter, Carl, publisher, 52, 54, 58, 277, 281; *Chemische Briefe*, 282  
 Wislicenus, Johannes, 201–2  
 Wöhler, Friedrich, 50–1, 76, 82–3, 86, 91, 102, 183–4; nitrogen determination, 51; Göttingen chair, 60; on Reichenbach, 67; partnership with L., 72–5, 77–80, 88–9; career, 73; death of wife, 77–8; composition of urine, 83–4, 119; L.'s baronetcy, 107; Marchioness of Douro portrait, 109; nickel factory, 119; views on *Animal Chemistry*, 194; fermentation satire, 204; London sewage, 263, 265–6; his letters to and from L., 273; praise for *Chemische Briefe*, 289; views on L.'s history of

Cambridge University Press  
978-0-521-56224-9 - Justus von Liebig: The Chemical Gatekeeper  
William H. Brock  
Index

[More information](#)

374

*Index*

- Wöhler, Friedrich (*cont.*)  
    science, 308–9; last letter from L.,  
    328  
Wolff, Emil von, 170, 175  
Wöllner, student friend, 14  
Wolseley, Sir John, 122  
Wynter, Andrew, 228, 261
- Young, Mrs Hannah M., 235–6
- Zimmer, Carl, 240–1  
Zimmermann, Johann, 5–6  
Zimmermann, Wilhelm L., 27, 39–41, 43;  
    drowns, 41  
zymotic diseases, 208–9