

## INDEX

- Electricity, 76  
 Electrodynamics, 13, 19, 41, 44,  
     76  
 Electromagnetic theory, 49  
     — waves, 63  
 Electron, 44, 50.  
     — electrical masses of, 51  
 Electrostatics, 76  
 Elliptical space, 112  
 Empirical laws, 123  
 Encounter (space-time coincidence), 95  
 Equivalent, 14  
 Euclidean geometry, 1, 2, 57,  
     82, 86, 88, 108, 109, 113,  
     122  
     — — propositions of, 3, 8  
     — space, 57, 86, 122  
 Evershed, 131  
 Experience, 49, 60  
  
 Faraday, 48, 63  
 Fitzgerald, 50  
 Fixed stars, 11  
 Fizeau, 39, 49, 51  
     — experiment of, 39  
 Frequency of atom, 131  
  
 Galilei, 11  
     — transformation, 33, 36, 38, 42,  
         52  
 Galileian system of co-ordinates,  
     11, 13, 14, 46, 79, 91, 98,  
     100  
 Gauss, 86, 87, 90  
 Gaussian co-ordinates, 88-90, 94,  
     96-100  
 General theory of relativity,  
     59-104, 97  
 Geometrical ideas, 2, 3  
     — propositions, 1  
     — — truth of, 2-4  
 Gravitation, 64, 69, 78, 102  
 Gravitational field, 64, 67, 74,  
     77, 93, 98, 100, 101, 113  
     — — potential of, 130, 131  
     — mass, 65, 68, 102  
 Grebe, 131  
 Group-density of stars, 106  
  
 Helmholtz, 108  
 Heuristic value of relativity,  
     42  
  
 Induction, 123  
 Inertia, 65  
 Inertial mass, 47, 65, 69, 101,  
     102  
 Instantaneous photograph  
     (snapshot), 117  
 Intensity of gravitational field,  
     106  
 Intuition, 123  
 Ions, 44  
  
 Kepler, 125  
 Kinetic energy, 45, 101  
  
 Lattice, 108  
 Law of inertia, 11, 61, 62, 98  
 Laws of Galilei-Newton, 13  
     — of Nature, 60, 71, 99  
 Leverrier, 103, 126  
 Light-signal, 33, 115, 118  
 Light-stimulus, 33  
 Limiting velocity ( $c$ ), 36, 37  
 Lines of force, 106  
 Lorentz, H. A., 19, 41, 44, 49,  
     50-3  
     — transformation, 33, 39, 42,  
         91, 97, 98, 115, 118, 119,  
         121  
     — — (generalised), 120  
  
 Mach, E., 72  
 Magnetic field, 63  
 Manifold (see Continuum)  
 Mass of heavenly bodies, 132  
 Matter, 101  
 Maxwell, 41, 44, 48-50, 52  
     — fundamental equations, 46,  
         77  
 Measurement of length, 85  
 Measuring-rod, 5, 6, 28, 80, 81,  
     94, 100, 102, 111, 113,  
     117  
 Mercury, 103, 126  
     — orbit of, 103, 126  
 Michelson, 52-4  
 Minkowski, 55-7, 91, 122