

- Adey, W. R., C. W. Dunlop, and C. E. Hendrix. Hippocampal slow waves. *A.M.A. Arch. Neurol.* 1960, 3:74-90.
- Adey, W. R., D. O. Walter, and C. E. Hendrix. Computer techniques in correlation and spectral analyses of cerebral slow waves during discriminative behavior. *Exp. Neurol.* 1961, 3:501-524.
- Adrian, R. H. The effect of internal and external potassium concentration on the membrane potential of frog muscle. *J. Physiol.* 1956, 133:631-658.
- Adrian, E. D. and D. W. Bronk. The discharge of impulses in motor nerve fibers. Part II. *J. Physiol.* 1929, 67:119-151.
- Agar, W. E. 1951. 2d ed. *A Contribution to the Theory of Living Systems*. Melbourne: Melbourne University Press.
- Alberts, W. W., E. W. Wright, B. Feinstein, and G. von Bonin. Experimental radiofrequency brain lesions size as a function of physical parameters. *J. Neurosurg.* 1966, 25:421-423.
- Almasi, J. J., and O. H. Schmitt. The dependence of skin-thru-electrode impedance on individual variations, skin preparation and body location. *Proc. 21st Ann. Conf. Eng. Med. Biol.* 1968, 10:13A2.
- Almasi, J. J., and O. H. Schmitt. Systematic and random variations of ECG electrode system impedance. *Ann. N.Y. Acad. Sci.* 1970, 170 (Art. 2):509-519
- A.M.A. Council on Physical Medicine. Minimum requirements for acceptable electrocardiographs. *JAMA* 1947, 134:455. (For additional data see also *JAMA*, 1950, 143, 654-655 and *IEEE Trans. on Bio-Med. Engng.* 1967, BME-14:60-68.)
- Anand, B. K., S. Dua, and K. Shoenberg. Hypothalamic control of food intake in cats and monkeys. *J. Physiol.* 1955, 127:143-152.
- Andrews, H. L. A new electrode for recording bioelectric potentials. *Amer. Heart J.* 1939, 17:599-601.
- Antonelli, P. L., T. D. Rogers, and M. A. Willard. Geometry and the exchange principle in cell aggregation kinetics. *Journal of Theoretical Biology*, 41, 1, 1973.
- _____, T. D. Rogers, and M. A. Willard. Transitivity, pattern reversal, engulfment and duality in exchange type cell aggregation kinetics. *Journal of Theoretical Biology*, 49, 1975.
- Aronow, S. The use of radio-frequency power in making lesions in the brain. *J. Neurosurg.* 1960, 17:431-438.
- Asa, M. M., A. H. Crews, E. L. Rothfield, E. S. Lewis, R. I. Zucker, and A. Bernstein. High fidelity radioelectrocardiography. *Amer. J. Cardio.* 1964, 14:530-532.
- Ashby, W. R. 1963. *In Introduction to Cybernetics*. New York: Wiley.
- Atkins, P. W. 1991 Oxford University Press.
- Bail, O. 1929. *Ergebnisse exp. Populationsforschung. Zitatsh. Immun. Forsch.* 60: 1.

- Baker, G. L., and J. P. Gollub. *Chaotic Dynamics*. Cambridge Univ. Press, New York. 1990.
- Barnett, A. The basic factors involved in proposed electrical methods for measuring thyroid function. *West. J. Surg. Obstet. Gynecol.* 1937, 45:540-554.
- Barnothy, J. M. 1960. In *Medical PHysics*, ed. O. Glasser, pp. 61-64. Chicago: Year Book Medical Publishers.
- Basmajian, J. V., and G. Stecko. A new bipolar electrode for electromyography. *J. Appl. Physiol.* 1962, 17:849.
- Becker, R. *Theorie der Wärme*. Berlin: Springer, 1961.
- Beir, Ulli, ed. *The Origin of Life and Death*. London. Helnemann, 1966.
- Bell, G. H., J. A. C. Knox, and A. J. Small. Electrocardiograph electrolytes. *Brit. Heart J.* 1939, 1:229-236.
- Bennett, A. L., A. L. Dunn, and A. R. McIntyre. The normal membrane resting potential of mammalian skeletal muscle measured *in vivo*. *J. Cell. Comp. Physiol.* 1953, 42:343-357.
- Bernstein, J. *Elektrobiologie*. Braunschweig: Druck and Vêrlag von Friedr. Virweg & Sohn, 1912, 215 pp.
- Von Bertalanffy, L. *Theoretische Biologie*, Vol. I. Berlin: Borntraeger, 1932.
- Von Bertalanffy, L. *Science*, III, 23 (1950).
- Birkhoff G. D. *Proc. Nat. Acad. Sci. (U.S.A.)*, 17, 650, 656 (1931).
- Birkhoff, G. D., B. O. Koopman. *Proc. Nat. Acad. Sci. (U.S.A.)*, 18, 279 (1932).
- Bischoff, F., and Bryson, G. 1964. In *Progr. exp. Tumor Res.* 5: ed. F. Homburger, p. 85. Basel/N. Y.: Karger.
- Block, W., de Jongh, J. G. V., Overbeek, J. T. G., and Sparnaay, M. J. 1960 *Trans. Faraday Soc.* 56: 1957.
- Block, J. D., and Bridger, W. H. 1962. *Ann. N. Y. Acad. Sci.* 98: 1229.
- Bloom, William and Fawcett, Don W.--A Textbook of Histology (1968), W. B. Saunders Company, 9th Ed.
- Blum, H. F. 1959. *Science* 130: 1545.
- De Boer, J., and G. E. Uhlenbeck (ed.). *Studies in Statistical Mechanics*. Vol. I. Amsterdam: North-Holland, 1962.
- Bohr, N. 1934. *Atomic Theory and the Description of Nature*. London: Cambridge University Press.
- _____. 1958. *Atomic Physics and Human Knowledge*. New York: Wiley.
- _____. 1961. *Atomic Physics and Human Knowledge*. New York: Science Editions.
- Boltzmann, L. *Sitz.-Ber. Akad. Wiss. (Wien)*, 58, 517 (1868).

- Boltzmann, L. *Sitz.-Ber. Akad. Wiss. (Wien)*, 63, 397 (1871).
- Boltzmann, L. *Sitz.-Ber. Akad. Wiss. (Wien)*, 63, 712 (1871).
- Boltzmann, L. *Sitz.-Ber. Akad. Wiss. (Wien)*, 66, 275 (1872).
- Boltzmann, L. *Sitz.-Ber. Akad. Wiss. (Wien)*, 76, 373 (1877).
- Boltzmann, L. *Lectures on Gas Theory*. Translation of *Vorlesungen über Gastheorie* (1896/1898) by S. G. Brush. Berkley: U. of California P., 1964.
- Born, M. *Natural Philosophy of Cause and Chance*. London: Oxford U.P., 1949.
- Born, M. 1962. *Atomic Physics*. 7th ed. New York: Hafner.
- Botts, J. 1957. In *Physiological Triggers*, ed. T. H. Bullock, pp. 85-102. Washington: *Am. Physiol Soc.*
- Bourne, G. H. *Vision of Labour in Cells*. New York: Academic Press, 1964. 248 pp.
- Bracket, J. 1954. *Arch. Biol.* 65:1.
- _____. and Mirsky, A. E.— *The Cell* (6 Vol.) (1959-1963) Academic Press, Inc., New York, NY
- Brandt, E. N., Jr. 1962. *Ann. N. Y. Acad. Sci.* 98: 1291.
- Branton, D., and Park, R. B.—*Papers on Biological Membrane Structure* (1968), Little, Brown and Company, Boston, MA
- Bremerman, H. J. 1962. In *Self-Organizing Systems*, eds. M. C. Yovits, G. T. Jacobi, and G. D. Goldstein, pp. 93-106. Washington: Spartan Books.
- Briggs, John, and F. David Peat. *Looking Glass Universe*. New York: Simon & Schuster, 1984.
- Brillouin, L. 1962. *Science and Information Theory*. New York: Academic Press.
- Brillouin, L. 1962. *Science and Information Theory*. 2d ed. New York: Academic Press.
- Brindle, A. *Genetic algorithms for function optimization*. Ph.D. Dissertation, Department of Computing Science, University of Alberta, 1980. Brown, F. A. Jr. 1959. *Science* 130: 1539.
- Brown, C. W., and F. M. Henry. The central nervous mechanism for emotional responses II. *Proc. Natl Acad. Sci. (U.S.)* 1934, 20:310-315.
- Brown, Malcolm R. Jr.; Franke, Werner W.; Kleinig, Hans; Falk, Hans and Sitte, Pete— Scale Formation in Chrysophycean Algae. I. Cellulosic & Noncellulosic Wall Components made by the Golgi Apparatus, *J. of Cell Biol*, Vol. 45, No. 3, pp. 246-271, June. 1970
- Bryson, G., and Bischoff, F. 1968. In *Progr. exp. Tumor Res.* 9: ed. F. Homburger, p. 78. Basel/New York: Karger.
- Bures, J. M. Petran, and J. Zachar. *Electrophysiological Methods in Biological Research*. New York: Academic Press, 1962.

- Burgers, J. M. 1965. *Experience and Conceptual Activity*. Cambridge: M.I.T. Press.
- Burns, R. C. Study of skin impedance. *Electronics*. 1950, 23:190-196.
- Burnside, W. 1959. *Theory of Probability*. New York: Dover.
- Burr, H. S., and A. Mauro. Millivoltmeters. *Yale J. Biol. Med.* 1948-1949, 21:249-253.
- Burr, H. S. In *Medical Physics*. Glasser, O. Ed. Chicago: 1944, Vol. 2, 1950, Chicago: Year Book Publishers. 1227 pp.
- Callen, H. B. *Thermodynamics*. New York: Wiley, 1960.
- Campbell, Hugh G. *Matrices With Applications*. Prentice Hall, Inc., New Jersey. 1968.
- Cannon, W. B. 1932. *Wisdom of the Body*. London: Norton.
- Caratheodory, C. *Sitz.-Ber. Akad. Wiss. (Berlin) Math.-phys. Kl.*, 580 (1919).
- Carmody, W. R. Studies in the measurement of electromotive force in dilute aqueous solutions. II. The silver chloride electrode. *J. Amer. Chem. Soc.* 1932, 54:188-192.
- Casimir, H. B. G. *Rev. Mod. Phys.*, 17,343 (1945).
- Casimir, H. B. G., and Polder, Dr. 1948. *Phys. Rev.* 73: 360.
- Chaitin, Gregory J. "Gödel's Theorem and Information". *Int. Jour. Theor. Phys.* 21 No. 12 (1982): 94.
- Chambers, R., and Chambers, E. 1961. *Explorations into the Nature of the Living Cell*. Cambridge: Harvard University Press.
- Chambers, R., and G. Cameron. Intracellular hydrion concentration studies. *J. Cell. Comp. Physiol.* 1932, 2:99-103.
- Chapman, S. *Phil. Trans. Roy Soc.*, A216, 271 (1916); 217, 115 (1917).
- Chapman, S. and T. G. Cowling. *The Mathematical Theory of Non-Uniform Gasses*. Rev. ed., 1953. New York: Cambridge U.P., 1939.
- Child, C. M. 1907. *Biol. Bull.* 12: 89.
- _____. 1907. *Biol. Bull.* 12: 177.
- _____. 1907a, *Biol. Bull.* 12: 179.
- Clark, L. C., and T. J. Lacey. An improved skin electrode. *J. Lab. Clin. Med.* 1950, 35:786-787.
- Cleveland, L. R., and Grimstone, A. V. 1964. *Proc. Roy. Soc. London Sec. B* 159: 668.
- Cohen, E. G. D. (ed.). *Fundamental Problems in Statistical Mechanics*. Amsterdam: North-Holland, 1961.
- Coleman, B. D., and C. Truesdell. *J. Chem. Phys.*, 33, 28 (1960).

- Commoner, B. 1961. *Science* 133: 1745.
- Coombs, J. S., J. C. Eccles, and P. Fatt. The electrical properties of the motoneurone membrane. *J. Physiol.* 1955, 130:291-325.
- Coombs, J. S., J. C. Eccles, and P. Fatt. The specific ionic conductances and the ionic movements across the motoneuronal membrane that produce the inhibitory postsynaptic potential. *J. Physiol.* 1955, 130:326-373.
- Cooper, R. Electrodes. *Amer. J. EEG Technol.* 1963, 3:91-101.
- Crutchfield, James P., J. Doyne Farmer, Norman H. Packard, and Robert Shaw. "Chaos". *Scientific American*, Dec. 1986.
- Curie, P. *Oeuvres de Pierre Curie*, Paris: Gauthier-Villars, 1908.
- Curtis, H. J., and K. S. Cole. Membrane resting and action potentials from the squid giant axon. *J. Cell. Comp. Physiol.* 1942, 19:135-144.
- Curtis, H. J., and R. S. Cole. Transverse electric impedance of the squid giant axon. *J. Gen. Physiol.* 1938, 21:757-765.
- Dancoff, S. M., and Quastler, H. 1953. In *Information Theory in Biology*, ed. H. Quastler, pp. 263-73. Urbana: University of Illinois Press.
- Davidson, E. H. 1965. *Scientific American* 212: 36.
- Davis, E. W., So, A. G., Bodley, J., and Weinberg, F. 1965. *Science* 150: 371 (abstract).
- Darwin, C. S., and R. H. Fowler. *Phil. ZMag.*, 44, 450, 823 (1922).
- Davies, R. O. *Reports on Progress in Physics*, 19, 326 (1956).
- Dawson, H., and M. G. Eggleton. *Starling and Lovatt Evans' Principles of Human Physiology*. Philadelphia, Pa. Lea and Febiger, 1962. 1879 pp.
- Day, J., and M. Lippitt. A long-term electrode system for electrocardiography and impedance pneumography. *Psychophysiology*. 1964, 1:174-182. U.S. Patent #3,420,223.
- Day, J. L. Review of NASA-MSC electroencephalogram and electrocardiogram electrode system including application techniques. *NASA Tech. Note*. 1968, TND-4398, 15 pp. U.S. Patent #3,420,223.
- De Jong, K. A. Adaptive systems design: A genetic approach. *IEEE Transactions on Systems, Man, and Cybernetics*, SMC-10, 566-574, 1980.
- Delgado, J. M. R. Electrodes for extracellular recording and stimulation. In *Physical Techniques in Biological Research*, W. L. Nastuk, Ed. New York: Academic Press, 1964, Chapter 3, 460 pp.
- Denbigh, K.G. *The Thermodynamics of the Steady State*, London: Methuen, 1951.
- Derjaguin, B. V. 1960. *Scient. Amer.*: 203: 47.

- Derjaguin, B. V., Abrikosova, I. I., and Lifshitz, E. M. 1956. *Quart. Revs.* 10 (3): 295.
- Descheneau, C. *Modelling and simulation in developmental genetics*. Ph.D. Dissertation, Department of Computing Science, University of Alberta, 1981.
- Donnan, F. G. The theory of membrane equilibria. *Chem. Rev.* 1925, 1:73-90.
- Donnan, F. G., and A. B. Harris. Osmotic pressure and conductivity of aqueous solutions of congo red and reversible membrane equilibria. *J. Chem. Soc.* 1911, 99:1554-1577.
- Duchting, W. and T. Vogelsaenger. Three-dimensional simulation of tumor growth. *Simulation*, 40, 163-170, 1983.
- Eagle, H. 1959. *Science* 130: 432.
- Edelberg, R. "Electrical Properties of the Skin." In *Methods in Psychophysiology*, C. Brown, Ed., Baltimore: The Williams and Wilkins Company, 1967, Chapter 1, 502 pp.
- Edelberg, R., and N. R. Burch. Skin resistance and galvanic skin response. *Arch. Gen. Psychiatr.* 1962. 7:163-169.
- Ehrenfest, P. and T. Ehrenfest. *The Conceptual Foundations of the Statistical Approach in Mechanics*. Translation of article in *Encykl. Math. Wiss.* (1912) by M. J. Moravcsik. Ithaca: Cornell U. P., 1959.
- Einstein, A. *Ann. Phys.*; 33, 1275 (1910).
- Einthoven, W. Die galvanometrische Registrierung des menschlichen Elektrokardiogramm, zugleich eine Beurtheilung der Anwendung des Capillar-Elektrometers in der Physiologie. *Arch. ges. Physiol.* 1903, 99:472-480.
- Eisenschitz, R. 1958. *Statistical Theory of Irreversible Processes*. London: Oxford University Press.
- Elsasser, W. M. 1958. *The Physical Foundations of Biology*. New York: Pergamon.
- _____. 1960. *J. Theoret. Biol.* 1: 27.
- _____. 1961. *J. Theoret. Biol.* 1: 27.
- _____. 1962. *J. Theoret. Biol.* 3: 164.
- _____. 1964. *J. Theoret. Biol.* 7: 53.
- _____. 1966. *Atom and Organism*. Princeton: Princeton University Press.
- Enskog, D. *Kinetische Theorie der Vorgänge in Mässig Verdünnten Gasen*. Inaugural Dissertation, Uppsala, 1917.
- Faraday, M. Experimental researches in electricity. *Phil. Trans. Royal Soc. London* 1839, 1-12 (Item 23).
- Fascenelli, F. W., C. Cordova, D. G. Simons, J. Johnson, L. Pratt, and L. E. Lamb. Biomedical monitoring during dynamic stress testing. I. *Aerosp. Med.* 1966, 37:911-922.

- Fatt, P., and Katz, B. 1953. *Acta Physiol. Scand.* 29: 117.
- Feates, F. S., D. J. G. Ives, and J. H. Pryor. Alternating current bridge for measurement of electrolytic conductance. *J. Electrochem. Soc.* 1956, 103:580-585.
- Feidman, I. 1956. *Analytical Chemistry* 28: 1859.
- Feigenbaum, Mitchell J. "Quantitative Universality for a Class of Nonlinear Transformations". *Jour. Statistical Phys.* 19 (1978): 25.
- Feldman, I. 1956. *Anal. Chem* 28: 1859.
- Fischmann, E. J., R. N. Selye, and L. R. Crutcher. Clinical trial of a balsa-lithium electrode for conventional electrocardiography. *Amer. J. Cardiol.* 1962, 10:846-851.
- Fitts, D. D. *Nonequilibrium Thermodynamics*. New York: McGraw-Hill, 1962.
- Flickinger, C. J., J. C. Brown, H. C. Kutchai, J. W. Ogilvie, and M. J. Peach. *Medical Cell Biology*. W. B. Saunders Co., Philadelphia. 1979.
- Forbes, T. W. An improved electrode for the measurement of potentials on the human body. *J. Lab. Clin. Med.* 1934, 19:1234-1238.
- Fowler, R. and E. A. Guggenheim. *Statistical Thermodynamics*. New York: Cambridge U.P., 1949.
- Frank, K. Basic mechanisms of synaptic transmission in the central nervous system. *IRE Trans. Med. Electron.* 1959, ME-6:85-88.
- Frenkel, J. J. *Statistische Physik*. Translated from the Russian by H. Jancke. Berlin: Akademie-Verlag, 1957.
- Freygang, W. H., and K. Frank. Extracellular potentials from single spinal motoneurons. *J. Gen. Physiol.* 1959, 42:749-760.
- Fricke, H. The theory of electrolyte polarization. *Phil. Mag.* 1932, 14:310-318.
- Fricke, H. The electric conductivity and capacity of disperse systems. *Physics*. 1931, 1:106-115.
- Fricke, H., and H. J. Curtis. Electric impedance of yeast cells. *Nature*. 1934, 134:102-103.
- Fricke, H., H. P. Schwan, K. Li, and V. Bryson. A dielectric study of the low-conductance surface membrane in E-coli. *Nature*, 1956, 177:134-135.
- Gamow, George and J. M. Cleveland. *Physics Foundations and Frontiers*. Prentice-Hall, Inc., New Jersey. 1976.
- Geddes, L. A. *Electrodes and the Measurement of Bioelectric Events*. Texas, Wiley-Interscience, 1972.
- Geddes, L. A. Cortical enetrodes. *EEG Clin. Neurophysiol.* 1949, 1:523. Illustrated on cover of *Sci. Amer.* 1948, 179, No. 4.
- Geddes, L. A., and L. E. Baker. The relationship between input impedance and electrode area in

recording the ECG. *Med. Biol. Eng.* 1966, 4:439-450.

Geddes, L. A. and H. E. Hoff. The discovery of bioelectricity and current electricity (The Galvani-Yolta controversy) *IEEE Spectrum* 1971. 8:38-46.

Geddes, L. A., L. E. Baker, and M. McGoodwin. The relationship between electrode area and amplifier input impedance in recording muscle action potentials. *Med. Biol. Eng.* 1967, 5:561-569.

Gibbs, J. W. *Elementary Principles in Statistical Mechanics.* 1902; New York: Dover, 1960.

Giese, A. C. *Cell Physiology*, 2nd ed. (reprinted 1966), Philadelphia; W. B. Saunders Company, 1952. 592 pp.

Girardier, L., Ruben, J. P., Brandt, P. W., and Grundfest, H. 1963. *J. Gen. Physiol.* 47: 189.

Glass, B. 1963. In *Philosophy of Science-- The Delaware Seminar*, Vol. 1, ed. B. Baumrin. New York: Interscience.

Glasstone, S. 1946. 2d ed. *Textbook of Physical Chemistry.* Princeton, N., J.: Van Nostrand.

Gleick, James. *Chaos: Making a New Science.* New York: viking. 1987

Goldstein, A. G., W. Sloboda, and J. B. Jennings. Spontaneous electrical activity of three types of silver EEG electrodes. *psychophysiol. Newsl.* 1962, 8:10-16.

Goldstein, Herbert. *Classical Mechanics.* Reading, Mass.: Addison-Wesley, 1950.

Goodenough, Ursula W., and Levine, R. P.--The Genetic Activity of Mitochondria and Chloroplasts, *Sci. Am.*, Vol. 223, No. 5, p. 22-29, Nov., 1970

Goodwin, B. C. 1963. *Temporal Organization in Cells.* New York: Academic Press.

Graham, J., and R. W. Gerard. Membrane potentials and excitation of impaled single muscle fibers. *J. Cell. Comp. Physiol.* 1946, 28:99-117.

Grahame, D. C. Mathematical theory of the faradic admittance. *J. Electrochem. Soc.* 1952, 99:370C-385C.

Gray, J. 1928. *Ciliary Movement.* London: Cambridge University Press.

_____. 1951. *Nature* 168: 929.

Greenwald, D. U. Electrodes used in measuring electrodermal responses. *Amer. J. Physiol.* 1936, 40:658-662.

Grisolia S. 1964. *Physiol. Revs.* 44: 657.

De Groot, S. R. *Thermodynamics of Irreversible Processes.* Amsterdam: North-Holland, 1951.

De Groot, S. R., and P. Mazur. *Non-Equilibrium Thermodynamics.* Amsterdam: North-Holland, 1962.

Grundfest, H. Comparative electrophysiology of excitable membranes. *Adv. Comp. Physiol.* 1966, 2:1-116.

Gurwitsch, A. 1923a. *Arch. Entw.* 100: 11.

- _____. 1923b. *Arch. Entw.* 103: 490.
- _____. 1932. *Die Mitogenetische Strahlung*. Berlin: J. Springer.
- _____, and Gurwitsch, L. 1925. *Roux Archiv.* 105: 470.
- Guzman, C., M. Alcaraz, and A. Fernandez. Rapid procedure to localize electrodes in experimental neurophysiology. *Bol. Inst. Estud. Med. Biol. (Mexico)*. 1958, 16:29-31.
- Haggard, E. A., and R. Gerbrands. An apparatus for the measurement of continuous changes in palmar skin resistance. *J. Exp. Psychol.* 1947, 37:92-98.
- Hagiwara, S., K. Naka, and S. Chichibu. Membrane properties of a barnacle muscle fiber. *Science*. 1964, 143:1446-1448.
- Halperin, W., and Wethirwell, D. F. 1965. *Science* 147: 756.
- Ter Haar, D. *Elements of Statistical Mechanics*. New York: Rinehart, 1954.
- Hall, B. 1962. *Lancet* 2: 1026.
- Halliwell, J. Quantum Cosmology and the Creation of the Universe, *Scientific American*, 1991.
- Harvey, E. V. 1940 *Living Light*. Princeton: Princeton University Press.
- Hawking, Stephen W. *A Brief History of Time From the Big Bang to Black Holes*. Bantam Books, New York, 1988.
- Hecht, H., and L. A. Woodbury. Excitation of human auricular muscle and the significance of the intrinsicoid deflection of the auricular electrocardiogram. *Circulation*. 1950, 2:37-47.
- Heilbrunn, L. V. 1943. 2d ed. *An Outline of General PHysiology*. Philadelphia: Saunders.
- _____. 1956. *The Dynamics of Living Protoplasm*. New York: Academic Press.
- Heisenberg, W. 1930. *The Physical Principles of the Quantum Theory*. New York: Dover.
- _____. 1962. *Physics and Philosophy*. New York: Harper.
- Henry, R. Dependable electrodes for the galvanic skin response. *J. Gen. Psychol.* 1938, 18:209-211.
- Herrmann, G. R. New electrode for taking electrocardiograms. *Circ. Res.* 1962, 11:736-738.
- Hilderbrand, J. H. Some applications of the hydrogen electrode in analyses research and teaching. *J. Amer. Chem. Soc.* 1913, 35:847-871.
- Hills, G. J., and D. J. G. Ives. In *Reference Electrodes*, D. J. G. Ives, and G. J. Janz. New York: Academic Press, 1961, 651 pp.
- Hinshelwood, C. 1956. *Proc. Roy. Soc. London B* 146: 155.
- Hirsch, J. E., B. A. Huberman, and D. J. Scalapino. "Theory of Intermittency". *Phys. Rev.* 25 (1982): 519.

- Hisada, M. Membrane resting and action potentials from a protozoan. *Noctiluca Scintillans*. *J. Cell. Comp. Physiol.* 1957, 50:57-71.
- Hoch, F. L., and Vallee, B. L. 1952. *J. Biol. Chem.* 195: 531.
- Hodgkin, A. L. *The Conduction of the Nervous Impulse*. Springfield, Ill.: Charles C. Thomas, 1964. 108 pp.
- Hodgkin, A. L. Evidence for electrical transmission in nerve, I and II. *J. Physiol.* 1937, 90:183-210, 211-232.
- Hodgkin, A. L. A note on conduction velocity. *J. Physiol.* 1954, 125:221-224.
- Hodgkin, A. L. The relation between conduction velocity and the electrical resistance outside a nerve fiber. *J. Physiol.* 1939, 94:560-570.
- Hodgkin, A. L. The subthreshold potentials in a crustacean nerve fibre. *J. Physiol.* 1939. 126:87-121.
- Hodgkin, A. L., and A. F. Huxley. Action potentials recorded from inside a nerve fiber. *Nature.* 1939, 144:710-711.
- Hodgkin, A. L., and A. F. Huxley. The components of membrane conductance in the giant axon of the Loligo. *J. Physiol.* 1952, 116:473-496.
- Hodgkin, A. L., and A. F. Huxley. Currents carried by sodium and potassium ions through the membrane of the giant axon of Loligo. *J. Physiol.* 1952, 116:449-472.
- Hodgkin, A. L., and A. F. Huxley. Movement of radioactive potassium and membrane current in a giant axon. *J. Physiol.* 1953, 121:403-414.
- Hoff, H. E., and L. A. Geddes. *Experimental Physiology*, 1st ed. Houston, Tex.: Baylor University College of Medicine. 1958. Library of Congress Card #58-2380.
- Hoff, H. E., L. A. Geddes, A. G. Moore, and J. Vasku. The thermode- an electrode for demonstrating the T-wave change due to delayed repolarization of the ventricle. *J. of Electrocardiology* 1970, 3:333-335.
- Hoffman, B. L., and E. E. Suckling. Cardiac cellular potentials: effect of vagal stimulation and acetylcholine. *Amer. J. Physiol.* 1953, 173:312-320.
- Hoffman, B. L., and P. F. Cranefield. *Electrophysiology of the Heart*. New York: McGraw-Hill, Book Company, The Blakiston Division, 1960, 323 pp.
- Hoffman, J. G. 1957. *The Life and Death of Cells*, Garden City, N. Y.: Doubleday.
- Hogness, D. S., 1959. In *Biophysical Science*, ed. J. L. Oncley, pp. 256-58. New York: Wiley.
- Hokin, L. E., and M. H. Hokin. The chemistry of cell membranes. *Sci. Amer.* 1965, 213:78-86.
- Holwell, M. E. J. 1966. *Phys. Rev.* 46: 696-785.
- Hook, E. B., and Tunis, J. J. 1965. *J. Am. M. A.* 193: 840.

- Hoshiko, T. Electrogenesis in frog skin. In *Biophysics of Physiological and Pharmacological Actions*. A. M. Shanes, Ed. *Amer. Assoc. Adv. Sci.* 1961, 29:31-47.
- Van Houten, Ron. *Learning Through Feedback*. Human Sciences Press, Inc., New York. 1980.
- Howard, J. E. et al. 1967. *Johns Hopkins Med. J.* 120: 119.
- Hume, Wilfrid I. *Biofeedback Vol. III*, Human Sciences Press, Inc., New York. 1981.
- Huxley, A. F., and Taylor, R. E. 1958. *J. Physiol.* 144: 426.
- Huxley, J. S. 1957. *Biological Aspects of Cancer*. London: Allen and Unwin.
- Isaacs, J. P. 1969. *Complementarity in Biology*. John Hopkins Press, Baltimore.
- Jahn, T. L. 1964. *Am. Zool.* 4: 264.
- Janz, G. J. Silver-silver halide electrodes. In *Reference Electrodes*, D. J. G. Ives and G. J. Janz. New York: Academic Press, 1961. 651 pp.
- Jehle, H., Jos, J. H., and Bade, W. L. 1959. *Proc. 1st Nat'l. Biophys. Conf.* New Haven: Yale University Press.
- Jensen, Roderick V. "Classical Chaos". *American Scientist*, March-April 1987.
- Johnson, F. H., Eyring, H., and Polissar, M. J. 1954. *The Kinetic Basis of Molecular Biology*. New York: Wiley.
- Jones, G., and G. M. Bollinger. The measurement of the conductance of electrolytes. VII. On platinization. *J. Amer. Chem. Soc.* 1935, 57:280-284.
- Jones, G., and G. M. Bollinger. The measurement of the conductance of electrolytes. *J. Amer. Chem. Soc.* 1931, 53:411-451.
- Jones, G., and S. M. Christian. The measurement of the conductance of electrolytes, VI. *J. Amer. Chem. Soc.* 1935, 57:272-280.
- Kado, R. T., W. R. Adey, and J. R. Zweizig. Electrode system for recording EEG from physically active subjects. *Proc. 17th Ann. Conf. Eng. Med. Biol.* 1964. Cleveland. p. 5 (129 pp).
- Kahn, A. Fundamentals of biopotentials and their measurement. *Biomedical Sciences Instrumentation*, 1964 (Dallas); *Amer. J. Pharm. Educ.* 1964, 28:805-814. U.S. Patent #3, 295, 515.
- Kahn, A. Motion artifacts and streaming potentials in relation to biological electrodes. *6th Int. Conf. Med. Elect. Biol. Eng.* 1965. Tokyo, Japan. Conference Digest Paper. pp. 562-563.
- Kandel, E. R., and Spencer, W. A. 1968. *Physiol. Revs.* 48: 65.
- Kennard, D. W. Glass Microcapillary Electrodes. In P. E. K. Donaldson, *Electronic Apparatus for Biological Research*. London: Butterworth's Scientific Publications, 1958, 718 pp. Chapter 35.
- Kennedy, Dr. F.—The Living Cell (Readings from *Sci. Am.*, (1965), W. H. Freeman, San Francisco, CA
- Khinchin, A. I. *Mathematical Foundations of Statistical Mechanics*. Translated from the Russian by G. Gamow.

New York: Dover, 1949.

King, T. P., Norman, P. S., and Connell, J. T. 1964. *Biochemistry* 3: 458.

Kirkwood, J. G., and B. Crawford. *J. Phys. Chem.*, 56, 1048 (1952).

Klotz, I. M., Ayers, J., Ho, J. Y. C., Horowitz, M. C., and Heiney, P. E. 1958. Kneale, Dennis. "Market Chaos: Scientists Seek Pattern in Stock Prices." *Wall Street Journal*, 17 Nov. 1987.

Kohlrausch, F., and L. Holborn. *Das Leitvermögen der Elektrolyte*. Leipzig: Verlag von B. G. Teubner, 1989. 211 pp.

Kolmogorov, A. N. "Preservation of Conditionally Periodic Movements with Small Change in the Hamiltonian Function". *Lecture Notes in Phys.* 93 (1979): 51.

Koshland, D. E., Jr. 1959. In *The Enzymes*, eds. P. D. Boyer, H. Lardy, K. Myrback, Vol. I, pp. 305-46. New York: Academic Press.

Lamanna, C., and Mallette, M. F. 1965. *Basic Bacteriology*. 3d. ed. Baltimore: Williams and Wilkins.

Lamanna, C. 1959. *Science* 130: 763.

Landsberg, P. T. *Thermodynamics*. New York: Interscience, 1961.

Lashley, K. S. 1929. *Brain Mechanisms and Intelligence*. Chicago: University of Chicago Press.

_____. 1931. *Science* 73: 245.

Leaf, A., and E. Dempsey. Some effects of mammalian neurohypophyseal hormones on metabolism and active transport of sodium by the isolated toad bladder. *J. Biol. Chem.* 1960, 235:2160-2163.

Lee, Royal, and William Hanson. *Protomorphology*. Lee Foundation for Nutritional Research, Milwaukee, Wisconsin, 1947.

Lévy-Leblond, Jean-Marc, and F. Balibar. *Quantics (Rud. of Quan. Phys.)* Elsevier Science Publishers B.V., Amsterdam. 1990.

Lewes, D. Multipoint electrocardiography without skin preparation. *Lancet*. 1965, 2:17-18; British patent application #52253/64.

Lindsay, R. B., and Margenau, H. 1957. *Foundations of Physics*. New York: Dover.

Linschitz, H. 1953. In *Information Theory in Biology*, ed. H. Quastler, pp. 251-62. Urbana: University of Illinois Press.

Long, Charles H. *Alpha: The Myths of Creation*. New York: George Braziller, 1983.

London, F. 1937. *Trans. Faraday Soc.* 33: 8.

_____. 1942. *J. Chem. Phys.* 46: 305.

Lopez, A., and P. Richardson. Capacitive electrocardiographic and bioelectric electrodes. *IEEE Trans. Bio-Med. Eng.* 1969, BME-16:99.

Lorente de Nò, R. *A Study of Nerve Physiology*. Part 2, Chapter 16. New York: Rockefeller Institute, 1947.

- Lorenz, Edward N. "Deterministic Nonperiodic Flow". *Jour. Atmospheric Sciences* 20 (1976): 69. "The Mathematics of Mayhem". *The Economist*, 8 Sept. 1984.
- Lucchina, G. G., and C. G. Phipps. A vectorcardiographic lead system and physiological electrode configuration for dynamic readout. *Aerosp. Med.* 1962, 33:722-729.
- Lumry, R. 1959. In *The Enzymes*, eds. P. D. Boyer, H. Lardy, K. Myrback. Vol. I, pp. 157-231. New York: Academic Press.
- Lwoff, A. 1966. *Science* 152: 1216.
- Lykken, D. T. Properties of electrodes used in electroderman measurements. *J. Comp. Psychol.* 1959, 52:629-634.
- MacInnes, D. A. *The Principles of Electrochemistry* New York: Reinhold Publishing Company, Dover Publications, 1961. 478 pp.
- Mackay, R. S. 1958. *Am. J. Phys.* 26: 60.
- _____, 1960. *IRE Trans. Med. Elect. ME-7: 94.*
- Marchant, E. W., and E. W. Jones. The effect of electrodes of different metals on the skin currents. *Brit. Heart J.* 1940, 2:97-100.
- Markoff, John. "In Computer Behavior, Elements of Chaos". *New York Times*, 11 Sept. 1988.
- Marowitz, H. J. 1960. In *Medical Physics*, ed. O. Glasser. Chicago: Year Book Publishers.
- Marples, M. J. Life on the human skin. *Sci. Amer.* 1969, 220:108-115.
- Marshak, A., and Marshak, C. 1954. *Nature* 174: 919.
- Martin, A. R. 1966. *Physiol. Rev.* 46: 51.
- Mason, R. E. and I. Likar. A new system of multiple lead electrocardiography. *Amer. Heart J.* 1966, 71:196-205.
- Mason, Stephen F. *Chemical Evolution*. Oxford Univ. Press, Oxford. 1991.
- Mascona, A. A. 1961. *Scient. Amer.* 205: 143.
- Maximow, A. A., and Bloom, W. 1930. *A Textbook of Histology*. Philadelphia: Saunders.
- Maxwell, J. G., *Phil. Mag.*, 19, 22 (1860).
- May, Robert M. "Simple Mathematical Models with Very Complicated Dynamics". *Nature* 261 (1976): 459.
- Mayer, E. 1961. *Science* 134: 150.
- Mayer, J. E., and M. G. Mayer. *Statistical Mechanics*. New York: Wiley, 1940.

- McCullouch, W. S., and Pitts, W. 1943. *Bull. Math. Biophys.* 5: 115.
- McIlwain, H. 1946. *Nature* 158: 988.
- Meixner, J. and H. G. Reik. "Thermodynamik der irreversiblen Prozesse", in *Handbuch der Physik*. Vol. III/2. Berlin: Springer, 1959.
- Merritt, E. Polarization capacity and polarization resistance as dependent upon frequency. *Amer. Phys. Soc.* 1921, 17:524-526.
- Metcalf, W. S., and Quickenden, T. I. 1967. *Nature*. 216: 169.
- Michelson, A. A., and Morley, E. W. 1887. *Am. J. Sc.* 34: 333.
- Migeon, B. R., and Whitehouse, D. 1967. *Johns Hopkins Med. J.* 120: 78.
- Miller, C. W. A direct measurement of polarization capacity and phase angle. *Phys. Rev.* 1923, 22:622-628.
- Mock, D. C., Jr. 1962. *Ann. N. Y. Acad. Sci.* 98: 1296.
- Monod, J., Jacob, F., and Gross, F. 1961. *Biochem. Soc. Symp.* 21: 104.
- Moore, J. W., and K. S. Cole. Voltage clamp techniques. In *Physical Techniques in Biological Research*, Vol. VI. W. L. Nastuk, Ed. New York: Academic Press, 1963. 425 pp.
- Morowitz, H. 1955. *Bull. Math. Biophys.* 17: 81.
- Moss, Trevor S. *Photoconductivity in the Elements*. Academic Press, Inc. Publishers, New York. 1952.
- Munster, A. *Statistische Thermodynamik*. Berlin: Springer, 1956.
- Munster, A. "Prinzipien der statistischen Mechanik", in *Handbuch der Physik*. Vol. III/2. Berlin: Springer, 1959.
- Murdock, C. C., and E. E. Zimmerman. Polarization impedance at low frequencies. *Physics*. 1936, 7:211-219.
- Murray, J. D. *Mathematical Biology*. Berlin Heidelberg. 1989.
- Nathansohn, A. 1900. *Jahr., Wiss. Bot.* 35: 1.
- Nernst, W. Die elektromotorische Wirksamkeit der Ionen. *Z. Physic. Chem.* 1889, 4:129-188.
- Neumann, J. V. 1956. In *The World of Mathematics*, ed. J. R. Newman, New York: Simon and Schuster.
- Von Neumann, J. *Proc. Nat. Acad. Sci. (U.S.A.)*, 18, 70, 263 (1932).
- Nishi, S., H. Soeda, and K. Koketsu. Studies on sympathetic B and C neurons and patterns of preganglionic innervation. *J. Cell. Comp. Physiol.* 1965, 66:19-32.
- O'Connell, D. N., B. Tursky, and M. T. Orne. Electrodes for recording skin potential. *Arch. Gen. Psychiatr.* 1960, 3:252-258.

- Offner, F. F. Electrical properties of tissues in shock therapy. *Proc. Soc. Exp. Biol. Med.* 1942, 49:571-575.
- Oikawa, T., T. Ogawa, and K. Motokawa. Origin of so-called cone action potential. *J. Neurophysiol* 1959, 22:102-111.
- Onsager, L. *Phys. Rev.*, 37.405 (1931); 38, 2265 (1931).
- Pattee, H. H. 1967. "Quantum Mechanics, Heredity, and the Origin of Life". Publication CTS-B-67-1. Coral Gables, Fla.: University of Miami Center for Theoretical Studies.
- Pauli, W. *Festschrift zum 60. Geburtstag A. Sommerfelds.* Leipzig: Hirzel, 1928, p. 30.
- Perry, S. V. 1956. *Physiol. Revs.* 36: 1.
- Planck, M. *Verh. Deutsch. Phys. Ges.*, 2, 237 (1900).
- Planck, M. *Ann. Phys.*, 66, 365 (1921).
- Planck, M. *Vorlesungen über die Theorie der Wärmestrahlung.* Leipzig: Barth, 1923.
- Plonsey, R. *Bioelectric Phenomena.* New York: MdcGraw Hill Book Company, 1969. 380 pp.
- Plutchik, R., and H. R. Hirsch. Skin impedance and phase angle as a function of frequency and current. *Science.* 1963, 141:927-928.
- Poincare, H. *Acta Math.*, 13, 67 (1890).
- Polanski, J. 1964. In *Electronic Aspects of Biochemistry*, ed. B. Pullman, pp. 481-502. New York: Academic Press.
- Polanyi, M. 1958 *Personal Knowledge.* Chicago: University of Chicago Press.
- Pollard, Ernest. 1963. *J. Theoret, Biol.* 4: 98-112.
- Porter, K. R., and Palade, G. E. 1957. *J. Biophys. Biochem. Cyto.* 3: 269.
- Prigogine, I. and J. M. Wiame. *Experientia*, 2, 451 (1946).
- Prigogine, I. *Étude thermodynamique des phénomènes irréversibles.* Thesis. Liege, Desoer, 1947.
- Prigogine, I. *Physica*, 15, 272 (1949).
- Prigogine, I. *Introduction to Thermodynamics of Irreversible Processes.* Springfield, Ill.: Thomas, 1955.
- Prior, J. A. and J. S. Silberstein. *Physical Diagnosis, 3rd. ed.* The C. V. Mosby Company, Saint Louis, 1969.
- Protti, G. 1934. *Radiobiologia.* 1: 49.
- Puck, T. T., and Marcus, P. I. 1957. *J. Exptl. Med.* 103: 653.
- Radenovitch, Ch., L. A. Tsaneva, and A. N. Sinyukhin. The varied nature of rhythmic fluctuations in the potential of the cytoplasm and the membrane of plant cells. *Biophysics* (a translation of *Biofizika*). 1968, 13:319-333.

- Rahn, O. 1933. *Invisible Radiations of Organisms, Protoplasma-- Monographien*, Vol. 9. Berlin: Verlag von Gebruder Borntraeger.
- _____. 1936. *Protoplasma-- Monographien* vol. 9. Berlin: Verlag von Gebruder Borntraeger.
- Rayns, D. G., Simpson, F. O., and Bertand, W. S. 1967. *Science* 156: 656.
- Rayport, M. Anatomical identification of somatic sensory cortical neurones responding with short latencies to specific afferent volleys. *Fed. Proc.* 1957, 16 (Part 1):104.
- Reckeweg, Dr. Hans-Heinrich. *Homotoxicology, Illness and healing by Antihomotoxic Therapy*. Menaco Publishing Company, Inc., New Mexico, 1980.
- Renshaw, B., A. Forbes, and B. R. Morison. Activity of isocortex and hippocampus: electrical studies with microelectrodes. *J. Neurophysiol.* 1940, 3:74-105.
- Reichenbach, H. 1944. *Philosophic Foundations of Quantum Mechanics*. Berkeley University of California Press.
- Revic, Emanuel. *Research in Physiopathology as Basis of Guided Chemotherapy*. Library of Congress, #60-53061, 1961.
- Rhosenfeld, L. *Lectures on Statistical Thermodynamics*. Copenhagen: Nordita, 1960.
- Richardson, George P. "The Feedback Concept in American Social Science with Implications for Systems Dynamics". *Int. System Dynamics Conf.*, July 1983.
- Rikmenspool, R. 1962. In *Spermatozoan Motility*, ed. W. Bishop, p. 31. Washington, D. C.: American Association for the Advancement of Science.
- Riley, V. 1966. *Science* 153: 1657.
- Robinson, R. A., and R. H. Stokes. In *Electrolyte Solutions*, 2nd ed. New York: Academic Press, 1959.
- Roman, J. Flight research program-III. High impedance electrode techniques. *Aerosp. Med.* 1966, 37:790-795.
- Rosenberg, M. D. 1962. *Proc. 1st Nat'l. Acad. Sci.* 48: 1342.
- Rosenberg, T. On accumulation and active transport in biological systems. *Acta Chem. Scand.* 1948, 2:14-33.
- Rothen, A. 1959. *Proc. 1st Nat'l. Biophys. Conf.* New Haven: Yale University Press.
- _____. 1948. *J. Am. Chem. Soc.* 70: 2732.
- _____. 1950. *Science* 112: 530.
- _____. 1962. *J. Coll. Sci.* 17: 124.
- Ruch, T. C., and H. D. Patton. *Physiology and Biophysics*. Philadelphia, Pa.: W. B. Saunders Company, 1965, 1242 pp.
- Ruderfer, M. 1949. *Science* 110: 245.

- Rushbrooke, G. S. *Introduction to Statistical Mechanics*. London: Oxford U.P., 1962.
- Sager, R.—Genes Outside the Chromosome, *Sci. Am.*, Vol. 212, No. 1, p. 70-79, Jan., 1965
- Salt, R. W., 1963. *Canadian J. Entomol.* 95: 1190.
- Sampton, J. R. Modelling and simulation using cellular automata. In *Proceedings of the AMSE International Summer Conference on Modelling and Simulation*, Minneapolis, 1984.
- Sano, T., M. Ono, and T. Shimamoto. Intrinsic deflections, local excitation and transmembrane action potentials. *Circ. Res.* 1956, 4:444-449.
- Schoenheimer, R. 1942. *The Dynamic State of Body Constituents*. Cambridge: Harvard University Press.
- Schrödinger, E. *What is Life?*, New York: Cambridge U.P., 1945.
- Schrödinger, E. *Statistical Thermodynamics*. New York: Cambridge U.P., 1952.
- Schwan, H. P. *Determination of biological impedances in Physical Techniques in Biological Research*, Vol. VIB., W. Nastuk, Ed. New York and London: Academic Press, 1963. 425 pp.
- Schwan, H. P. Electrode polarization impedance and measurements in biological materials. *Ann. N.Y. Acad. Sci.* 1968, 148:191-209.
- Schwan, H. P. Electrode polarization in AC steady state impedance of biological systems. *Dig. 6th Int. Conf. Med. Electron. Biol. Eng. (Tokyo)*. 1965, Paper 33-1.
- Screenivasan, K. R. and R. Ramshankar. "Transition Intermittency in Open Flows, and Intermittency Routes to Chaos". *Physica* 23D (1986): 246.
- Selbach, H. 1962. *Ann. N. Y. Acad. Sci.* 89: 1221.
- Selye, H., Priorischi, P., and Barath, M. 1961. *Oncologia*. 14: 65.
- Serra, J. A. 1964. *J. Theoret. Biol.* 6: 371.
- Setlow, R. B., and Pollard, E. C. 1962. *Molecular Biophysics*. Reading, Mass. Addison-Wesley.
- Sher, I. H., and Sobotka, H. 1955. *J. Coll. Sci.* 10: 125.
- Von Smoluchowski, M. *Ann. Phys.*, 25, 205 (1908).
- Sneddon, I. B., and R. M. L. Archibald. Traumatic calcinosis of the skin. *Brit. J. Dermatol.* 1958, 70:211-214.
- Sollberger, A. 1962. In "Rhythmic Functions in the Living System", ed. W. Wolf, *Ann. N.Y. Acad. Sci.* 98: 757.
- Sollner, K. The electrochemistry of porous membranes. *J. Macromol. Sci.-Chem.* 1969, A3(1):1-86.
- Sollner, K. Ion exchange membranes. *Ann. N.Y. Acad. Sci.* 1954, 57:177-203.
- Sonnenblick, E. H. 1962. *Federation Proceedings* 21: 975.

- Spector, W. S., ed., 1956. *Handbook of Biological Data*. Philadelphia: Saunders.
- Spiegler, K. S., and M. R. J. Wyllie. Electrical potential differences. In *Physical Techniques in Biological Research*. Vol. 2. G. Oster, and A. W. Pollister, Eds. New York: Academic Press, 1956. 502 pp.
- Stephens, S. S. 1961. *Science* 133: 80.
- Stetten, D., Jr. 1959. In *Biophysical Science*, ed. J. L. Oncley, p. 563. New York: Wiley.
- Taylor, R. M. Cable theory. In *Physical Techniques in Biological Research*, Vol. VIB., W. L. Nastuk, Ed., New York: Academic Press, 1963.
- Taubes, Gary. "Mathematics of Chaos". *Discover*, Sept. 1984.
- Thompson, D. W. 1942. *On Growth and Form*, Vol. 1. London: Cambridge University Press.
- _____. 1963. *On Growth and Form*. London: Cambridge U. Press.
- Tolman, R. C., and P.C. Fine. *Rev. Mod. Phys.*, 20, 51 (1948).
- Tolman, R. C. *The Principles of Statistical Mechanics*. London: Oxford U.P., 1950.
- Termodinamica dei Processi Irreversibili*. Rendiconti della Scuola Internazionale di Fisica Enrico Fermi, Corso X. Bologna: Nicola Zanichelli, 1960.
- Troitskii, N. A., Konev, S. V., and Katibnikov, M. A. 1961. *Biofizika* 6 (2): 80.
- Uhlenbeck, K. E. and G. W. Ford *Lectures in Statistical Mechanics*. Providence, R.I.: American Mathematical Society, 1963.
- Vogt, Douglas, and Gary Sultan. *Reality Revealed*. Vector Associates, California. 1977.
- Vold, M. 1954. *J. Coll. Sci.* 9: 451.
- Wald, G. 1965. *Science* 150: 1028.
- Walker, Grayson H., and Joseph Ford. "Amplitude Instability and Ergodic Behavior for Conservative Nonlinear Systems". *Phys. Rev.* 188 (1969):87.
- Warburg, E. ber das Verhalten sogenannter unpolarisirbarer Elektroden gegen Wechselstrom. *Ann. Phy. Chem.* 1899, 67:493-499.
- Warburg, O. 1956a. *Science* 123: 309.
- _____. 1956b. *Science* 124: 269.
- Watson, J. D.—Molecular Biology of the Gene (1965), W. A. Benjamin, New York, NY
- Weale, R. A. A new micro-electrode for electrophysiological work. *Nature*. 1951, 167:529-530.
- Weinberg, R., B. P. Zeigler and R. A. Laing. Computer simulation of a living cell: Metabolic control system experiments. *Journal of Cybernetics*, I. 34-48, 1971.

- Weiner, N. 1948. *Cybernetics*. New York: Wiley.
- Weiss, P. 1959. In *Biophysical Science*, ed. J. L. Oncley, New York: Wiley.
- Weisskopf, V. F. 1965. *Science* 149 (3681): 1181.
- _____. 1968. *Sc. American* 218 (5): 15-29.
- Weizsaker, C. F. v. 1955. *Naturwissenschaften* 42: 531.
- Whitehead, B. A. *A neural network model of human pattern recognition*. Technical Report 209, Logic of Computers Group, University of Michigan, 1978.
- Whittier, J. R., and F. A. Mettler. Studies on the subthalamus of the rhesus mokey. *J. Comp. Neurol.* 1949, 90:281-317.
- Wilder, J. 1962. In "Rhythmic Functions in the Living System", ed. W. Wolf, *Ann. V. Y. Acad. Sci.* 98 (art. 4): 1211.
- Wilkie, Dr. R. 1960. In *Progress in Biophysics and Biophysical Chemistry*, Vol. 10, eds. J. A. V. Butler and B. Katz, pp. 259-298. New York: Pergamon.
- Williams, R. J., Pelton, R. B., and Siegel, F. L. 1962. *Proc. Nat. Acad. Sci.* 48: 1461.
- Williams, R. J. 1963. *Biochemical Individuality*. New York: Wiley.
- Williams, W. S. C. *Nuclear and Particle Physics*. Oxford University Press, Oxford. 1991.
- Wilson, A. H. *Thermodynamics and Statistical Mechanics*. New York: Cambridge U.P., 1960.
- Wilson, F. N., A. G. Macleod, and P. S. Barker. The distribution of currents of action and of injury displayed by heart muscle and other excitable tissues. Ann Arbor, Mich.: University of Michigan Press, 1933. 59 pp.

Wittie, L. D. Large-scale simulation of brain cortices. *Simulation*, 31, 73-78, 1978a.

Wolff, I. A study of polarization capacity over a wide frequency band. *Phys. Rev.* 1926, 27:755-763.

Wood, S., Jr. 1958. *Arch. Path.* 40: 92.

_____. 1964. *Bull. Sw. Acad. Med. Sci.* 20: 92.

Woodbury, L. A., J. W. Woodbury, and H. Hecht. Membrane resting and action potentials of single cardiac muscle fibers. *Circulation*, 1950, 1:264-266.

Yourgrau, W., Alwyn van der Merwe, and Gough Raw. *Treatise on Irreversible and Statistical Thermophysics*.
The Macmillan Company, New York. 1966.

Zervas, N. T. Eccentric radio-frequency lesions. *Confin. Neurol.* 1965, 26:143-145.

Zimmerman, E. E. The influence of temperature on polarization capacity and resistance. *Phys. Rev.*