

## References

- Abrams, M.E., ed. (1970), *Medical Computing*. Proceedings of a conference held at the University of Birmingham, U.K., January, 1969. American Elsevier Publishing Company, Inc., N.Y. (1970).
- Alderman, E.L., Sandler, H., Brooker, J.Z., Sanders, W.J., Simpson, C.J., and Harrison, D.C. (1973), "Light-pen computer processing of video-image for the determination of left ventricular volume." *Circulation* **47**, 309-316 (1973).
- Almqvist, D.D. (1972), "The computer never forgets." *Hospitals, J.A.H.A.* **46**, 150-156 (1972).
- Alper, P.R. (1974), "The only way to make peer review work." *Medical Economics*, 187-192 (March 4 1974).
- Amarel, S., and Kulikowski, C. (1972), "Medical decision making and computer modeling." Proceedings of the Fifth Hawaii International Conference on Systems Sciences, Supplement on Computers in Biomedicine, 173 (1972).
- American Medical News* (1970), "Computer monitor saves lives." (March 20 1970).
- Bachman, B.J., Adelberg, E.A., and Bakeman, R. (1973), "SAM: the 'search and match' computer program of the E.Coli genetic stock center." *Bio-science* **23**, 35-36 (1973).
- Bahr, Gunter F., *et al.* (1973), "Evaluation of the Papanicolaou stain for computer assisted cellular pattern recognition." *Acta Cytologica* **17**, 106-112 (1973).
- Balzer, R.M. (1972), "Automatic Programming." Information Sciences Institute Technical Memo, University of Southern California (September 1972).
- Barker, S.F. (1957), *Induction and Hypothesis: A Study of the Logic of Confirmation*. Cornell Univ. Press, Ithaca, New York (1957).
- Barnett, G.O. (1968), "Computers and patient care." *New Eng. J. Med.* **279**, 1321-1327 (1968).

## MYCIN

- Barnett, G.O., and Greenes, R.A. (1969), "Hospital information systems: interface problem." *Anns. N.Y. Acad. Sci.* **161**, 756-768 (1969).
- Batelle Columbus Laboratories (1973). "Interim report: Evaluation of the implementation of a medical information system in a general community hospital (El Camino Hospital)." Columbus, Ohio (1973).
- Bauman, R.A., Pendergrass, R.A., Greenes, R.A., and Kalayan, R. (1972), "Further development of an on-line computer system for radiology reporting." *Proc. Conf. on Computer Applications in Radiology*, 409-422 (1972).
- Beckett, R.S. (1972), "Physician, computer, patient—in which order?" *Hartford Hospital Bulletin*, **27**, 136-142 (1972).
- Berlekamp, E. (1963), "Program for double-dummy bridge problems, a strategy for mechanical game playing." *J. ACM* **10**, 357-364 (1963).
- Bjorn, J.C., and Cross, H.D. (1970), *Problem-Oriented Practice*. Modern Hospital Press. Chicago, Ill. (1970).
- Bleich, H.L. (1969), "Computer evaluation of acid-base disorders." *J. Clin. Invest.* **48**, 1689-1696 (1969).
- Bleich, H.L. (1971), "The computer as a consultant." *New Eng. J. Med.* **284**, 141-147 (1971).
- Bleich, H.L. (1972), "Computer-based consultation—electrolyte and acid-base disorders." *Amer. J. Med.* **53**, 285-291 (1972).
- Bobrow, D.G., and Raphael, B. (1973), "New programming languages for artificial intelligence research." Stanford Research Institute Technical Report #82, Menlo Park, California (August 1973).
- Bolinger, R.E., Price, S., Kyner, J.L. (1973), "Experience with automation as an aid in the management of diabetes." *Diabetes* **22**, 480-484 (1973).
- Brodman, K. and Van Woerkom, A.J. (1966), "Computer-aided diagnostic screening for 100 common diseases." *J. Amer. Med. Ass.* **197**, 901-905 (1966).
- Brook, R.H., and Appel, B.A. (1973), "Quality-of-care assessment: choosing a method for peer review." *New Eng. J. Med.* **288**, 1323-1329 (1973).
- Bross, I.D.J., Priore, R.L., Shapiro, P.A., Stermole, D.F., and Anderson, B.B. (1969), "Feasibility of automated information systems in the user's natural language." *American Scientist* **57**, 193-205 (1969).
- Brunjes, S. (1971), "An anamnestic matrix toward a medical language." *Comput. Biomed. Res.* **4**, 571-584 (1971).
- Buchanan, B.G., Sutherland, G.L., and Feigenbaum, E.A. (1969), "Heuristic DENDRAL: a program for generating explanatory hypotheses in organic chemistry." *In Machine Intelligence 4* (B. Meltzer and D. Michie, eds.), Edinburgh University Press (1969).
- Buchanan, B.G., Sutherland, G.L., and Feigenbaum, E.A. (1970), "Rediscovering some problems of artificial intelligence in the context of organic

## References

- chemistry." *In Machine Intelligence 5* (B. Meltzer and D. Michie, eds.), Edinburgh University Press (1970).
- Buchanan, B.G., Feigenbaum, E.A., and Lederberg, J. (1971), "A heuristic programming study of theory formation in science." *Proc. 2nd International Joint Conference on AI*, Imperial College, London (1971).
- Buchanan, B.G., Feigenbaum, E.A., and Sridharan, N.S. (1972), "Heuristic theory formation: data interpretation and rule formation." *In Machine Intelligence 7* (B. Meltzer and D. Michie, eds.), Edinburgh University Press (1972).
- Buchanan, B.G. and Sridharan, N.S. (1973), "Analysis of behavior of chemical molecules: rule formation on non-homogeneous classes of objects." AI Memo 215, Stanford Artificial Intelligence Laboratory, Stanford University, Stanford, Calif. (1973).
- Buckley, J.D., Glenhill, V.X., Mathews, J.D., and Mackay, I.R. (1973), "A computer-based medical record system." *Meth. Inform. Med.* 12, 137-142 (1973).
- Button, K.F. and Gambino, S.R. (1973), "Laboratory diagnosis by computer." *Comput. Biol. Med.* 3, 131-136 (1973).
- Caceres, C.A. et al. (1964), "Computer aids in electrocardiography." *Ann. N.Y. Acad. Sci.* 118, 85-102 (1964).
- Card, W.I. (1970a), "The diagnostic process." *In Medical Computing* (M.E. Abrams, ed.), American Elsevier Publishing Company, Inc., N.Y. (1970).
- Card, W.I. and Good, I.J. (1970b), "The estimation of the implicit utilities of medical consultants." *Mathematical Biosciences* 6, 45-54 (1970).
- Carden, T.S. (1974), "The antibiotic problem" (editorial). *The New Physician*, 19 (April 1974).
- Carnap, R. (1950), "The two concepts of probability." *In Logical Foundations of Probability*. 19-51. University of Chicago Press, Chicago, Ill. (1950).
- Carnap, R. (1962), "The aim of inductive logic." *In Logic, Methodology, and Philosophy of Science* (E. Nagel, P. Suppes, and A. Tarski, eds.). 303-318. Stanford University Press, Stanford, Calif. (1962).
- Chang, C.L., and Lee, R.C. (1973), *Symbolic Logic and Mechanical Theorem Proving*. Academic Press, N.Y. (1973).
- Cohen, S.N., Armstrong, M.F., Crouse, L., and Hunn, G. (1972), "A computer-based system for prospective detection and prevention of drug interactions." *Drug Information Journal* 72, 81-86 (1972).
- Cohen, S.N. et al. (1974), "Computer-based monitoring and reporting of drug interactions." *Proc. MEDINFO IFIP Conference*, Stockholm, Sweden (August 1974).
- Colby, K.M., Tesler, L., and Enea, H. (1969), "Experiments with a search algorithm on the data base of a human belief structure." AI Memo 94,

## MYCIN

- Stanford Artificial Intelligence Project, Stanford University, Stanford, Calif. (1969).
- Colby, K.M., Weber, S., and Hilf, F. (1971), "Artificial paranoia." *Artificial Intelligence* 2, 1-25 (1971).
- Colby, K.M., Hilf, F.D., Weber, S., and Kraemer, H.C. (1972), "Turing-like indistinguishability tests for the validation of a computer simulation of paranoid processes." *Artificial Intelligence* 3, 199-221 (1972).
- Colby, K.M., Parkinson, R.C., and Faught, B. (1974), "Pattern-matching rules for the recognition of natural language dialogue expressions." *AI Memo 234*, Stanford Artificial Intelligence Project, Stanford University, Stanford, Calif. (1974).
- Coles, L.S. (1974), "Categorical bibliography of literature in the field of robotics." Tech Report #88, Stanford Research Institute, AI Center, Menlo Park, Calif. (1974).
- Collen, M.F. *et al.* (1964), "Automated multiphasic screening and diagnosis." *Amer. J. Pub. Health* 54, 741-750 (1964).
- Collen, M.F., Rubin, L. and Davis, L. (1965), "Computers in multiphasic screening." In *Computers In Biomedical Research* (R.W. Stacy and B.D. Waxman, eds.), Chapt. 14, Vol. 2, Academic Press, N.Y. (1965).
- Collen, M.F. (1966), "Periodic health examination using an automated multitest laboratory." *J. Amer. Med. Ass.* 195, 830-833 (1966).
- Collen, M.F. (1969), "Cost analysis of a multi-phasic screening program." *New Eng. J. Med.* 280, 1043-1045 (1969).
- Collen, M.F., Davis, L.S., and van Brundt, E.E. (1971), "The computer medical record in health screening." *Meth. Inform. Med.* 10, 138-142 (1971).
- Collins, M.C. and Ballard, J.O. (1973), "Capturing the physician's thought processes—the problem oriented medical record." *The New Physician*, 626-630 (October 1973).
- Computers and Medicine* (1973a), *The EMI Scanner*, Vol. II, No. 5 (September/October 1973).
- Computers and Medicine* (1973b), *MIS-1 After A Full Year's Operation: Pros and Cons*, Vol. II, No. 6 (November/December 1973).
- Computerworld* (1973), "MD's at odds over hospital MIS." (June 6 1973).
- Cox, J.R., Gallagher, T.L., Holmes, W.F., and Powers, W.E. (1967), "Programmed console: an aid to radiation treatment planning." *Proc. 8th IBM Medical Symposium*, 179-186 (1967).
- Cox, J. *et al.* (1972), "Digital analysis of the electroencephalogram, the blood pressure wave, and the electrocardiogram." *Proc. of the IEEE*, Vol. 60, #10, 1137 (1972).
- Croft, D. James (1972), "Is computerized diagnosis possible?" *Comput. Biomed. Res.* 5, 351-367 (1972).
- Davis, L.S., Collen, M.F., Rubin, L. and van Brundt, E.E. (1968), "Computer-stored medical record." *Comput. Biomed. Res.* 1, 452-469 (1968).

## References

- Davis, R. (1976), Ph.D. Dissertation, Computer Science Department, Stanford University, Stanford, Calif. (in preparation).
- de Finetti, B. (1972), *Probability, Induction, and Statistics—the Art of Guessing*. John Wiley & Sons, N.Y. (1972).
- Dreyfus, H.L. (1972), *What Computers Can't Do*. Harper and Row, N.Y. (1972).
- Duda, R. and Hart, P. (1973), *Pattern Classification and Scene Analysis*. John Wiley & Sons, N.Y. (1973).
- Edwards, L.D., Levin, S., and Lepper, M.H. (1972), "A comprehensive surveillance system of infections and antimicrobials used at Presbyterian-St. Luke's Hospital—Chicago." *Amer. J. Pub. Health* **62**, 1053–1055 (1972).
- Edwards, W. (1972), "N=1: diagnosis in unique cases." In *Computer Diagnosis and Diagnostic Methods* (J.A. Jacquez, ed.), 139–151, Charles C. Thomas, Springfield, Ill. (1972).
- Eisenberg, L. (1974), "Don't lean on the computer." *Physician's World* (April 1974).
- Esley, C.E. (1972), "Medical records." *Hospitals, J.A.H.A.* **46**, 135–140 (1972).
- Evans, S.J., and Howe, D.J. (1971), "A computerized unit dose pharmacy system." *Amer. J. Hosp. Pharm.* **28**, 500–506 (1971).
- Feigenbaum, E.A. and Feldman, J., eds. (1963), *Computers And Thought*. McGraw-Hill Book Company, Inc., San Francisco, Calif. (1963).
- Feigenbaum, E.A. (1968), "Artificial intelligence: themes in the second decade." *Proc. IFIP Congress*, Vol. II, 1000–1008, Spartan Books, Washington, D.C. (1968).
- Fein, R. (1967), *The Doctor Shortage: An Economic Diagnosis*. The Brookings Institution, Washington, D.C. (1967).
- Feinstein, A.R. (1967), *Clinical Judgment*. Williams & Wilkins, Co., Baltimore, Md. (1967).
- Feinstein, A.R. (1970), "Quality of data in the medical record." *Comput. Biomed. Res.* **3**, 426–435 (1970).
- Feinstein, A.R., and Koss, N. (1971), "Computer-aided prognosis: organization and coding of data." *Arch. Intern. Med.* **127**, 438–447 (1971).
- Feinstein, A.R., Rubinstein, J.F., and Ramshaw, M.A. (1972), "Estimating prognosis with the aid of a conversational mode computer program." *Anns. Int. Med.* **76**, 911–921 (1972).
- Feinstein, A.R. (1973), "The problems of the 'problem-oriented' medical record." *Anns. Int. Med.* **78**, 751–762 (1973).
- Feldman, J.A. et al. (1971), "The use of vision and manipulation to solve the instant insanity problem." *Proc. 2nd International Joint Conf. On AI*, London (1971).
- Feldman, J.A. et al. (1972), "Recent developments in SAIL—an ALGOL-based language for artificial intelligence." *Proc. Fall Joint Computer Conf.*, Anaheim, Calif. (December 1972).

## MYCIN

- Feldman, J.A. (1974), Talk at Stanford University (April 30 1974).
- Felsenthal, P. (1973), "Computers in monitoring practice." *Clin. Anesth.* **9**, 99-106 (1973).
- Fessel, W.J. and van Brundt, E.E. (1972), "Assessing quality of care from the medical record." *New Eng. J. Med.* **286**, 134-138 (1972).
- Fikes, R.E. and Nilsson, N.J. (1971), "STRIPS: a new approach to the application of theorem proving to problem solving." *Artificial Intelligence* **2**, 189-208 (1971).
- Fikes, R.E., Hart, P.E., and Nilsson, N.J. (1972), "Some new directions in robot problem solving." In *Machine Intelligence 7* (B. Meltzer and D. Michie, eds.), Edinburgh University Press (1972).
- Finland, M. (1970), "Changing ecology of bacterial infections as related to antibacterial therapy." *J. Infect. Dis.* **122**, 419-431 (1970).
- Fletcher, R.H. (1974), "Auditing problem-oriented records and traditional records." *New Eng. J. Med.* **290**, 829-832 (1974).
- Fox, A.J. (1970), "A survey of question-answering systems." In *Medical Computing* (M.E. Abrams, ed.), American Elsevier Publishing Co. Inc., N.Y. (1970).
- Friedman, G.D., Collen, M.F., Harris, L.E., van Brundt, E.E., and Davis, L.S. (1971), "Experience in monitoring drug reactions in outpatients: the Kaiser-Permanente Drug Reaction Monitoring System." *J. Amer. Med. Ass.* **217**, 567-572 (1971).
- Friedman, R.B. (1973), "A computer program for simulating the patient-physician encounter." *J. Med. Educ.* **48**, 92-97 (1973).
- Fries, J. (1972), "Time-oriented patient records and a computer databank." *J. Amer. Med. Ass.* **222**, 1536-1542 (1972).
- Gill, P.W., Leaper, D.J., Guillou, P.J., Staniland, J.R., Horrocks, J.C., and de Dombal, F.T. (1973), "Observer variation in clinical diagnosis—a computer-aided assessment of its magnitude and importance in 552 patients with abdominal pain." *Meth. Inform. Med.* **12**, 108-113 (1973).
- Gini, G. and Gini, M. (1973), "Artificial intelligence: impact on computer-assisted medical diagnosis." Memo MP-AIM-19, Progetto Di Intelligenza Artificiale Del Politecnico Di Milano, MP-AI Project, Laboratorio di Calcolatori, Milan, Italy (1973).
- Ginsberg, A.S. and Offensend, F.L. (1968), "An application of decision theory to a medical diagnosis-treatment problem." *IEEE Trans. Systems Sci. Cybernetics SSC-4 #3*, 355 (September 1968).
- Ginsberg, A.S. (1970), "Decision Analysis In Clinical Patient Management With An Application To The Pleural Effusion Problem." Ph.D. Dissertation, Stanford University. [Also, Rand Corporation, Santa Monica] (1970).
- Gledhill, V.X., Mathews, J.D., and Mackay, I.R. (1972), "Computer-aided diagnosis: a study of bronchitis." *Meth. Inform. Med.* **11**, 228-233 (1972).

## References

- Gleser, M.A., and Collen, M.F. (1972), "Towards automated medical decisions." *Comput. Biomed. Res.* 5, 180-189 (1972).
- Goguen, J.A. (1968), "The logic of inexact concepts." *Synthese* 19, 325-373 (1968-1969).
- Goldfinger, S.E. (1973), "Problem oriented records: a critique from a believer." *New Eng. J. Med.* 288, 606-608 (1973).
- Good, I.J. (1970), "Some statistical models in machine intelligence research." *Mathematical Biosciences* 6, 185-208 (1970).
- Gorry, G.A. and Barnett, G.O. (1968a), "Experience with a model of sequential diagnosis." *Comput. Biomed. Res.* 1, 490-507 (1968).
- Gorry, G.A. (1968b), "Strategies for computer-aided diagnosis." *Mathematical Biosciences* 2, 293 (1968).
- Gorry, G.A. (1970), "Modeling the diagnostic process." *J. Med. Educ.* 45, 293-302 (1970).
- Gorry, G.A. (1973a), "Computer-assisted clinical decision making." *Meth. Inform. Med.* 12, 45-51 (1973).
- Gorry, G.A., Kassirer, J.P., Essig, A., and Schwartz, W.B. (1973b), "Decision analysis as the basis for computer-aided management of acute renal failure." *Amer. J. Med.* 55, 473-484 (1973).
- Gottesman, D.M. (1972), "Peer review: what are we afraid of?" *The New Physician*, 611-613 (October 1972).
- Grayson, C.J. (1960), *Decision Under Uncertainty: Drilling Decisions By Oil And Gas Operators*. Harvard University Press, Cambridge, Mass. (1960).
- Green, B.F., Wolf, A.K., Chomsky, C., and Laughery, K. (1961), "BASEBALL: an automatic question-answerer." In *Computers and Thought* (E.A. Feigenbaum and J. Feldman, eds.), 207-216, McGraw-Hill Book Company, Inc. San Francisco, Calif. (1963).
- Green, C.C. (1969), "The Application of Theorem Proving to Question-Answering Systems." Ph.D. Thesis, Tech Report CS 138, Computer Science Department, Stanford University, Stanford, Calif. (June 1969).
- Greenblatt, R. *et al.* (1967), "The Greenblatt chess program." *Proc. AFIPS Fall Joint Computer Conf.*, 801-810 (1967).
- Greenes, R.A. *et al.* (1969), "Design and implementation of a clinical data management system." *Comput. Biomed. Res.* 2, 469-485 (1969).
- Greenes, R.A., Barnett, G.O., Klein, S.W., Robbins, A., and Prior, R.E. (1970a), "Recording, retrieval, and review of medical data by physician computer interaction." *New Eng. J. Med.* 282, 307-315 (1970).
- Greenes, R.A. (1970b), "Medical information systems: a look ahead." In *Computer Applications In Radiology, the proceedings of a conference held at the University of Missouri, Columbia Medical Center* (September 1970).
- Grossman, J.H., Barnett, G.O., Swedlow, D., and McGuire, M. "The collection of

## MYCIN

- medical history data using a real-time computer system." *Proc. of the Annual Conf. on Engineering and Biology* 10, 39.3 (November 1968).
- Grossman, J.H., Barnett, G.O., McGuire, M., Greenes, R.A., and Swedlow, D.B. (1969), "Evaluation of computer acquisition of patient medical histories" (abstract). *Amer. Fed. for Clin. Res.* 17, 410 (1969).
- Grossman, J.H., Barnett, G.O., McGuire, M., and Swedlow, D.B. (1971), "Evaluation of computer-acquired patient histories." *J. Amer. Med. Ass.* 215, 1286-1291 (1971).
- Grossman, J.H., Barnett, G.O., Koepsell, J.D., Nesson, H.R., Dorsey, J.L., and Phillips, R.R. (1973), "An automated medical record system." *J. Amer. Med. Ass.* 224, 1616-1621 (1973).
- Groves, D.J., Maroglio, L., Merriam, C.W., and Young, F.E. (1974), "Epidemiology of antibiotic and heavy metal resistance in bacteria: a computer-based data system." *Computer Programs in Biomed.* 3, 123-134 (1974).
- Hagamen, W.D., Linden, D., Leppo, M., Bell, W. and Weber, J.C. (1973), "ATS in exposition." *Computer. Biol. Med.* 3, 205, 226 (1973).
- Hall, G.E. (1972), "Malpractice by physicians in the use of, or failure to use, computers." *The New Physician*, 247-248 (April 1972).
- Hall, P., Mellner, C., and Danielson, T. (1967), "J5-A data processing system for medical information." *Meth. Inform. Med.* 6, 1-6 (1967).
- Hamilton, W.F., and Raymond, S. (1973a), "ECLIPS: an extended clinical laboratory information processing system." *Comput. Biol. Med.* 3, 3-12 (1973).
- Hamilton, W.F., and Raymond, S. (1973b), "A system of computer-generated reports for clinical use." *Comput. Biol. Med.* 3, 141-151 (1973).
- Harless, W.G., Drennon, G.G., Marxer, J.J., Root, J.A., Wilson, L.L., and Miller, G.E. (1973a), "CASE—a natural language computer model." *Comput. Biol. Med.* 3, 227-246 (1973).
- Harless, W.G., Drennon, G.G., Marxer, J.J., Root, J.A., Wilson, L.L., and Miller, G.E. (1973b), "GENESYS—a generating system for the CASE natural language model." *Comput. Biol. Med.* 3, 247-268 (1973b).
- Harré, R. (1970), "Probability and Confirmation." *In The Principles Of Scientific Thinking*, 157-177, University of Chicago Press, Chicago, Ill. (1970).
- Harrison, D.C., Ridges, J.D., Sanders, W.J., Alderman, E.L., and Fantoll, J.A. (1971), "Real-time analysis of cardiac catheterization data using a computer system." *Circulation* 44, 709-718 (1971).
- Hart, P.E. *et al.* (1972), "Artificial Intelligence—Research and Applications." Annual Tech Report To ARPA, AI Center, Stanford Research Institute, Menlo Park, Calif. (1972).
- Helmer, O., and Rescher, N. (1960), "On The Epistemology Of The Inexact



## References

- Sciences." Project Rand R-353, Rand Corporation, Santa Monica, Calif. (February 1960).
- Hempel, C.G. (1945), "Studies in the logic of confirmation." *In Aspects of Scientific Explanation and Other Essays in the Philosophy of Science*, 3-51, The Free Press, N.Y. (1965).
- Henry, W.L., Crouse, L., Stinson, R., and Harrison, D.C. (1968), "Computer analysis of cardiac catheterization data." *Amer. J. Cardiol.* 22, 696-705 (1968).
- Hewitt, C. (1969), "PLANNER: a language for proving theorems in robots." *Proc. of the 1st Internat. Joint Conf. on AI*, Washington, D.C. (1969).
- Hewitt, C. (1971), "Procedural embedding of knowledge in PLANNER." *Proc. of the 2nd Internat. Joint Conf. on AI*, London (1971).
- Hewitt, C. (1972), "Description And Theoretical Analysis (Using Schemata) Of PLANNER: A Language For Proving Theorems And Manipulating Models In A Robot." Ph.D. Thesis, Department of Mathematics, M.I.T., Cambridge, Mass. (1972).
- Hilf, F.D., Colby, K.M., Smith, D.C., Wittner, W.K., and Hall, W.A. (1971), "Machine-mediated interviewing." *J. of Nerv. and Mental Disease* 152, 278-288 (1971).
- Hoffer, E.P. (1973), "Experience with the use of computer simulation models in medical education." *Comput. Biol. Med.* 3, 269-279 (1973).
- Hofmann, P.B. and Barnett, G.O. (1968), "Time-sharing increases benefits of computer use." *Hospitals* 42, 62-67 (1968).
- Hofmann, P.B., Grossman, J.H., Thoren, B.J., and Barnett, G.O. (1969), "Automated patient census operation: design, development, evaluation." *Hospital Topics* 47, 39-41 (1969).
- Hofmann, P.B. (1971), "Meeting resistance to hospital automation." *Hospital Progress* (April 1971).
- Hulbert, J. (1973), "Computer analysis of antimicrobial sensitivity test results." *Scot. Med. J.* 18, 59-62 (1973).
- Hurst, J.W. (1971a), "Ten reasons why Lawrence Weed is right." *New Eng. J. Med.* 284, 51-52 (1971).
- Hurst, J.W. (1971b), "How to implement the Weed system." *Arch. Int. Med.* 128, 456-462 (1971).
- Hurst, J.W., and Walker, H.K., eds. (1972), *The Problem-Oriented System*. Medcom Learning Systems, N.Y. (1972).
- Hurst, J.W., Walker, H.K., and Hall, W.D. (1973), "More reasons why Weed is right." *New Eng. J. Med.* 288, 629-630 (1973).
- Isner, D.W. (1972), "An inferential processor for interacting with biomedical data using restricted natural language." *Proc. of Spring Joint Computer Conf.*, 1107-1124, Atlantic City, N.J. (May 1972).

## MYCIN

- Jacquez, J.A., ed. (1972), "Computer Diagnosis and Diagnostic Methods." *Proc. of the Second Conf. on the Diagnostic Process held at the Univ. of Michigan*. Charles C. Thomas, Springfield, Ill. (1972).
- Jelliffe, R.W., Buell, J., and Kalaba, R. (1972), "Reduction of digitalis toxicity by computer-assisted glycoside dosage regimens." *Anns. Int. Med.* 77, 891-906 (1972).
- Jelliffe, R.W. (1973), "Quantitative aspects of clinical judgment" (editorial). *Amer. J. Med.* 55, 431-433 (1973).
- Kamp, M. and Starkweather, J.A. (1973), "A return to a dedicated machine for computer-assisted instruction." *Comput. Biol. Med.* 3, 292-298 (1973).
- Karpinski, R.H.S. and Bleich, H.L. (1971), "MISAR: a miniature information storage and retrieval system." *Comput. Biomed. Res.* 4, 655-660 (1971).
- Katona, P.B., Pappalardo, A.N., Marble, C.W., Barnett, G.O., and Pashby, M.M. (1969), "Automated chemistry laboratory: application of a novel time-sharing system." *Proc. IEEE*, 57, 2000-2006 (November 1969).
- Kellaway, P. and Petersen, I. (1973), *Automation Of Clinical Electroencephalography*. Raven Press, N.Y. (1973).
- Keynes, J.M. (1921), *A Treatise On Probability*. Harper and Row, Publishers, N.Y. (1962).
- Kiely, J.M., Juergens, J.L., Hisey, B.L., and Williams, P.E. (1968), "A computer-based medical record." *J. Amer. Med. Ass.* 205, 571-576 (1968).
- Klarman, H.E. (1965), *The Economics Of Health*. Columbia University Press, New York (1965).
- Knill-Jones, R.P., Stern, R.B., Grimes, D.H., Maxwell, J.D., Thompson, R.P.H., and Williams, R. (1973), "Use of a sequential Bayesian model in diagnosis of jaundice by computer." *Brit. Med. J.* 1, 530-533 (1973).
- Korein, J., Bender, A.L., Rothenberg, D., and Tick, L.J. (1963), "Computer processing of medical data by variable field-length format." *J. Amer. Med. Ass.* 186, 132-138 (1963).
- Koss, N. and Feinstein, A.R. (1971), "Computer-aided prognosis: development of a prognostic algorithm." *Arch. Intern. Med.* 127, 448-459 (1971).
- Kovnat, P., Labovitz, E., and Levison, S.P. (1973), "Antibiotics and the kidney." *Medical Clinics of North America* 57, 1045-1063 (1973).
- Kulikowski, C.A. (1970), "Pattern recognition approach to medical diagnosis." *Proc. of the IEEE-SSCG Conf., IEEE Trans of SSCG SSC-6*, 173-178 (1970).
- Kulikowski, C.A. and Weiss, S. (1971), "Computer-based models for glaucoma." *Tech Report TR-3, Computers in Biomedicine*, Rutgers University (December 1971).
- Kulikowski, C.A. and Weiss, S. (1972a), "The medical consultant program-glaucoma." *Tech. Report #TR-5, Computers in Biomedicine*, Rutgers University (June 1972).

## References

- Kulikowski, C.A. and Weiss, S. (1972b), "An interactive facility for the generation and editing of an inferential network model." Tech. Report #TR-10, *Computers in Biomedicine*, Rutgers University (September 1972).
- Kulikowski, C.A. (1972c), "Strategies for test selection in causal network models." Tech. Report #TR-11, *Computers in Biomedicine*, Rutgers University (October 1972).
- Kulikowski, C.A., Weiss, S., and Safir, A. (1973), "Glaucoma diagnosis and therapy by computer." *Proc. of Annual Meeting of Assn. for Research in Vision and Ophthalmology* (May 1973).
- Kulikowski, C.A. (1974), "A system for computer-based medical consultations." Presented at 1974 National Computer Conference, Chicago, Ill. (May 1974).
- Kunin, C.M., Tupasi, T., and Craig, W.A. (1973), "Use of antibiotics: a brief exposition of the problem and some tentative solutions." *Ann. Int. Med.* 79, 555-560 (1973).
- Leaper, D.J., Horrocks, J.C., Stanilard, J.R., and deDombal, F.T. (1972), "Computer-assisted diagnosis of abdominal pain using 'estimates' provided by clinicians." *Brit. Med. J.* 3, 350-354 (1972).
- Ledley, R.S. (1973), "Syntax-directed concept analysis in the reasoning foundations of medical diagnosis." *Comput. Biol. Med.* 3, 89-99 (1973).
- Levy, R.P., Cammarn, M.R., and Smith, M.J. (1964), "Computer handling of ambulatory clinic records." *J. Amer. Med. Ass.* 190, 1033-1037 (1964).
- Lindberg, D.A.B. (1968), *The Computer and Medical Care*. Charles C. Thomas, Springfield, Ill. (1968).
- Lindsay, P.H., and Norman, D.A. (1972), *Human Information Processing: An Introduction To Psychology*. Academic Press, N.Y. (1972).
- Luce, R.D. and Suppes, P. (1965), "Preference, utility, and subjective probability." In *Handbook Of Mathematical Psychology* (R.D. Luce, R.R. Bush, and E. Galanter, eds.), 249-410, John Wiley & Sons, N.Y. (1965).
- Lusted, L.B. (1968), *Introduction To Medical Decision Making*. Charles C. Thomas, Springfield, Ill. (1968).
- McCarthy, J. (1960), "Recursive functions of symbolic expressions and their computation by machine-I." *Commun. ACM* 3, 184-195 (1960).
- McCarthy, J., Abrahams, P.W., Edwards, D.J., Hart, T.P., and Levin, M.I. (1962), *LISP 1.5 Programmer Manual*. M.I.T. Press, Cambridge, Mass. (1962).
- Macaraeg, P.V.J., Lasagna, L., and Bianchine, J.R. (1971), "A study of hospital staff attitudes concerning the comparative merits of antibiotics." *Clin. Pharm. Ther.* 12, 1-12 (1971).
- Maronde, R.F., Seibert, S., Katzoff, J., Silverman, M. (1972), "Prescription drug processing—its role in the control of drug abuse." *Calif. Med.* 117, 22-28 (1972).

## MYCIN

- Menn, S.J., Barnett, G.O., Schmechel, D., Owens, W.D., and Pontoppidan, H. (1973), "A computer program to assist in the care of acute respiratory failure." *J. Amer. Med. Ass.* **223**, 308-312 (1973).
- Meyer, A.U., and Weissman, W.K. (1973), "Computer analysis of the clinical neurological examination." *Comput. Biol. Med.* **3**, 111-117 (1973).
- Minsky, M. (1961), "A selected descriptor-indexed bibliography of the literature on AI." In *Computers and Thought* (E.A. Feigenbaum and J. Feldman, eds.), 453-524, McGraw-Hill Book Company, Inc., San Francisco, Calif. (1963).
- Minsky, M., ed. (1968), *Semantic Information Processing*. M.I.T. Press, Cambridge, Mass. (1968).
- Minsky, M. and Papert, S. (1972), "Progress Report," AI Memo 252, Artificial Intelligence Laboratory, M.I.T., Cambridge, Mass. (1972).
- Mittler, B.S. (1972), "Lawrence Weed: his patient is the system." *The New Physician*, 14-19 (January 1972).
- Muller, C. (1972), "The overmedicated society: forces in the marketplace for medical care." *Science* **176**, 488-492 (1972).
- Mullin, J.K. (1970), "COQAB: a computer optimized question asker for bacteriological specimen identification." *Mathematical Biosciences* **6**, 55-66 (1970).
- Myer, T.H. and Barnaby, J.R. (1971), *TENEX Executive Language: Manual For Users*. Bolt Beranek and Newman, Cambridge, Mass. (1971); revised by W. W. Plummer (April 1973).
- Neurath, P.W., Bablouzian, B.L., Warms, T.H., Serbagi, R.C. and Falek, A. (1966), "Human chromosome analysis by computer—an optical pattern recognition problem." *Ann. N.Y. Acad. Sci.* **128**, 1013-1028 (1966).
- Newell, A. and Shaw, J.C. (1957), "Programming the logic theory machine." *Proc. West. Joint Comp. Conf.*, 230-240 (1957).
- Newell, A. and Simon, H. (1961), "GPS: a program that simulates human thought." In *Computers and Thought* (E.A. Feigenbaum and J. Feldman, eds.), 279-296, McGraw-Hill Book Company, Inc., San Francisco, Calif. (1963).
- Newell, A. (1970), "Remarks on the relationship between artificial intelligence and cognitive psychology." In *Theoretical Approaches To Non-Numerical Problem-Solving* (R.B. Banerji and M.D. Mesarovic, eds.), Springer-Verlag, Berlin (1970).
- Newton, C.M. (1973), "Graphics in medicine and biology." *Proc. of the National Comp. Conf.*, 639-642, N.Y. (June 1973).
- Nilsson, N.J. (1971), *Problem Solving Methods In Artificial Intelligence*. McGraw-Hill Book Company, Inc., San Francisco, Calif. (1971).
- Nilsson, N.J. (1974), "Artificial intelligence." IFIP Congress 74, Stockholm, Sweden (August 1974).

## References

- Nordyke, R.A., Kulikowski, C.A., and Kulikowski, C.W. (1971), "A comparison of methods for the automated diagnosis of thyroid dysfunction." *Comput. Biomed. Res.* **4**, 374-389 (1971).
- Oszustowicz, R.J. (1972), "Now, just tell the computer what ails you." *Modern Hospital*, 83-87 (September 1972).
- Parzen, E. (1960), *Modern Probability Theory And Its Applications*. John Wiley & Sons, N.Y. (1960).
- Peck, C.C. *et al.* (1973), "Computer-assisted digoxin therapy." *New Eng. J. Med.* **289**, 441-446 (1973).
- Pendergrass, H.P., Greenes, R.A., Barnett, G.O., Poitras, J.W., Pappalardo, A.N., and Marble, C.W. (1968), "An on-line computer facility for systematized input of radiology reports." *Radiology* **92**, 709-713 (1968).
- Peterson, O.L., Andrews, L.P., Spain, R.S., and Greenberg, B.G. (1956), "An analytical study of North Carolina general practice." *J. Med. Educ.* **31**, 1-165 (1956).
- Petralli, J., Russell, E., Kataoka, M.T., and Merigan, T.C. (1970), "On-line computer quality control of antibiotic sensitivity testing." *New Eng. J. Med.* **283**, 735-738 (1970).
- Pople, H. and Werner, G. (1972), "An information processing approach to theory formation in biomedical research." *Proc. Spring Joint Comp. Conf.*, 1125-1138, Atlantic City, N.J. (May 1972).
- Pople, H. (1973), "On the mechanization of abductive logic." *Proc. of the 3rd International Conf. on AI*, 147-152, Stanford University, Stanford, Calif. (August 1973).
- Popper, K.R. (1959), "Corroboration, the weight of evidence, and statistical tests." *In The Logic Of Scientific Discovery*, 387-419, Scientific Editions, Inc., N.Y. (1959).
- Pryor, T.A., Russell, R., Budkin, A., and Price, W.G. (1969), "Electrocardiographic interpretation by computer." *Comput. Biomed. Res.* **2**, 537 (1969).
- Quillian, M.R. (1966), "Semantic memory." Ph.D. Thesis, Carnegie Institute of Technology. *In Semantic Information Processing* (M. Minsky, ed.), 227-270, M.I.T. Press, Cambridge, Mass. (1968).
- Raiffa, H. (1968), *Decision Analysis: Introductory Lectures On Choices Under Uncertainty*. Addison-Wesley, Reading, Mass. (1968).
- Ramsey, F.P. (1931), *The Foundations Of Mathematics And Other Logical Essays*, Kegan Paul, London (1931).
- Raymond, S. (1973), "Computer-printed labels for efficient processing of clinical specimens." *Comput. Biol. Med.* **3**, 325-336 (1973).
- Reimann, H.H., and D'ambola, J. (1966), "The use and cost of antimicrobials in hospitals." *Arch. Environ. Health* **13**, 631-636 (1966).
- Resztak, K.E. and Williams, R.B. (1972), "A review of antibiotic therapy in

## MYCIN

- patients with systemic infections." *Amer. J. Hosp. Pharm.* **29**, 935-941 (1972).
- Roberts, A.W., and Visconti, J.A. (1972), "The rational and irrational use of systemic antimicrobial drugs." *Amer. J. Hosp. Pharm.* **29**, 828-834 (1972).
- Robinson, J.A. (1965), "A machine-oriented logic based on the resolution principle." *J. ACM* **12**, 23-41 (1965).
- Rosati, R.A., Wallace, A.G., and Stead, E.A. (1973), "The way of the future." *Arch. Intern. Med.* **131**, 285-288 (1973).
- Rose, H.D. and Schrier, J. (1968), "The effect of hospitalization and antibiotic therapy on the gram-negative fecal flora." *Amer. J. Med. Sci.* **255**, 228-236 (1968).
- Rosen, C.A. (1972), "Robots, productivity, and quality." *Proc. ACM National Conference, Boston, Mass.* (August 1972).
- Rulifson, J.F., Derksen, J.A., and Waldinger, R.J. (1972), "QA4: a procedural calculus for intuitive reasoning." Tech. Report #73, AI Center, Stanford Research Institute, Menlo Park, Calif. (1972).
- Rustin, R., ed. (1973), *Natural Language Processing*. Algorithmic Press, N.Y. (1973).
- Rutstein, D.D. (1967), *The Coming Revolution In Medicine*. M.I.T. Press, Cambridge, Mass. (1967).
- Salmon, W.C. (1966), *The Foundations Of Scientific Inference*. Univ. of Pittsburgh Press, Pittsburgh, Pa. (1966).
- Salmon, W.C. (1973), "Confirmation." *Scientific American*, 75-83 (May 1973).
- Samuel, A.L. (1959), "Some studies in machine learning using the game of checkers." In *Computers and Thought* (E.A. Feigenbaum and J. Feldman, eds.), 71-108, McGraw-Hill Book Company, Inc., San Francisco, Calif. (1963).
- Samuel, A.L. (1967), "Some studies in machine learning using the game of checkers II—recent progress." *IBM J. Res. Dev.*, Vol. II, 601-617 (1967).
- Sauter, K. (1973), "The patient data bank in a medical information system—tasks, requirements, planning and design." *Meth. Inform. Med.* **12**, 113-117 (1973).
- Savage, L.J. (1954), *The Foundations Of Statistics*. John Wiley & Sons, N.Y. (1954).
- Schank, R.C. (1972), "Conceptual dependency: a theory of natural language understanding." *Cognitive Psychology* **3**, 552-631 (1972).
- Schank, R.C. and Colby, K.M. (1973), *Computer Models Of Thought And Language*. W.H. Freeman & Co., San Francisco, Calif. (1973).
- Scheckler, W.E. and Bennett, J.V. (1970), "Antibiotic usage in seven community hospitals." *J. Amer. Med. Ass.* **213**, 264-267 (1970).

## References

- Schwartz, W.B. (1970), "Medicine and the computer—the promise and problems of change." *New Eng. J. Med.* 283, 1257–1264 (1970).
- Schwartz, W.B., Gorry, G.A., Kassirer, J.P., and Essig, A. (1973), "Decision analysis and clinical judgment." *Amer. J. Med.* 55, 459–472 (1973).
- Shackle, G.L.S. (1952), *Expectation In Economics*. Cambridge Univ. Press, Cambridge, U.K. (1952).
- Shackle, G.L.S. (1955), *Uncertainty In Economics And Other Reflections*. Cambridge Univ. Press, Cambridge, U.K. (1955).
- Shannon, C.E. (1949), *The Mathematical Theory Of Communication*. Univ. of Illinois Press, Urbana, Ill. (1949).
- Sheiner, L.B., Rosenberg, B., and Melmon, K.L. (1972), "Computer-aided drug dosage." *Proc. Spring Joint Comp. Conf.*, 1093–1106, Atlantic City, N.J. (May 1972).
- Shortliffe, E.H. (1970), "A Computer-Based Medical Record System: The Interface Problem." Unpublished undergraduate thesis, Department of Applied Mathematics, Harvard College, Cambridge, Mass. (1970).
- Shortliffe, E.H., Axline, S.G., Buchanan, B.G., Merigan, T.C., and Cohen, S.N. (1973), "An artificial intelligence program to advise physicians regarding antimicrobial therapy." *Comput. Biomed. Res.* 6, 544–560 (1973).
- Shortliffe, E.H., Axline, S.G., Buchanan, B.G., and Cohen, S.N. (1974a), "Design considerations for a program to provide consultations in clinical therapeutics." *Proc. of the 13th San Diego Biomedical Symposium* (February 1974).
- Shortliffe, E.H. (1974b), "MYCIN: A Rule-Based Computer Program For Advising Physicians Regarding Antimicrobial Therapy Selection." Doctoral dissertation, Stanford University (October 1974); Memo AIM-251, Stanford Artificial Intelligence Laboratory.
- Shortliffe, E.H. and Buchanan, B.G. (1975a), "A model of inexact reasoning in medicine." *Math. Biosci.* 23, 351–379 (1975).
- Shortliffe, E.H., Davis, R., Axline, S.G., Buchanan, B.G., Green, C.C., and Cohen, S.N. (1975b), "Computer-based consultations in clinical therapeutics: explanation and rule-acquisition capabilities of the MYCIN system." *Comput. Biomed. Res.* 8, 303–320 (1975).
- Simmons, R.F. (1970), "Natural language question-answering systems." *Commun. ACM* 13, 15–30 (1970).
- Simmons, H.E. and Stolley, P.D. (1974), "This is medical progress?—Trends and consequences of antibiotic use in the United States." *J. Amer. Med. Ass.* 227, 1023–1026 (1974).
- Slack, W.V., Hicks, G.P., Reed, C.E., and Van Cura, L.J. (1966), "A computer-based medical history system." *New Eng. J. Med.* 247, 194 (1966).
- Slack, W.V., *et al.* (1967), "Computer-based physical examination system." *J. Amer. Med. Ass.* 200, 224–228 (1967).

## MYCIN

- Slagle, J.R. (1971), *Artificial Intelligence: The Heuristic Programming Approach*. McGraw-Hill Book Company, Inc., San Francisco, Calif. (1971).
- Sletten, I.W., Altman, H., Evenson, R.C., and Dong, W.C. (1973), "Computer assignment of psychotropic drugs." *Amer. J. Psychiatry* **130**, 595-598 (1973).
- Stacy, R.W. and Waxman, B.D., eds. (1963, 1965, 1969, 1974), *Computers In Biomedical Research*. Academic Press, N.Y., Vol. 1 (1963); Vol. 2 (1965); Vol. 3 (1969); Vol. 4 (1974).
- Startsman, T.S., and Robinson, R.E. (1972), "The attitudes of medical and paramedical personnel toward computers." *Comput. Biomed. Res.* **5**, 218-227 (1972).
- Stolurow, L.M., Peterson, T.I., Cunningham, A.C., eds. (1970), "Computer Assisted Instruction In The Health Professions," *The proceedings of a conference at Harvard Medical School*, Entelek, Inc., Newburyport, Mass. (1970).
- Suppes, P. (1966a), "The paradoxes of confirmation." In *Aspects Of Inductive Logic* (J. Hintikka and P. Suppes, eds.), 198-207, North-Holland Publishing Co., Amsterdam (1966).
- Suppes, P. (1966b), "The uses of computers in education." *Scientific American*, September 1966.
- Suppes, P. and Morningstar, M. (1969), "Computer-assisted instruction." *Science* **166**, 343-350 (1969).
- Swinburne, R.G. (1970), "Choosing between confirmation theories." *Philosophy of Science* **37**, 602-613 (1970).
- Swinburne, R.G. (1973), *An Introduction To Confirmation Theory*. Methuen & Co., Ltd., London (1973).
- Taylor, T.R., Aitchinson, J., and McGuire, E.M. (1971), "Doctors as decision makers: a computer-assisted study of diagnosis as a cognitive skill." *Brit. Med. J.* **3**, 35-40 (1971).
- Teitelman, W. (1974), *INTERLISP Reference Manual*. XEROX Corporation, Palo Alto, Calif. and Bolt Beranek and Newman, Cambridge, Mass. (1974).
- Tesler, L., Enea, H., and Colby, K.M. (1968), "A directed graph representation for computer simulation of belief systems." *Mathematical Biosciences* **2**, 19-40 (1968).
- Törnebohm, H. (1966), "Two measures of evidential strength." In *Aspects Of Inductive Logic* (J. Hintikka and P. Suppes, eds.), 81-95, North-Holland Publishing Co., Amsterdam (1966).
- Turing, A.M. (1950), "Computing machinery and intelligence." In *Computers and Thought* (E.A. Feigenbaum and J. Feldman, eds.), pp. 11-38, McGraw-Hill Book Company, Inc., San Francisco, Calif. (1963).



## References

- Tversky, A. (1972), "Elimination by aspects: a theory of choice." *Psychol. Rev.* **79**, 281-299 (1972).
- Walter, D. and Brazier, M. (1968), "Advances in EEG analysis." *EEG Clin., Neurophysiological Supplement* **27** (1968).
- Warner, H.R., Toronto, A.F., and Veasy, L.G. (1964), "Experience with Bayes' Theorem for computer diagnosis of congenital heart disease." *Anns. N.Y. Acad. Sci.* **115**, 558-567 (1964).
- Warner, H.R. (1968), "Experiences with computer-based patient monitoring." *Anes. and Analgesia Current Researches*, **47**, 453-461 (1968).
- Warner, H.R., Olmsted, C.M., and Rutherford, B.D. (1972a), "HELP—a program for medical decision making." *Comput. Biomed. Res.* **5**, 65-74 (1972).
- Warner, H.R., Rutherford, B.D., and Houtchens, B. (1972b), "A sequential Bayesean approach to history taking and diagnosis." *Comput. Biomed. Res.* **5**, 256-262 (1972).
- Wartak, J., Milliken, J.A., and Karchmar, J. (1971), "Computer program for diagnostic evaluation of electrocardiograms." *Comput. Biomed. Res.* **4**, 225-238 (1971).
- Waterman, D.A. (1970), "Generalization learning techniques for automating the learning of heuristics." *Artificial Intelligence* **1**, # 1 and 2 (1970).
- Watts, M.S.M. (1973), "Professional standards review organizations (PSRO)" (editorial). *California Medicine* **118**, 39 (1973).
- Weber, J.C. and Hagamen, W.D. (1972), "ATS: a new system for computer-mediated tutorials in medical education." *J. Med. Educ.* **47**, 637-644 (1972).
- Weed, L.L. (1968), "Medical records that guide and teach." *New Eng. J. Med.* **278**, 593-599, 652-657 (1968).
- Weed, L.L. (1969a), *Medical Records, Medical Education, and Patient Care*. The Press of Case Western Reserve Univ., Cleveland, Ohio (1969).
- Weed, L.L. (1969b), *The Problem-Oriented Medical Record—Computer Aspects*. Cleveland Dempco Reproduction Service (1969).
- Weed, L.L. (1971), "Quality control and the medical record." *Arch. Intern. Med.* **127**, 101-105 (1971).
- Weinberg, A.D. (1973), "CAI at the Ohio State University College of Medicine (1973)." *Comput. Biol. Med.* **3**, 299-305 (1973).
- Welch, C.E. (1973), "Professional standards review organizations—problems and prospects." *New Eng. J. Med.* **289**, 291-295 (1973).
- Winograd, T. (1972), "Understanding natural language." *Cognitive Psychology* **3**, 1-191 (1972).
- Winston, P.H. (1970), "Learning Structural Descriptions From Examples." Ph.D. Thesis, Project MAC TR-76, MIT, Cambridge, Mass. (1970).
- Winston, P.H. (1972), "The MIT robot." In *Machine Intelligence 7* (B. Meltzer and D. Michie, eds.), 431-463, Edinburgh University Press (1972).

## MYCIN

- Wolk, H.K., MacInnin, P.J., Stort, S., Helppi, R.K., and Rautahraju, P.M. (1972), "Computer analysis of rest and exercise electrocardiograms." *Comput. Biomed. Res.* **5**, 329-346 (1972).
- Woods, W.A. (1970), "Transition network grammars for natural language analysis." *Commun. ACM* **13**, 591-606 (1970).
- Wooster, H. and Lewis, J.F. (1973), "Distribution of computer-assisted instructional materials in biomedicine through the Lister Hill Center Experimental Network." *Comput. Biol. Med.* **3**, 319-323 (1973).
- Wortman, P.M. (1972), "Medical diagnosis: an information processing approach." *Comput. Biomed. Res.* **5**, 315-328 (1972).
- Wos, L., Carson, D.F., and Robinson, G.A. (1964), "The unit preference strategy in theorem proving." *Proc. AFIPS Fall Joint Comp. Conf. (Part II)*, **26**, 615-621, Spartan Books, N.Y. (1964).
- Wos, L., Robinson, G.A., and Carson, D.F. (1965), "Efficiency and completeness of the set of support strategy in theorem proving." *J. ACM* **12**, 536-541 (1965).
- Yasaki, E.K. (1973), "What will they zap at El Camino? The crt, or the two year old MIS?" *Datamation*, 142-146 (October 1973).
- Yoder, R.D. (1966), "Preparing medical record data for computer processing." *Hospitals, J.A.H.A.* **40**, 75-76 (1966).
- Yoder, R.D. (1969), "Adapting a general purpose information processing system to a new environment." *Meth. Inform. Med.* **8**, 192-197 (1969).
- Zadeh, L.A. (1965), "Fuzzy sets." *Information and Control* **8**, 338-353 (1965).
- Zadeh, L.A. (1974), Talk at Stanford University (February 20 1974).