

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
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Artificial Intelligence
Memo No. 191

BIBLIOGRAPHY

April 1970
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Updated December 1970
Updated March 1971
Updated September 1971
Updated November 1971

- *1-7 These are concerned with early LISP development.
- *8 Recursive Functions of Symbolic Expressions and their Computation by Machine, John McCarthy, published in: Computer Programming and Formal Systems, North-Holland Publishing Co., Amsterdam, 1963.
- *9-14 These are concerned with early LISP development.
- 15 SML - Examples of Proofs by Recursion Induction, John McCarthy.
- *16 A Question-Answering Routine, A. V. Phillips.
- *17 Programs with Common Sense, John McCarthy. Published in Proc. Math. of Thought Processes, HMSO, 1958. Reprinted in Semantic Information Processing, Minsky (Ed.), M.I.T. Press, 1968.
- *18 Some Results from a Pattern Recognition Program using LISP, Louis Hodes.
- *19 This is concerned with early LISP development. More information is in:
The LISP 1.5 Programming Manual M.I.T. Press, Cambridge, Mass.
The Programming Language LISP Berkeley Enterprises, Newton, Mass.
LISP 1.5 Primer, Clark Weissman, Prentice Hall, Englewood Cliffs, N.J.
- *20 Puzzle Solving Program in LISP, John McCarthy.
- *21 The Proofchecker, Paul Abrahams; see complete version in Mathematical Algorithms, April 1966, Vol.1, No.2; July 1966, Vol.1, No.3.
- *22-26 Concerned with early LISP development.
- *27 Simplify, Tim Hart
- *28 Concerned with early LISP development.
- 29 Introduction to the Calculus of Knowledge, Bertram Raphael, Nov. 1961.

* Not available

- *30 The Tree Prune (TP) Algorithm, Dec. 1961, Tim Hart & Daniel Edwards, Revised Oct. 1963 - The α -- β Heuristic. The subject is discussed in Slagle, J. and J. N. Dixon: JACM, Vol. 16, No. 2, April 1969, pp. 189-207.
- *31 A Basis for a Mathematical Theory of Computation, John McCarthy. Jan. 1962; Published in: Western Joint Computer Conference, 1961.
- 32 On Efficient Ways of Evaluating Certain Recursive Functions, John McCarthy.
- *33 Universality of (p=2) Tag Systems and a 4 Symbol 7 State Universal Turing Machines, Marvin Minsky; a better version is in Chapter 14 of Computation, M. Minsky, Prentice Hall, 1967.
- 34 A New Eval Function, John McCarthy.
- *35 This memo is concerned with early LISP development.
- 36 On the Problem of the Effective Definition of "Random Sequence", Michael Levin, Marvin Minsky, Roland Silver.
- *37 Some Identities Concerning the Function subst [x;y;z], Lewis Norton.
- *38 Machine Understanding of Linguistic Information - A Survey and Proposal, Bertram Raphael. Reprinted in Semantic Information Processing, Marvin Minsky (Ed.), M.I.T. Press, 1968.
- *39 This memo is concerned with early LISP development.
- *40 A Note on the Feasibility of Application of the Davis Putnam Proof Procedure to Elementary Number Theory, Donald Dawson.
- 41 A Chess Playing Program, Alan Kotok.
- *42 Proposed Research on Learning, Marvin Minsky.
- *43 Proposal for a General Learning Machine, Bertram Raphael. Reprinted in Semantic Information Processing, M. Minsky, (Ed.), M.I.T. Press, 1968.
- *44 A Simple Direct Proof of Post's Normal Form Theorem, Marvin Minsky. A better version is in: Chapter 13 of Computation, M. Minsky, Prentice Hall, 1967.
- *45 A Question-Answerer for Algebra Word Problems, Daniel Bobrow. Final form in Semantic Information Processing, M. Minsky (Ed.), M.I.T. Press, 1968.

* Not available

- *46 A Heuristic Program to Solve Geometric Analogy Problems, T. G. Evans, Oct. 1962. Final form in: Semantic Information Processing, Minsky (Ed.), M.I.T. Press, 1968.
- *47 A Proposal to Investigate the Application of a Heuristic Theory of Tree-searching to a Chess-playing Program, Burton Bloom, Feb. 1963.
- 48 Neural Nets and Theories of Memory, Marvin Minsky, March 1963.
- *49 Computer Representation of Semantic Information, Bertram Raphael. April 1963. Reprinted in: Semantic Information Processing, Minsky (Ed.), M.I.T. Press, 1968.
- *50 This memo is concerned with early LISP development.
- 51 METEOR: A LISP Interpreter for String Transformation, Daniel Bobrow, 1963.
- *52 Universality of Tag Systems with $p=2$, John Cocke & Marvin Minsky, April, 1963; better version is in Chapter 14 of Computation, Minsky, Prentice Hall, 1967.
- 53 ARGUS: Real-Time handwritten character-recognition system, Warren Teitelman, May, 1963.
- *54 Proposal for a FAP Language Debugging Program, Joel Winett, June, 1963.
- *55 Primitive Recursion, Michael Levin, July, 1963.
- 56 A Proposal for a Geometry Theorem Proving Program, Tim Hart, Sept. 1963.
- *57 MACRO Definitions for LISP, Tim Hart, Oct. 1963.
- 58 A LISP Garbage Collector Algorithm Using Serial Secondary Storage, Marvin Minsky, Oct. 1963. MAC-M-129. Revised.
- *59 Operation of a Semantic Question-Answering System, Bertram Raphael, Nov. 1963. Results in Chapter 2 of Semantic Information Processing, Minsky (Ed.), M.I.T. Press, 1968.
- 60 Recent Improvements in DDT, D. Edwards, M. Minsky, Nov. 1963.
- *61 Mathscope: Part I: A Proposal for a Mathematical Manipulation-Display System, Marvin Minsky, Nov. 1963. More advanced results in Ph.D. thesis of William Martin MAC-TR-36, Jan. 1967. Available through the Defense Supply Agency DDC No. AD-657-283.
- 62 Derivator I. A Program for Visual Inspection of Solutions to First-Order Non-Linear Differential Equations, Marvin Minsky, Dec. 1963, MAC-M-124.

* Not available

- 63 Secondary Storage in LISP, Daniel Edwards, Dec. 1963, MAC-M-128.
- 64 LISP Exercises, Tim Hart, Michael Levin, Jan. 1963, MAC-M-134.
Reprinted in: The Programming Language LISP, Berkeley Ent., Newton, Mass.
- 65 The Graphical Typewriter, A Versatile Remote Console Idea, MAC-M-135,
Marvin Minsky.
- *66 Natural Language Input for a Computer Problem Solving System, Daniel
Bobrow, MAC-M-148. Reprinted in Chapter 3 of Semantic Information
Processing, Minsky (Ed.), M.I.T. Press, 1968.
- *67 Revised User's Version, Time Sharing LISP for CTSS, William Martin,
Tim Hart. MAC-M-153.
- *68 Syntax of the New Language, Michael Levin, May, 1963, MAC-M-158.
- *69 New Language Storage Conventions, Michael Levin, May 1964, MAC-M-159.
- *70 Hash-Coding Functions of a Complex Variable, William Martin, June 1964.
Included in his Dissertation: "Symbolic Mathematical Laboratory"
MAC-TR-36. Available from Defense Supply Agency DDC No.AD-657-283.
- *71 String Manipulation in the New Language, Daniel Bobrow, July 1964, MAC-M-176.
- *72 Proposed Instructions on the GE 635 for List Processing and Push Down
Stacks, Michael Levin, Sept. 1964, MAC-M-183.
- 73 Unrecognizable Sets of Numbers, Marvin Minsky, Seymour Papert, Nov.
1964, Revised Sept. 1965. Published in: JACM, Vol.13, No.2, April, 1966.
- *74 CTSS LISP Notice-Supplement to A.I. Memo No.67, T. Hart, Dec.1964 MAC-M-206.
- *75 Television Camera-to-Computer Adapters: PDP-6 Device 770, Marvin Minsky,
Jan. 1965, MAC-M-215.
- *76 The COMIT Feature in LISP II, Daniel Bobrow, Feb. 1965 MAC-M-219.
- 77 Matter, Mind and Models, Marvin Minsky, March 1965, Published in 1965
IFIP Congress. Also Ch. 9 of Semantic Information Processing, Minsky, 1968.
- *78 Topics in Model Theory, Michael Levin, May 1965 MAC-M-240.
- *79 PDP-6 LISP Input-Output for the Dataphone, William Martin June 1965 MAC-M-241.
- 80 PDP-6 LISP Input-Output for the Display, William Martin June 1965 MAC-M-242.
- 81 PDP-6 TECO, Peter Samson, July 1965 MAC-M-250.

* Not available

- 82 MAC PDP-6 DECTape File Structure, Peter Samson, July 1965 MAC-M-249.
- *83 Use of MACDMP, Peter Samson, July 1965 MAC-M-248. Obsolete, replaced by Memo 118, June 1967.
- *84 EDIT and BREAK Functions for LISP, Warren Teitelman, MAC-M-264.
- *85 Syntax and Display of Mathematical Expressions, William Martin July 1965. See his Dissertation: "Symbolic Mathematical Laboratory" MAC-TR-36. Available through Defense Supply Agency DDC No. AD-657-283.
- 86 Design of the Hand, Marvin Minsky, August 1965 MAC-M-258.
- *87 FLIP - A Format List Processor, Warren Teitelman MAC-M-263. Replaced by BBN Report No. 10, 15 July 1967. (50 Moulton St., Cambridge, Mass.)
- *88 MACTAP, A PDP-6 DECTape Handling Package, Peter Samson, Sept. 1965 MAC-M-267.
- *89 A Theory of Computer Instructions, Ward Douglas Maurer, Sept. 1965. See Chapter 12 of Programming: An Introduction to Computer Languages and Techniques, Maurer, Holden-Day Inc. San Francisco.
- 89A Computer Experiments in Finite Algebra, W.D. Maurer, June 1965.
- 89B Computer Experiments in Finite Algebra II, W.D. Maurer, Dec. 1965.
- 90 MIDAS, Peter Samson, Oct. 1965. Revised Dec. 1967. Revised Oct. 1968 MAC-M-279.
- 91 A Useful Algebraic Property of Robinson's Unification Algorithm, Tim Hart, Nov. 1965 MAC-M-285.
- *92 Topics in Model Theory, Michael Levin, Jan. 1966, MAC-M-294.
- 93 A New Version of CTSS LISP, Joel Moses, Robert Fenichel, MAC-M-296.
- 94 A New Machine-Learning Technique Applied to the Game of Checkers, Arnold Griffith, March 1966 MAC-M-299.
- 95 A Program Feature for CONVERT, Adolfo Guzman, Harold McIntosh, April 1966 MAC-M-305.
- *96 POLYBRICK: Adventures in the Domain of Parallelepipeds, Adolfo Guzman, May 1966. See his M.S. thesis: MAC-TR-37 available through the Defense Supply Agency DDC No. AD-656-041.
- *97 Symbolic Integration, Joel Moses, June 1966. See his Dissertation "Symbolic Integration" MAC-TR-47, available through Defense Supply Agency (see p.1) DDC No. AD-662-666.

* Not available

- *97A Symbolic Integration, II, Joel Moses, Oct. 1966. See his Dissertation "Symbolic Integration" MAC-TR-47, available through Defense Supply Agency DDC No. AD-662-666.
- *98 PDP-6 LISP, Peter Samson June 1966 MAC-M-313. See Memo 116A.
- 99 CONVERT, Adolfo Guzman, Harold McIntosh, June 1966 MAC-M-316. Published in COMM. ACM 9, 8, Aug. 1966, pp.604-615.
- 100 The Summer Vision Project, Seymour Papert, July 1966.
- 101 SIDES 21, Richard Greenblatt, Jack Holloway; described by Donald Sordillo, August 1966, MAC-M-320.
- *102 A Quick Look at Some of Our Programs, Gerald Sussman, Adolfo Guzman, July 1966 (Vision).
- *103 Additions to the Vision Library, John White, Aug. 1966.
- *104 Output to the PDP-6 Calcomp Plotter, Jack Holloway, Aug. 1966 (Hardware).
- *105 Modifications to PDP-6 Teletype Logic, Tom Knight, Aug. 1966. (Hardware).
- 106 An Input Macro for TECO, Donald Eastlake, Sept. 1966 MAC-M-324 (Program).
- 107 Music Playing on the PDP-6, Donald Sordillo, Aug. 1966 MAC-M-326.
- 108 A Primitive Control P Feature, Donald Eastlake, Oct. 1966 MAC-M-329 (Program).
- 109 SCPLOT BIN, Donald Sordillo, Oct. 1966 MAC-M-333 (Program).
- 110 Figure Boundary Description Routings for the PDP-6 Vision Project, John White, Sept. 1966 MAC-M-328.
- *111 Summer Vision Programs, Leslie Lamport, Oct. 1966 MAC-M-332.
- *112 CHAR PLOT, Donald Sordillo, Oct. 1966 MAC-M-334. Replaced by Memo No. 125.
- *113 A Description of the CNTOUR Program, Larry Krakauer (Vision), Nov. 1966,
113A MAC-M-335, Revised in Memo 113A January 1968.
- *114 A Step by Step Computer Solution of Three Problems in Non-Numerical Analysis, William Martin, July 1966. See his Dissertation "Symbolic Mathematical Laboratory" MAC-TR-36, available from Defense Supply Agency DDC No. AD-657-283.
- 115 Program Memo, Peter Samson, Dec. 1966.
- 116A PDP-6 LISP (LISP 1.6) January 1967. Revised April 1967.

* Not available

- *117 Memo by Russell Noftsker.
- 118 PDP-6 Software Update, Thomas Knight, Jan. 1967; Revised June 1967
Donald Eastlake (System Program).
- *119 A Primitive Recognizer of Figures in a Scene, Adolfo Guzman, Jan. 1967;
See his Dissertation "Some Aspects of Pattern Recognition by Computer"
MAC-TR-37. Available through Defense Supply Agency JDC No.AD-656-041.
- *120 Vision Memo, Marvin Minsky, Feb. 1967.
- 121 Estimating Stereo Disparities, Marvin Minsky, Feb. 1967.
- 122 Remarks on Correlation Tracking, Marvin Minsky, March 1967 (Vision).
- 123 Computer Tracking of Eye Motions, Marvin Minsky, Seymour Papert, March
1967 (Vision).
- *124 Paradoxical Perception, Seymour Papert (never written).
- 125 CHAR PLOT, Michael Speciner, March 1967 (Program); replacing Memo 112.
- 126 A Quick Fail-Safe Procedure for Determining whether the GCD of 2 Poly-
nomials is 1, Joel Moses, March 1967 MAC-M-345.
- 127 Incorporating MIDAS Routines into PDP-6 LISP, Roland Silver, March
1967; revised in Nov. 1967 (127A) (System program).
- 128 Hardware and Program Memo, Michael Beeler, March 1967.
- 129 EUTERPE: A Computer Language for the Expression of Musical Ideas,
Stephen Smoliar, April 1967.
- 130 A Miscellaney of Convert Programming, Adolfo Guzman, Harold McIntosh
April 1967, MAC-M-346.
- 131 POLYSEG, Arnold Griffith, April 1967 (Vision).
- *132 Additions to LAP, John White, July 1967. Superseded by Memo 152.
- *133 A Glossary of Vision Terms, Russ Abbott, June 1967 (Vision).
- *134 PSEG: Standardization of Data, Jim Bowring, June 1967 (Vision).
- 135 Automata on a 2-Dimensional Tape, Manuel Blum, Carl Hewitt, July 1967.
- 136 Matrix Inversion in LISP, John White, July 1967 (Program).

* not available

- *137 PLANNER: A Language for Proving Theorems, Carl Hewitt, July 1967.
Replaced by Memo 168 MAC-M-386, Oct. 1968. Revised June 1969.
- *138 The Calcomp Plotter as an Output Device in TS and LISP, Michael Speciner,
July 1967.
- 139 Decomposition of a Visual Scene into Bodies, Adolfo Guzman, Sept. 1967,
MAC-M-357.
- *140 Perceptrons and Pattern Recognition, Marvin Minsky, Seymour Papert,
Sept. 1967. Superseded by the book: Perceptrons, Minsky & Papert,
M.I.T. Press, 1968.
- 141 EUTERPE-LISP: A LISP System with Music Output, Stephen Smoliar, Sept. 1967.
- 142 STRING, Peter Samson, Sept. 1967.
- 143 Stereo and Perspective Calculations, Marvin Minsky, Sept. 1967.
- 144 10 Test, Michael Beeler, Sept. 1967.
- 145 A Fast-Parsing Scheme for Hand-Printed Mathematical Expressions,
William Martin, Oct. 1967 MAC-M-360.
- *146 PICPAC: A PDP-6 Picture Package, Roland Silver, Oct. 1967.
- *147 A Multiple Procedure DDT, Thomas Knight, Jan. 1968.
- 147A DDT Reference Manual, Eric Osman, Sept. 1971.
- *148 SUBM - A CONVERT Program for Constructing the Subset Machine Defined
By a Transition System, Harold V. McIntosh, Jan. 1968.
- *149 REC/8 - A CONVERT Compiler of REC for the PDP-6, Harold V. McIntosh, Jan. 1968.
- *150 CGRU and CONG - CONVERT and LISP Programs to Find the Congruence
Relations of a Finite State Machine, Harold V. McIntosh, Jan. 1968.
- 151 Functional Abstraction in LISP and PLANNER, Carl Hewitt, Jan. 1968.
- *152 PDP-6 LAP, John White, Jan. 1968; replaced by Memo 190.
- 153 REEX - A CONVERT Program to Realize the McNaughton - Yamada Analysis
Algorithm, Harold McIntosh, Jan. 1968.
- 154 The Artificial Intelligence of Hubert L. Dreyfus; A Budget of Fallacies,
Seymour Papert, Jan. 1968.
- 155 A Left to Right then Right to Left Parsing Algorithm, William Martin, Feb. 1968
- *156 Linear Decision and Learning Models, Marvin Minsky, March 1968. Super-
ceded by Ch. 12 in Perceptrons, Minsky & Papert, M.I.T. Press, 1968.

* Not available

- *157 Time-Sharing LISP for the PDP-6, John White, March 1968. Replaced by Memo 190.
- 158 SARGE: A Program for Drilling Students in Freshman Calculus Integration Problems, Joel Moses, March 1968, MAC-M-369.
- 159 Numerical Solution of Elliptic Boundary Value Problems by Spline Functions, Jayant Shah, April 1968, MAC-M-371.
- 160 Focusing, Berthold Horn, May 1968.
- 161A ITS 1.5 Reference Manual, D. Eastlake, R. Greenblatt, J. Holloway, T. Knight, S. Nelson, MAC-M-377. Revised July 1969 (ITS 1.4 Reference Manual, June 1968).
- *162 Remarks on Visual Display and Console Systems, Marvin Minsky, June 1963; revised July 1968.
- 163 Holes, Patrick Winston, August 1968; revised April 1970.
- *164 Producing Memos Using TJ6, TECO and the Type 37 Teletype, Larry Krakauer, Sept. 1968. Replaced by Memo 164A.
- 164A The Text-Justifier TJ6, R. Greenblatt, B.K.P. Horn, L. Krakauer, June 1970.
- 165 Description and Control of Manipulation by Computer-Controlled Arm, Jean-Yves Gresser, Sept. 1968.
- 166 Recognition of Topological Invariants by Modular Arrays, Terry Beyer, September 1968.
- 167 Linear Separation and Learning, Marvin Minsky and Seymour Papert, October 1968. This is a reprint of page proofs of Ch. 12 of Perceptrons, Minsky and Paperty, M.I.T. Press, 1968. It replaces Memo 156.
- 168 PLANNER, Carl Hewitt, MAC-M-386, October 1968; revised June 1969.
- *169 PEEK and LOCK, Donald Eastlake III, MAC-M-387, November 1968; replaced by revised Memo 161A July 1969.
- 170 WIRElist, John Holloway, January 1969.
- 171 Decomposition of a Visual Scene Into Three-Dimensional Bodies, Adolfo Guzman, January 1969. MAC-M-391.

*Not available

- *172 Robot Utility Functions, Stewart Nelson, Michael Levitt, February 1969; replaced by Revised Memo 161A, July 1969.
- 173 A Heuristic Program That Constructs Decision Trees, Patrick Winston, March 1969.
- 174 The Greenblatt Chess Program, Richard Greenblatt, Donald Eastlake III, Stephen Crocker, April 1969.
- 175 On Optimum Recognition Error and Reject Tradeoff, C.K. Chow, April 1969.
- 176 Discovering Good Regions for Teitelman's Character Recognition Scheme, Patrick Winston, May 1969.
- 177 Preprocessor for Programs Which Recognize Scenes, H.N. Mahabala, August 1969.
- 178 The Image Dissector "Eyes", B.K.P. Horn, August 1969.
- 179 The Arithmetic-Statement Pseudo-Ops: .I & .F, B.K.P. Horn, August 1969.
- 180 The Integration of a Class of Special Functions with the Risch Algorithm, Joel Moses, MAC-M-421.
- 181 PROGRAMMAR: A Language for Writing Grammars, Terry Winograd, November 1969.
- 182 Display Functions in LISP, Thomas Binford, 1970.
- 183 On Boundary Detection, Annette Herskovits and Thomas Binford, July 1970.
- 184 Parsing Key Word Grammars, William Martin, MAC-M-395.
- 185 Proposal to ARPA for Research on Artificial Intelligence at MIT, 1970-1971, Marvin Minsky and Seymour Papert, December 1970.
- *186 In progress (Seymour Papert, LOGO report).
- 187 Form and Content in Computer Science, Marvin Minsky, December 1969; ACM "Turing Lecture" August 1969.
- 188 A Stability Test for Configurations of Blocks, Manuel Blum, Arnold Griffith, Bernard Neumann, February 1970.

- 189 Construction of Decision Trees, E. Roger Banks, February 1970.
- 190 Interim LISP Progress Report, John White, March 1970.
- 191 A.I. Bibliography, April 1970, updated August 1970.
- 192 Removing Shadows in a Scene, Richard Orban, August 1970.
- *193 In Progress (Learning, Teaching and A.I., Marvin Minsky and Seymour Papert).
- 194 Movie Memo, Michael Beeler, April 1970.
- 195 INSIM1: A Computer Model of Simple Forms of Learning, Thomas L. Jones, April 1970.
- 196 Hypergeometric Functions in MATHLAB, Lewis Wilson, May 1970.
- 197 A Simple Algorithm for Self-Replication, Terry Winograd, term paper written November 1967, released as A.I. Memo May 1970.
- 198 Cellular Automata, E. Roger Banks, June 1970.
- 199 The Function of FUNCTION in LISP, Joel Moses, June 1970.
- 200 1968-1969 Progress Report, Marvin Minsky and Seymour Papert.
- 201 Comparative Schematology, Michael Paterson and Carl Hewitt, November 1970.
- 202 Peter Samson's Music Processor, BIG, Michael Beeler, July 1970.
- 203 Micro-Planner Reference Manual, Gerald Sussman and Terry Winograd, July 1970.
- 204 Extending Guzman's SEE Program, Martin Rattner, July 1970 (M.I.T. B.S. Thesis June 1970).
- 205 Look-Ahead Strategies in One Person Games with Randomly Generated Game Trees, David S. Johnson, M.I.T. M.S. thesis August 1968, released as A.I. Memo July 1970.

- 206 The Vision Laboratory, Part One, Thomas O. Binford, July 1970.
- 207 More Comparative Schematology, Carl E. Hewitt, August 1970.
- 208 Teaching Procedures in Humans and Robots, Carl Hewitt. Paper presented April 1970, issued as A.I. Memo September 1970.
- 209 Digital Flight Simulation, David Silver, March 1971. Program listing available from line printer FLIGHT 100, DSK DS 12:03:51 FM+5D.22H.37M.31S.
- 210 A User's Guide to the A.I. Group LISCOM LISP Compiler, Jeffrey P. Golden, December 1970.
- 211 A.I. Technical Memo No. 1: Equivalence Problems in a Model of Computation, Michael S. Paterson, Ph.D. thesis (Trinity College, Cambridge University), 1967; issued as A.I. Technical Memo in November 1970.
- *212 In progress (Terry Winograd, Using the Language-Understanding System).
- 213 The Computer as a Performing Instrument, Gordon Mumma and Stephen Smoliar. Presented as a MAC seminar February 1970, issued as A.I. Memo February 1971.
- 214 Linking Loader for MIDAS, Peter Samson. Originally printed as MAC Memo in January 1966, issued as A.I. Memo March 1971.
- 215 How to Get Onto the System, Mark Dowson, April 1971.
- 215A Instant TJ6, How to Get the System to Type Your Papers, M. Dowson, Sept. 1971.
- 216 Theories, Pretheories, and Finite State Transformations on Trees, Mitchell Wand, May 1971.
- 217 Computer Proofs of Limit Theorems, W.W. Bledsoe, Robert S. Boyer, W.H. Henneman, June 1971.
- 218 Information Theory and the Game of Jotto, Michael Beeler, August 1971.
- 237 An Inquiry Into Algorithmic Complexity, Patrick E. O'Neil, September 1971.
- *238 ITS Progress Report, Donald Eastlake (In progress).
- *239 In progress (Richard Schroepel).
- *240 In progress (Donald Eastlake).
- 241 An A.I. Approach to English Morphemic Analysis, Terry Winograd, September 1971.
- 243 Using the EUTERPE Music System, Stephen W. Smoliar, October 1971.
- *244 In progress (Mark Dowson).
- 245 Proposal to ARPA for Research on Artificial Intelligence at M.I.T., 1971-1972, Marvin Minsky and Seymour Papert, October 1971.

- 246 A Computer Laboratory for Elementary Schools, Seymour Papert, October 1971 (LOGO Memo No. 1).
- 247 Teaching Children Thinking, Seymour Papert, October 1971, (LOGO Memo No. 2).
- 248 Twenty Things To Do With a Computer, Seymour Papert and Cynthia Solomon, June 1971 (LOGO Memo No. 3).
- 249 Teaching Children to be Mathematicians VS. Teaching About Mathematics, Seymour Papert, July 1971 (LOGO Memo No. 4).
- *257 In progress (Richard Schroepel).
- *288 In progress (Richard Schroepel).

*not available

BOOKS IN PRINT

Computation, Marvin Minsky, Prentice Hall, 1967.

Perceptrons, Marvin Minsky and Seymour Papert, MIT Press, 1968.

Semantic Information Processing, Marvin Minsky (Ed.), MIT Press, 1968.

TECHNICAL REPORTS*

- AI-TR-219 Bobrow, Daniel G., Natural Language Input for a Computer Problem Solving Language, June 1964. (MAC-TR-1) AD-604-730. (In Semantic Info. Proc.)
- AI-TR-220 Raphael, Bertram, SIR: A Computer Program for Semantic Information Retrieval, June 1964. (MAC-TR-2) AD-608-499. (In Semantic Info. Proc.)
- AI-TR-221 (Thesis) Teitelman, Warren, PILOT: A Step Toward Man-Computer Symbiosis, Sept. 1966. (MAC-TR-32) AD-638-446.
- AI-TR-222 (Thesis) Norton, Lewis M., ADEPT: A Heuristic Program for Proving Theorems of Group Theory, Oct. 1966. (MAC-TR-33) AD-645-660.
- AI-TR-223 (Thesis) Martin, William A., Symbolic Mathematical Laboratory, Jan. 1967. (MAC-TR-36) AD-657-283.
- AI-TR-224 (Thesis) Guzman-Arenas, Adolfo, Some Aspects of Pattern Recognition by Computer, Feb. 1967. (MAC-TR-37) AD-656-041.
- AI-TR-225 Forte, Allen, Syntax-Based Analytic Reading of Musical Scores, April 1967. (MAC-TR-39) AD-661-806.
- AI-TR-226 (Thesis) Moses, Joel, Symbolic Integration, Dec. 1967. (MAC-TR-47) AD-662-666.
- AI-TR-227 (Thesis) Charniak, Eugene, CARPS: A Program Which Solves Calculus Word Problems, July 1968. (MAC-TR-51) AD-673-670.
- AI-TR-228 (Thesis) Guzman-Arenas, Adolfo, Computer Recognition of Three-Dimensional Objects in a Visual Scene, Dec. 1968. (MAC-TR-59) AD-692-200.
- AI-TR-229 (Thesis) Beyer, Wendell Terry, Recognition of Topological Invariants by Iterative Arrays, Oct. 1969. (MAC-TR-66) AD-699-502.
- AI-TR-230 (Thesis) Griffith, Arnold K., Computer Recognition of Prismatic Solids, Aug. 1970. (MAC-TR-73) AD-711-763.

*Government contractors may obtain AI-TR reports from: Defense Documentation Center, Cameron Station, Alexandria, Va. 22314. Specify AD number.

Others may obtain the reports from: National Technical Information Service, Operations Division, Springfield, Va. 22151. Specify AD number. All copies \$3.00.

- AI-TR-231 (Thesis) Winston, Patrick H., Learning Structural Descriptions From Examples, Sept. 1970. (MAC-TR-76) AD-713-988.
- AI-TR-232 (Thesis) Horn, Berthold K.P., Shape From Shading: A Method for Obtaining the Shape of a Smooth Opaque Object From One View, Nov. 1970. (MAC-TR-79) AD-717-336.
- AI-TR-233 (Thesis) Banks, Edwin Roger, Information Processing and Transmission in Cellular Automata, Jan. 1971. (MAC-TR-81) AD-717-951.
- AI-TR-234 (Thesis) Krakauer, Lawrence J., Computer Analysis of Visual Properties of Curved Objects, May 1971. (MAC-TR-82) AD-723-647.
- AI-TR-235 (Thesis) Winograd, Terry, Procedures as a Representation for Data in a Computer Program for Understanding Natural Language, February 1971. (MAC-TR-84) AD-721-399.
- AI-TM-236 (Thesis) Jones, Thomas L., A Computer Model of Simple Forms of Learning, January 1971. (MAC-TM-20) Available from A.I. Laboratory. AD-720-337.
- AI-TR-242 (Thesis) Smoliar, Stephen W., A Parallel Processing Model of Musical Structures, September 1971.

