Eckmiller, R., Hartmann, G., and Hauske, G., eds, *Parallel Processing in Neural Systems and Computers*, pages 499–502. Elsevier. **[L, R]**

T. Van Gelder, (1989). "Compositionality and the explanation of cognitive processes," *Proceedings of the Annual Conference of the Cognitive Science Society,* pp. 34-41, 1989. **[O]**

Wald, J., Farach, M., Tagamets, M., & Reggia, J. A. (1989). Generating plausible diagnostic hypotheses with self-processing causal networks. Journal of Experimental and Theoretical Artificial Intelligence, 2, 91-112. **[E]**

D. Waltz & J. Feldman (eds.), (1988). *Connectionist Models and Their implications*, Ablex. Norwood, NJ. **[C]**

Nigel Ward, (1993). A Connectionist Language Generator, Ablex, to appear. **[N]**

Werbos, P. J. (1992). Neurocontrol and fuzzy logic: Connections and designs. *International Journal of Approximate Reasoning*, 6(2):185 – 220. **[F]**

Wermter, S. (1989). *Integration of Semantic and Syntactic Constraints for Structural Noun Phrase Disambiguation.* In: *Proc. of Eleventh International Joint Conference on Artificial Intelligence*, Detroit, USA. **[N, J]**

Wermter S., & Lehnert W.G. (1992). *Noun Phrase Analysis with Connectionist Networks.* In: Reilly R., Sharkey N. (eds.), Connectionist Approaches to Language Processing, Lawrence Erlbaum. **[N, J]**

Whitson, G., Wu, C., and Taylor, P. (1990). Using an artificial neural system to determine the knowledge base of an expert system. In *Neural Networks for Knowledge Representation and Inference.* **[E]**

Yamaguchi, T. and Imasaki, N. and Haruki, K., 1990. Fuzzy rule realization on associative memory system, IJCNN90-2, 720–723. **[F]**

Yang, Q. and Bhargava, V. (1990). Building expert systems by a modified perception network with rule-transfer algorithms. In *International Joint Conference on Neural Networks 1990, Vol.2*, pages 77–82. **[L, E]**

of the eleventh annual conference of the Cognitive Science Society (pp. 1-8). Hillsdale, NJ: Erlbaum. Also Available as: Technical Report CMU-CS-89-158. Pittsburgh, PA: Carnegie Mellon University, Computer Science Dept. **[R]**

Touretzky, D. S. (1990). BoltzCONS: Dynamic symbol structures in a connectionist network. *Artificial Intelligence 46*, 1, 2, pp.5-46. Also In Hinton, G. E., ed. *Connectionist Symbol Processing*, Bradford Book, pages 5–46. MIT Press, Cambridge, MA. **[S]**

Touretzky, D. S., & Hinton, G. E. (1988). A distributed connectionist production system. Cognitive Science, 12(3), 423-466. **[R]**

D. S. Touretzky, S. Geva, (1987). "A distributed connectionist representation for concept structures," *Proceedings of the Eighth Annual Conference of the Cognitive Science Society.* **[S]**

Touretzky, D.S., & Hinton, G.E. (1985). Symbols among the Neurons: Details of a Connectionist Inference Architecture. Proceedings of the Ninth International Joint Conference on Artificial Intelligence, 239-243. **[R]**

Touzet, C. and Giambiasi, N. (1991). Application of connectionist models to fuzzy inference systems. In *Parallelization in Inference Systems*, pages 303–317. Springer Verlag. **[F]**

Towell, G. and Shavlik, J. W. (1992). Using symbolic learning to improve knowledge-based neural networks, AAAI'92, p.177-182. **[L, R]**

Towell, G. G., Shavlik, J. W., and Noordewier, M. O. (1990). Refinement of approximate domain theories by knowledge-based neural networks. In *AAAI-90*, pages 861–866. Morgan Kaufmann. **[L, R]**

Towell, G.G., Shavlik, J.W., & Craven, M.W. (1991) Constructive induction in knowledge-based neural networks. Proceedings of the Eighth International Machine Learning Workshop, 213-217. **[L, R]**

V. Tresp, J. Hollatz and S. Ahmad. 1993. Network Structuring And Training Using Rule-based Knowledge. In Giles, C.L, Hanson, S. J. and Cowan, J. D. (eds.), Advance in Neural Information Processing Systems 5. San Mateo, CA: Morgan Kaufmann Publishers. **[L, R]**

Ultsch, A., Hannuschka, R., Hartmann, U., and Weber, V. (1990). Learning of control knowledge for symbolic proofs with backpropagation networks. In

R. Sun and L. Bookman, (1993). How do symbols and networks fit together? *Artificial Intelligence* magazine. **[G]**

R. Sun and D. Waltz, (1991). A Neurally Inspired Massively Parallel Model of Rule Based Reasoning, in: B. Soucek (ed.) *Neural and Intelligent Systems Integration*, John Wiley and Sons, New York, NY. pp.341-381. **[R]**

G. Z. Sun, H. H. Chen, Y. C. Lee and C. L. Giles, (1990). "Recurrent Neural Networks, Hidden Markov Models and Stochastic Grammars", Proceedings of International Joint Conference on Neural Networks, Vol. 1, pp. 729 - 734, San Diego, CA. **[L]**

Sutton, R. S. (1985). The learning of world models by connectionist networks. In: *Proceedings of the seventh annual conference of the Cognitive Science Society.* pp.54-64. Hillsdale, NJ: Erlbaum. **[L]**

Takagi, H. and Hayashi, I. (1991). Nn-driven fuzzy reasoning. *International Journal of Approximate Reasoning*, 5(3):191–212. **[F]**

Thagard, P. (1989). Explanatory coherence. Behavioral and Brain Sciences, 12(3), 435-502. **[O]**

Thagard, P., Holyoak, K. J., Nelson, G., & Gochfeld, D. (in press). Analog retrieval by constraint satisfaction. Artificial Intelligence. Also available as: CSL Report 41. Princeton, NJ: Princeton University, Cognitive Science Laboratory. **[A]**

H. Tirri, (1991). Implementing Expert System Rule Conditions by Neural Networks. *New Generation Computing.* 10, 55–71. **[E]**

Todd, P. M., & Rumelhart, D. E. (in press). Feature Abstraction from Similarity Ratings: A Connectionist Approach. In Y. Chauvin & D. E. Rumelhart (eds.), *Backpropagation: Theory, Architectures, and Applications.* Hillsdale, NJ: Erlbaum Associates. **[L]**

Torras, C. (1992). Symbolic planning versus neural control in robots. In P. Rudomín, M.A. Arbib, & F. Cervantes-Pérez (eds.), *Natural and Artificial Intelligence: A Meeting Between Neuroscience and Artificial Intelligence*, Research Notes in Neural Computing, Vol. 4. Springer-Verlag: Berlin Heidelberg New-York. **[J]**

Touretzky, D. S. (1989). Chunking in a connectionist network. In Proceedings

Sun, R. (1989). A discrete neural network model for conceptual representation and reasoning. In: *Proceedings of the Eleventh Annual Conference of the Cognitive Science Society.* Hillsdale, NJ: Erlbaum. **[R]**

R. Sun, 1993. Beyond Associative Memories: Logics and Variables in Connectionist Networks, *Information Sciences*, special issue on AI and neural networks, Vol.70, No.1,2. **[R]**

R. Sun, 1993. An Efficient Feature-Based Connectionist Inheritance Scheme, *IEEE Transaction on System, Man and Cybernetics*, Vol.23, No.2. **[S]**

R. Sun, (1993). A Neural Network Model of Causality. *IEEE Transaction on Neural Networks.* **[R]**

R. Sun, (1993). *Integrating Rules and Connectionism for Robust Reasoning* (A Monograph), John Wiley and Sons, New York, NY. **[G, R, S]**

R. Sun, (1992). A Connectionist Model for Commonsense Reasoning Incorporating Rules and Similarities, *Knowledge Acquisition*, Vol.4, pp.293-321. **[R, J]**

R. Sun, (1992). Fuzzy Evidential Logic: A Model of Causality for Commonsense Reasoning. *Proc.14th Cognitive Science Society Conference*, 1992. Lawrence Erlbaum Associates, Hillsdale, NJ. pp.1134-1139. **[R]**

R. Sun, (1992). On Variable Binding in Connectionist Networks, *Connection Science*, Vol.4, No.2, pp.93-124. 1992. **[R]**

R. Sun, (in press). Structuring Knowledge in Vague Domains. *IEEE Transaction on Knowledge and Data Engineering.* **[R, J]**

R. Sun, L. Bookman, and S. Shekhar, (eds.) (1992). *The Working Notes of the AAAI Workshop on Integrating Neural and Symbolic Processes*, American Association for Artificial Intelligence, Menlo Park, CA. **[C]**

R. Sun, (1991). Connectionist Models of Rule-based Reasoning, *Proc.13th Cognitive Science Conference*, Lawrence Erlbaum Associates, Hillsdale, NJ. 1991. pp.437-442. **[R, J]**

R. Sun, (1991). The Discrete Neuronal Model and the Probabilistic Discrete Neuronal Model, in: B.Soucek (ed.) *Neural and Intelligent Systems Integration*, John Wiley and Sons, New York, NY. pp.161-178. **[L]**

pretation. In: *Proceedings of the Ninth Annual Conference of the Cognitive Science Society.* pp.187-194. Hillsdale, NJ: Erlbaum. **[R]**

Smolensky, P. (1991). Tensor product variable binding and the representation of symbolic structures in connectionist systems. *Artificial Intelligence 46,* 1-2, pp. 159-216, 1990. **[R]**

P. Smolensky, (1991). "Connectionism, constituency and the language of thought," in B. loewer, G. Rey (eds), *Fodor and his critics,* Blackwell, Oxford, UK. **[G]**

Sohn, A., & Gaudiot, J.-L. (1991) Connectionist Production Systems in Local and Hierarchical Representation. In: *Applications of Learning and Planning Methods*, ed. N.G. Bourbakis, World Scientific Publishing, 165-180. **[R]**

Soucek, B. and the IRIS Group, eds. (1991). *Neural and Intelligent Systems Integration.* Wiley, New York, NY. **[C]**

St. John, M. F. and McClelland, J. L. (1991). Learning and applying contextual constrains in sentence comprehension. *Artificial Intelligence 46,* 1-2. pages 217–257. **[N]**

A. Stolke, (1989). "Unification as constraint satisfaction in structured connectionist networks," *Neural Computation 1*, 1, 1989. **[O]**

Stucki, D. J. and Pollack, J. B. (1992). Fractal (reconstructive analogue) memory. In *14th Annual Conference of the Cognitive Science Society*, Bloomington, IN. **[O]**

R. Sumida, M. Dyer, M. Flowers, (1988). "Integrating marker passing and connectionism for handling conceptual and structural ambiguities", *Proceedings of the 10th conf of the Cognitive Science Society*, Montreal 1988. **[N]**

Sumida, R. A. and M. G. Dyer. (1989). Storing and Generalizing Multiple Instances while Maintaining Knowledge-Level Parallelism. In: *Proceedings of Eleventh International Joint Conference on Artificial Intelligence* (IJCAI-89). pp.1426-1431. Morgan Kaufmann Publ. San Mateo, CA. **[S]**

Sumida, R. A. and Dyer, M. G. 1992. Propagation Filters in PDS Networks for Sequencing and Ambiguity Resolution. In J.E. Moody, S.J. Hanson and R.P. Lippmann (eds.) Advances in Neural Information Processing Systems 4, Morgan Kaufmann Publ., San Mateo, CA, pp. 233-240. **[S]**

dilemma. In V. Honavar & L. Uhr (eds) *Integrating Symbol Processors Connectionist Networks for Artificial Intelligence and Cognitive Modelling*, Academic Press. **[O]**

Sharkey, N.E. (1988). A PDP system for goal-plan decisions. In R. Trappl (Ed), *Cybernetics and Systems.* Dordrecht: Kluwer Academic Publishers, 1031 - 1038. **[O]**

Sharkey, N.E. and Sutcliffe, R.F.E. & Wobcke, W.R. (1986). Mixing binary and continuous connection schemes for knowledge access. *Proceedings of the American Association for Artificial Intelligence*, Volume 1, 262-266. **[O]**

Shastri, L., & Ajjanagadde, V. (1993). From simple associations to systematic reasoning: A connectionist representation of rules, variables and dynamic bindings. *Behavioral and Brain Sciences.* **[R]**

Shastri, L. (1988). A connectionist approach to knowledge representation and limited inference. *Cognitive Science*, 12:331–392. **[R]**

Shastri, L. and Feldman, J. A. (1985). Evidential Reasoning in Semantic Networks: A Formal Theory. In *IJCAI '85*, pages 465–474. **[S]**

L. Shastri, 1988. "Semantic networks: An evidential formulation and its connectionist realization," Pitman, London, UK. **[S]**

Shavlik, J.W. & Towell, G.G. (1991). An Approach to Combining Explanation-Based and Neural Learning Algorithms. in: *Applications of Learning and Planning Methods*, ed. N.G. Bourbakis, World Scientific Publishing. **[L]**

Simpson, P.K., 1992. Fuzzy Min-Max Neural Networks: 1. Classification, *IEEE Transaction on Neural Networks.* **[F]**

Simpson, P.K., 1992. Fuzzy Min-Max Neural Networks: 2. Clustering, *IEEE Transaction on Fuzzy Systems.* **[F]**

Sloman, S.A. (in press) Feature-based induction. *Cognitive Psychology.* **[O]**

S. Small, G. Cottrell, and L. Shatri, 1982. Toward Connectionist Parsing. *Proceedings of the National Conference on Artificial Intelligence*, Pittsburgh, PA. **[N]**

Smolensky, P. (1987). On the connectionist reduction of conscious rule inter-

Daniel E. Rose and Richard K. Belew, 1989. A Case for Symbolic/Sub-symbolic Hybrids. *Proceedings of the Eleventh Annual Conference of the Cognitive Science Society*, Ann Arbor, MI, 844-851. **[J]**

Daniel E. Rose and Richard K. Belew, 1991. A Connectionist and Symbolic Hybrid for Improving Legal Research, *International Journal of Man-Machine Studies*, 35, 1–33. **[J]**

Daniel E. Rose, 1990. Appropriate Uses of Hybrid Systems. *Connectionist Models: Proceedings of the 1990 Summer School*, D. S. Touretzky and J. L. Elman and T. J. Sejnowski and G. E. Hinton, Morgan Kaufmann, San Mateo, CA, 277–286 **[J]**

Rumelhart, D. E. (1989). Toward a microstructural account of human reasoning. In S. Vosniadou & A. Ortony, (eds.) Similarity and analogical reasoning (pp. 298-312). New York: Cambridge University Press. **[A]**

Rumelhart, D. E., Smolensky, P., McClelland, J. L., & Hinton, G. E. (1986). Schemata and sequential thought processes in PDP models. In J. L. McClelland, D. E. Rumelhart, & the PDP Research Group. Parallel distributed processing: Explorations in the microstructure of cognition, (Vol. 2, pp. 7-57). Cambridge, MA: Bradford Books. **[S]**

Rumelhart, D. E., & Todd, P. M. (in press). Learning and Connectionist Representations. In D. Meyers and S. Kornblum (eds.), *Attention and Performance*. Cambridge, MA: MIT Press. **[L]**

Samad, T. 1988 "Towards Connectionist Rule-Based Systems", *IEEE International Conference on Neural Networks*, Vol.2, pp.525-532, **[R]**

Schneider, W., & Oliver, W. L. (in press). An instructable connectionist/control architecture: Using rule-based instructions to accomplish connectionist learning in a human time scale. In K. VanLehn (Ed.) *Architectures for Intelligence*. Hillsdale, NJ: Erlbaum. **[R]**

Sharkey, N. E. (1991). Connectionist representation techniques. *AI Review*, (5):142–167. **[O]**

Sharkey, N.E. (1992). The Ghost in the Hybrid: A Study of Uniquely Connectionist Representations. *AISB Quarterly*, 10-16. **[O]**

Sharkey, N.E. and Jackson, S.A. (in press) Three horns of the representational

S. J. Hanson, R. P. Lipmann (eds.), to appear in *Advances in Information Processing Systems 4* (NIPS), pp. 217-224, 1992. **[R]**

G. Pinkas, R. Dechter, (1992). "A new improved activation function for connectionist energy minimization," *Proceedings of The Tenth National Conference on Artificial Intelligence,* (AAAI-92). pp.434-439, San Jose, CA. **[R]**

Pinkas, G. (1991). Propositional non-monotonic reasoning and inconsistency in symmetric neural networks. In *International Joint Conference on Artificial Intelligence (IJCAI-91).* **[R]**

Pinkas, G. (1991). Symmetric neural networks and propositional logic satisfiability. *Neural Computation*, 3(2):282–291. **[R]**

S. Pinker, A. Prince. 1988. On Language and Connectionism: Analysis of a parallel distributed processing model of language inquisition. *Cognition.* 28, 73-193. **[N]**

Plate, T. A., (1991). Holographic Reduced Representations: Convolution Algebra for Compositional Distributed Representations. Sydney, Australia , Proceedings of the 12th International Joint Conference on Artificial Intelligence, 30-35. Also in: *Arificial neural networks: concepts and theory*, IEEE Computer Society Press Tutorial, Pankaj Mehra and Benjamin W. Wah, eds. 126-131, Los Alamitos, CA **[O]**

Tony A. Plate, (1992). Holographic Recurrent Networks, *Advances in Neural Information Processing Systems 5* (NIPS92), eds. C. L. Giles and S. J. Hanson and J. D. Cowan, San Mateo, CA, Morgan Kaufmann, **[O]**

Pollack, J. (1988). Recursive auto-associative memory: Devising compositional distributed representations. In *10th Cognitive Science Society Conference.* **[O]**

Pollack, J. B. (1990). Recursive distributed representations. *Artificial Intelligence*, 46:77–105. **[O]**

Riley, M. S., & Smolensky, P. (1984). A parallel model of (sequential) problem solving. In: *Proceedings of the Sixth Annual Conference of the Cognitive Science Society.* Hillsdale, NJ: Erlbaum. **[R]**

Robins, A.V. 1992. "Multiple Representations in Connectionist Systems", *International Journal of Neural Systems*, 2(4), 345 - 362. **[O]**

Oden, G. C. (1988). FuzzyProp: A symbolic superstrate for connectionist models. Proceedings of the IEEE International Conference on Neural Networks, Vol. I, 293-300. **[F]**

Oden, G. C. (1992). Direct, incremental learning of fuzzy propositions. Proceedings of the Fourteenth Annual Conference of the Cognitive Science Society, 48-53. **[F, L]**

Oden, G. C. (in press). Why the difference between connectionism and anything else is more than you might think but less than you might hope. In Honavar, V., & Uhr, L. (eds.) Integrating symbol processors and connectionist networks in artificial intelligence and cognitive modeling. New York, NY: Academic Press. **[F]**

Oliver, W. L., & Schneider, W. (1988). Using rules and task division to augment connectionist learning. In: *Proceedings of the tenth annual conference of the Cognitive Science Society.* pp.55-61. Hillsdale, NJ: Erlbaum. **[R, L]**

C.W. Omlin and C.L. Giles and C.B. Miller, 1992. Heuristics for the Extraction of Rules from Discrete-Time Recurrent Neural Networks, *Proceedings International Joint Conference on Neural Networks*, I, 33-38. **[R, L]**

P. Orponen, P. Floréen, P. Myllymäki, H. Tirri, (1990). A Neural Implementation of Conceptual Hierarchies with Bayesian Reasoning. *Proceedings of the International Joint Conference on Neural Networks* (San Diego, CA, June 1990), Vol 1: 297–303. IEEE, New York, 1990. **[S]**

Peng, Y., & Reggia, J. A. (1989). A connectionist model for diagnostic problem solving. *IEEE Transactions on Systems, Man, and Cybernetics,* 19(2), 285-298. **[E]**

G. Pinkas, (1991). "Energy minimization and the satisfiability of propositional calculus," *Neural Computation 3,* 2, pp. 282-291, 1991. Also in Touretzky, D.S., Elman, J.L. Sejnowski, T.J. Hinton, G.E. (eds), *Proceedings of the 1990 Connectionist Models Summer School*, pp. 23-31, San Mateo, Morgan Kaufmann. **[R]**

G. Pinkas, (1991). "Propositional non-monotonic reasoning and inconsistency in symmetric neural networks," *Proceedings of the 12th International Joint Conference on Artificial Intelligence*, pp. 525-530, Sydney, 1991. **[R]**

G. Pinkas, (1992). "Constructing proofs in symmetric networks," in J. E. Moody,

S]

Miikkulainen, R. and M. G. Dyer. (1991). Natural Language Processing with Modular PDP Networks and Distributed Lexicon. *Cognitive Science*. 15, 3, 1991. **[N, S]**

Miikkulainen, R. and M. G. Dyer. (1989). Encoding Input/Output Representations in Connectionist Cognitive Systems. In D. Touretzky, G. Hinton, T. Sejnowski (eds.). Proceedings of the 1988 Connectionist Models Summer School. Morgan Kaufmann, San Mateo, CA. **[O]**

Miikkulainen, R. and M. G. Dyer. (1988). Forming Global Representations with Extended Backpropagation. Proceedings of the IEEE Second Annual International Conference on Neural Networks (ICNN-88). San Diego, CA, July 1988. **[L]**

Minsky, M. (1990). Logical vs. analogical or symbolic vs. connectionist or neat vs. scruffy. In *Frontiers of Artificial Intelligence*, Chapter 9, pages 218–243. MIT Press. **[G]**

Mitchell, M., & Hofstadter, D. R. (in press). The emergence of understanding in a computer model of concepts and analogy-making. Physica D. **[A]**

Mitchell, M., & Hofstadter, D. R. (1989). The role of computational temperature in a computer model of concepts and analogy-making. In: *Proceedings of the Eleventh Annual Conference of the Cognitive Science Society* (pp. 765-772). Hillsdale, NJ: Erlbaum. **[A]**

Hermann Moisl, (1992). 'Connectionist finite state natural language processing', *Connection Science*. 4(2), 1992, 67-91. **[N]**

Montgomery, G. J. and Drake, K. C. (1991). Abductive reasoning networks. *Neurocomputing*, 2(3):97–104. **[R]**

P. Myllymäki, H. Tirri, P. Floréen, P. Orponen, 1990. Compiling High-level Specifications into Neural Networks. *Proceedings of the International Joint Conference on Neural Networks* (Washington D.C., January 1990), Vol 2: 475–478. IEEE, New York, NY. **[O]**

P. Myllymäki and H. Tirri, (1993). Bayesian Case-Based Reasoning with Neural Networks. To appear in *Proceedings of the IEEE International Conference on Neural Networks* (San Francisco, March 1993). **[A]**

MacLennan, B. J. (in press). Characteristics of connectionist knowledge representation. *Information Sciences*, to appear. **[O]**

MacLennan, B. J. (in press). Continuous symbol systems: The logic of connectionism. In: D. S. Levine and M. Aparicio IV (eds.), *Neural Networks for Knowledge Representation and Inference*. Hillsdale NJ: Lawrence Erlbaum. **[O]**

MacLennan, B. J. (in press) Image and symbol: Continuous computation and the emergence of the discrete. *Integrating Symbolic Processors and Connectionist Networks for Artificial Intelligence and Cognitive Modelling.* eds. Vasant Honavar and Leonard Uhr, New York, NY: Academic Press. **[O]**

Maclin, Richard and Shavlik, J. (1992). Using knowledge-based neural networks to improve algorithms: refining the Chou-Fasman algorithm for protein folding, *AAAAI'92*, pp.165-161. **[R, L]**

Mangold-Allwinn, R. (1990). Learning to produce discriminative object descriptions: On the representation of rules in a PDP net. In Eckmiller, R., Hartmann, G., and Hauske, G., editors, *Parallel Processing in Neural Systems and Computers*, pages 487–490. Elsevier. **[R]**

D.R. Mani & L. Shastri, 1991. Combining a Connectionist Type Hierarchy with a Connectionist Rule-Based Reasoner. *Proceedings of the Thirteenth Conference of the Cognitive Science Society*, Chicago, IL. 418-423 **[R, S]**

J. L. McClelland, A. H. Kawamoto, (1986). "Mechanisms of sentence processing: assigning roles to constituents," in J. L. McClelland and D. E. Rumelhart, *Parallel Distributed Processing: Explorations in The Microstructure of Cognition I*, MIT Press, 1986. **[N, S]**

McMillan, C. et al. (1992). "Rule Induction through Integrated Symbolic and Subsymbolic Processing", in: *Advances in Neural Information Processing Systems 4*, pp 969-976, 1992. **[L, R]**

McMillan, C., & Smolensky, P. (1988). Analyzing a connectionist model as a system of soft rules. In: *Proceedings of the Tenth Annual Conference of the Cognitive Science Society.* pp.62-68. Hillsdale, NJ: Erlbaum. **[R]**

Miikkulainen, R., & Dyer, M. G. (1989). A modular neural network architecture for sequential paraphrasing of script-based stories. In *Proc. of the Second Joint Conference on Neural Networks*, Washington D.C., pp. 29-56, 1989 **[N,**

Lee, C.-C. (1990). A self-learning rule-based controller employing approximate reasoning and neural network concepts. *Int. J. Intell. Syst.*, 5(3). **[F]**

Lee, S. and Lee, E. (1974). Fuzzy sets and neural networks. *J. Cybern.*, 4(2):83–103. **[F]**

Lee, G., Flowers, M., & Dyer, M. G. (1989). A symbolic/connectionist script applier mechanism. In: *Proceedings of the eleventh annual conference of the Cognitive Science Society.* pp.714-721. Hillsdale, NJ: Erlbaum. **[S]**

Geunbae Lee, Margot Flowers, and Michael G. Dyer. (1990). Learning distributed representations of conceptual knowledge and their application to script based story processing. *Connection Science*, 2 (4), 313-346. **[S]**

W. G. Lehnert 1991. Symbolic/Subsymbolic Sentence Analysis: Exploiting the best of both worlds in: J. Barnden J. Pollack (eds.) *Advances in Connectionist and Neural Computation Theory* Hillsdale, NJ: Lawrence Erlbaum Assoc **[N]**

D.S. Levine & M. Aparicio (eds), (1993). *Neural Networks for Knowledge Representation and Inference.* Hillsdale, N.J.: Lawrence Erlbaum Associates. **[C]**

Lim, J.H. et al. (1991). "INSIDE: A Connectionist Case-based Diagnostic Expert System that Learns Incrementally" Proceedings of the International Joint Conference on Neural Networks, pp 1693-1698, 1991. **[A, E]**

Lim, J, Lui, H., and Wang, P., (1992). A framework for integrating fault diagnosis and increamental knowledge acquisition in connectionist expert systems, AAAI'92, p.159-165. **[L, E]**

Lin, C.-T. and Lee, C. S. G. (1991). Neural-network-based fuzzy logic control and decision system. *IEEE Transactions on Computers - Special Issue on Artificial Neural Networks*, 40(12):1320–1336. **[F]**

Machado, R.J., Rocha, A.F., (1992). A Hybrid Architecture for Fuzzy Connectionist Expert Systems. In: *Hybrid Architectures for Intelligent Systems*, eds. A. Kandel, G. Langholz, CRC Press Inc, 1992. **[F, E]**

Machado, R.J., Rocha, A.F., (1992). "Evolutive Fuzzy Neural Networks", in *Proceedings of the IEEE International Conference on Fuzzy Systems*, San Diego, CA. **[F, L]**

Kentridge, R.W. (in press) Cognition, chaos and non-deterministic symbolic computation: The Chinese Room problem solved? to appear in: *Think* (special issue on Connectionism and Symbolic Artificial Intelligence). **[G]**

Kosko, B., 1986, Fuzzy Cognitive Maps, Int. J. Man-Machine Studies, 24, 65–75 **[F]**

Kuncicky, D.C., 1989, A Fuzzy Interpretation of Neural Networks, *The 3rd IFSA Congress*, 113–116. **[F]**

Kuncicky, D. C., Hruska, S. I., and Lacher, R. C. (1991). Hybrid systems: The equivalence of rule-based expert system and artificial neural network inference. *International Journal of Expert Systems.* **[E]**

Kurfeß, F. (1991). Unification on a connectionist simulator. In *International Conference on Artificial Neural Networks – ICANN-91*, Helsinki, Finland. **[O]**

S. C. Kwasny, K. A. Faisal, (1990). "Connectionism and determinism in a syntactic Parser," *Connection Science 2,* 1-2, pp. 63-82, 1990. **[N]**

Lacher, R. C., Hruska, S. I., and Kuncicky, D. C. (1991). Backpropagation learning in expert networks. *IEEE Transactions on Neural Networks.* **[E, L]**

Lachter, J., & Bever, T.G. (1988). The relation between linguistic structure and associative theories of language learning–A constructive critique of some connectionist learning models. *Cognition*, 28, 195-247. **[N]**

Lange, T. E., & Dyer, M. G. (1989). Frame selection in a connectionist model of high-level inferencing. In: *Proceedings of the eleventh annual conference of the Cognitive Science Society.* pp.706-713. Hillsdale, NJ: Erlbaum. **[R]**

Lange, T. E. and Dyer, M. G. (1989). High-level inferencing in a connectionist network. *Connection Science*, 1:181–217. **[R]**

Lange, T.E. et al. (1990). "Analogical Retrieval Within a Hybrid Spreading-Activation Network" Connectionist Models: Proceedings of the 1990 Summer School, pp 265-274, 1990. **[A]**

Lea, Robert N. and Villareal, James, eds. 1991, *Proceedings of the Second Joint Technology Workshop on Neural Networks and Fuzzy Logic*, NASA Lyndon B. Johnson Space Center, Houston, Texas. **[C, F]**

Hölldobler, S. and Kurfeß, F. (1991). CHCL – A Connectionist Inference System. In Fronhöfer, B. and Wrightson, G., eds, *Parallelization in Inference Systems*, Lecture Notes in Computer Science. Springer. **[R]**

Holyoak, K.J. & Barnden, J.A. (eds). (in press). *Advances in Connectionist and Neural Computation Theory, Vol.2: Analogical Connections.* Norwood, N.J.: Ablex Publishing Corp. **[C]**

Jang, J-S.R. (1992). "Self-Learning Fuzzy Controllers Based on Temporal Back Propagation", *IEEE Transactions on Neural Networks*, Vol.3, No.5, pp. 714:723, 1992. **[F, L]**

J.-S. Roger Jang, 1991, Fuzzy Modeling Using Generalized Neural Networks and Kalman Filter Algorithm, Proc. of the Ninth National Conference on Artificial Intelligence (AAAI-91), 762-767, **[F]**

J.-S. Roger Jang, 1992, ANFIS: Adaptive-Network-Based Fuzzy Inference Systems, *IEEE Transaction on System, Man, and Cybernetics*, 23, 03. **[F, L]**

Mark A. Jones, (1987). "Feedback as a Coindexing Mechanism in Connectionist Architectures," Proceedings of the Tenth International Joint Conference on Artificial Intelligence (IJCAI), Milan, Italy, August 1987. **[N]**

Mark A. Jones and Alan S. Driscoll, (1985). "Movement in Active Production Networks," Proceedings of the 23rd Annual Meeting of the Association for Computational Linguistics, Chicago, July 1985, 161-166. **[N]**

Kanal, L. and Raghavan, S. (1992). "Hybrid Systems - A Key to Intelligent Pattern Recognition", Proceedings of the International Joint Conference on Neural Networks, IV-177:IV-183, 1992. **[J]**

Keller, James M. and Tahani, Hossein, 1992. Implementation of Conjunctive and Disjunctive Fuzzy Logic Rules with Neural Networks, *International Journal of Approximate Reasoning*, 6(2):221–240. **[F]**

Keller, James M. and Yager, Ronald R. and Tahani, Hossein, 1992, Neural Network Implementation of Fuzzy Logic, *Fuzzy Sets and Systems*, 45:1–12. **[F]**

Keller, J.M. et al. (1992). "Evidence Aggregation Networks for Fuzzy Logic Inference", *IEEE Transactions on Neural Networks*, Vol.3, No.5, pp.761:769. **[F]**

Clark, A. and Lutz, R., editors, *Connectionism in Context.* Springer. **[J]**

Hawthorne, J. (1989). On the compatibility of connectionist and classical models. *Philosophical Psychology*, 2(1):5–15. **[G]**

Harris, C. L., & Elman, J. L. (1989). Representing variable information with simple recurrent networks. In: *Proceedings of the eleventh annual conference of the Cognitive Science Society.* pp.635-642. Hillsdale, NJ: Erlbaum. **[O]**

Hayashi, I., Nomura, H., Yamasaki, H., and Wakami, N. (1992). Construction of fuzzy inference rules by neural network driven fuzzy reasoning and neural network driven fuzzy reasoning with learning functions. *International Journal of Approximate Reasoning*, 6(2):241–266. **[F, L]**

Hayashi, Y., Krishnamraju, P.V., and Reilly, K.D., (1991). An Architecture for Hybrid Expert Systems, *Proc. of Int'l Joint Conf. on Neural Networks* (IJCNN'91-Singapore), Singapore, Nov. 18-21, pp. 2773-2778, 1991. **[E]**

James Henderson, 1992. A Connectionist Parser for Structure Unification Grammar, *Proceedings of the 30th Annual Meeting of the Association for Computational Linguistics,* Newark, DE. **[N]**

Hendler, J. (1991) Developing Hybrid Symbolic/Connectionist Models. In Barnden & Pollack, 1991, 165- 179. **[J]**

J. Hendler, (1987). Marker Passing and Microfeature, *Proc.10th IJCAI*, pp.151-154, Morgan Kaufman, San Mateo, CA. 1987 **[J]**

Hinton, G. E., ed. (1990). "Special Issue on Connectionist Symbol Processing", Artificial Intelligence, 46, 1990. Also as *Connectionist Symbol Processing.* Bradford Book. MIT Press, Cambridge, MA. **[C]**

Hinton, G. E. (1990). Mapping part-whole hierarchies into connectionist networks. *Artificial Intelligence*, 46, 1990. pages 47–76. **[S]**

Hirota, K. and Pedrycz, W. (1991). "Fuzzy Logic Neural Networks: Design and Computations" Proceedings of the International Joint Conference on Neural Networks, pp 154-157, November 1991. **[F]**

Hölldobler, S. (1990). A structured connectionist unification algorithm. In *AAAI '90*, pages 587–593. **[O]**

In: *Proceedings of the eighth annual conference of the Cognitive Science Society.* pp.13-21. Hillsdale, NJ: Erlbaum. **[S]**

Rodney M. Goodman et al., (1992). "Rule-based neural networks for classification and probability Estimation," *Neural Computation.* 4, pp.781-804. **[R]**

Goodman, R. M., Miller, J. W., and Smyth, P. (1989). An information theoretic approach to rule-based connectionist expert systems. In *NIPS 88*, pages 256–263. **[R, E]**

Greenspan, H.K. et al. (1992). "Combined Neural Network and Rule-Based Framework for Probabilistic Pattern Recognition and Discovery". In: *Advances in Neural Information Processing Systems 4*, pp 444-451. **[R]**

Grossberg, S., & Gutowski, W. (1987). Neural dynamics of decision making under risk: Affective balance and cognitive-emotional interactions. Psychological Review, 94(3), 300-318. **[R]**

H. W. Güesgen, S. Hölldobler, (1992). "Connectionist Inference Systems," in B. Fronhfer, G. Wrightson (eds), *Parallelization in Inference Systems,* Springer, Lecture Notes in Artificial Intelligence, 1992. pages 82–122. **[R]**

Gutknecht, M., & Pfeiffer, R. (1990). An Approach to Integrating Expert Systems with Connectionist Networks. AI Communications, 3 (3), 116-127. **[E]**

Hadley, R. F. (1990). Connectionism, rule following, and symbol manipulation. *Proc. of AAAI-90.* pp.579-586. **[G, R]**

Hall, L. O. and Romaniuk, S. G. (1990). FUZZNET: towards a fuzzy connectionist expert system development tool. In *IJCNN 90*, Volume 2, pages 483–486, Washington, DC. **[E]**

Handelman, D.A., Lane, S.H., & Gelfand, J.J. (1990). Integrating Knowledge-Based System and Neural Network Techniques for Robotic Skill Acquisition. In: *International Joint Conference on Neural Networks*, 193-198. Also in: *Proceedings of IJCAI*, 193-198, 1989. **[E, J]**

Harnad, S. (1990). The symbol grounding problem. *Physica D*, 42(1-3):335–346. **[J]**

Harnad, S. (1992). Connecting object to symbol in modeling cognition. In

Gasser, M. and M. G. Dyer. (1988). Sequencing in a Connectionist Model of Language Processing. Proceedings of 12th International Conference on Computational Linguistics (COLING-88). Budapest, Hungary, August 1988. **[N]**

C. L. Giles, G. Z. Sun, H. H. Chen, Y. C. Lee, and D. Chen, (1990). "High Order Recurrent Networks and Grammatical Inference", in: *Advances in Neural Information Processing System 2*, pp.380 - 387, D. S. Touretzky (editor), Morgan Kaufman, San Mateo, CA. **[L]**

C. L. Giles, D. Chen, C.B. Miller, H. H. Chen, G. Z. Sun and Y. C. Lee, (1991). "Second-Order Recurrent Neural Networks for Grammatical Inference", Proceedings of International Joint Conference on Neural Networks, Vol. II, pp. 273-278, Seattle, Washington. **[L]**

C. Lee Giles, C.B. Miller, D. Chen, H.H. Chen, G.Z. Sun and Y.C. Lee, (1992). "Extractiing and Learning an Unknown Grammar with Recurrent Neural Networks", *Advances in Neural Information Processing System 4*, pp. 317-324, Edited by J. Moody, S. Hanson and R. Lippmann, Morgan Kaufmann, San Mateo, CA, 1992. **[L]**

C. Lee Giles, C.B. Miller, D. Chen, H.H. Chen, G.Z. Sun and Y.C. Lee, (1992). "Learning and Extractiing Finite State Automata with Second-Order Recurrent Neural Networks", Neural Computation, Vol. 4, No. 3. **[L]**

Advances in Neural Information Processing System 5, pp. ?-?, Edited by C. Lee Giles and R. Lippmann, Morgan Kaufmann, San Mateo, CA, 1992.

Goebel, R. (1990). Learnign symbol processing with recurrent networks. In Eckmiller, R., Hartmann, G., and Hauske, G., editors, *Parallel Processing in Neural Systems and Computers*, pages 157–160. Elsevier. **[L]**

Goebel, R. (1990). A connctionist approach to high-level cognitive modeling. In: Proceedings of the Twelfth Annual Conference of the Cognitive Science Society, Cambridge, MA. **[O]**

Goebel, R. (1990). Binding, Episodic Short-Term Memory, and Selective Attention, Or Why are PDP Models Poor at Symbol Manipulation? In D.S. Touretzky, J.L. Elman, T.J. Sejnowski, & G.E. Hinton (Hrsg.), Connectionist Models. Proceedings of the 1990 Summer School. San Mateo: Morgan Kaufman. **[O]**

Golden, R. M. (1986). Representing causal schemata in connectionist systems.

Elman, J. L. (1989). Structured representations and connectionist models. In *COGSCI '89*, pages 17–23. **[N, L]**

Eppler, W. (1990). Implementation of fuzzy production systems with neural networks. In Eckmiller, R., Hartmann, G., and Hauske, G., editors, *Parallel Processing in Neural Systems and Computers*. Elsevier. 249–252 **[F]**

Fahlman, S. and Hinton, G. (1987). Connectionist Architectures for Artificial Intelligence. *Computer*, 20:100–118. **[G]**

Farringdon. J. (1992). Approximating a neural network in symbolic logic *Artificial Intelligence and the Simulation of Behaviour Quarterly*, Special Issue on Hybrid Systems. 79. **[O]**

Feldman, J. A., Fanty, M. A., Goddard, N. H., and Lynne, K. J. (1988). Computing with Structured Connectionist Networks. *Communications of the ACM*, 31:170–187. **[O]**

J. A Feldman, (1989). "Neural representation of conceptual knowledge," in Nadel, Cooper, Culicover and Harnish (eds.) *Neural Connections, Mental Computation*, Cambridge MA: MIT Press. **[S]**

J. A. Fodor, Z. W. Pylyshyn, (1988). "Connectionism and cognitive architecture: A critical analysis," *Cognition 28*, pp. 3-71. Also in: Pinker and Mehler (eds.) *Connections and Symbols*, MIT Press, Cambridge, MA. **[G]**

Fu, L-M. (1991). Rule learning by searching on adapted nets, in AAAI'91, p.590-595. **[R, L]**

Fu, L.-M. (1990). Backpropagation in neural networks with fuzzy conjunction units. In *International Joint Conference on Neural Networks 1990, Vol.1*, pages 613–618. **[F, L]**

Fu, L.-M. and Fu, L.-C. (1990). Mapping rule-based systems into neural architecture. *Knowledge Based Systems*, (3):48–56. **[R]**

Fu, L.M. (1992). "A Neural Network Model for Learning Rule-Based Systems", Proceedings of the International Joint Conference on Neural Networks, I-343:I-348. **[R, L]**

Gallant, S. I. (1988). Connectionist expert systems. *Communications of the ACM*, 24(2):152–169. **[R, E]**

brid System", Proceedings of the International Joint Conference on Neural Networks, pp 479-484, November 1991. **[N]**

Diederich, J. (1991). Steps towards Knowledge-Intensive Connectionist Learning. In Barnden & Pollack, Advances in connectionist and neural computation theory, (Vol.1). Norwood, NJ: Ablex. 1991, 284-303. **[L]**

Diederich, J. (1992). Explanation and artificial neural networks. International Journal of Man-Machine Studies, 37, 335-355. **[R]**

Dinsmore, J., ed. (1992). *Closing the Gap: Symbolism vs. Connectionism.* Lawrence Erlbaum Associates. **[C]**

C. P. Dolan, M. G. Dyer, (1987). "Symbolic schemata, role binding and evolution of structure in connectionist memories," *Proceedings of the First International Conference on Neural Networks.* **[S, L]**

C. P. Dolan, P. Smolenski, (1989). "Tensor product production system: a modular architecture and representation," *Connection Science 1,* pp. 53-68, 1989. **[R]**

Dolan, C. and M. G. Dyer. (1987). Towards the Evolution of Symbols. *Proceedings of the 2nd International Conference on Genetic Algorithms and Their Applications.* Cambridge, MA, July 1987. **[L]**

C. P. Dolan, (1989). M. G. Dyer, "Parallel retrieval and application of conceptual knowledge," in Touretzky, Sejnowski, T. J. Hinton, G. E (eds), *Proceedings of the 1988 Connectionist Models Summer School,* Morgan Kaufmann. **[S]**

M. G. Dyer, (1990). "Distributed symbol formation and processing in connectionist networks," *Journal of Expt. Theor. Artificial Intelligence 2,* pp. 215-239, 1990. **[L]**

Dyer, M. G. (1991). Symbolic NeuroEngineering for Natural Language Processing: A Multile Level Research Approach. In: J. Barnden and J. Pollack (eds.) *Advances in Connec tionist and Neural Computation Theory.* Vol. 1, Ablex. **[G]**

Dyer, M. G. (1991). Lexical Acquisition through Symbol Recirculation in Distributed Connectionist Networks. In U. Zernik (ed.), *Lexical Acquisition: Using On-Line Resources to Build a Lexicon.* Lawrence Erlbaum Assoc. Hillsdale, NJ, Chapter 12, pp. 309-337. **[N, L]**

Chorayan, O.G., 1982, Identifying elements of the probabilistic neuronal ensembles from the standpoint of fuzzy sets theory, *Fuzzy Sets and Systems*, 8, 2, 141–147. **[F]**

Chun, H. W., & Mimo, A. (1987). A model of schemata selection using marker passing and connectionist spreading activation. In *Proceedings of the ninth annual conference of the Cognitive Science Society.* pp.887-896. Hillsdale, NJ: Erlbaum. **[S]**

Cooper, R. & Franks, B., 1991: Interruptibility: a new constraint on hybrid systems. *Artificial Intelligence and the Simulation of Behaviour Quarterly*, Special Issue on Hybrid Systems, 78, 25–30. **[G, J]**

Cooper, R. & Franks, B., 1993: Interruptibility as a constraint on hybrid systems. *Minds and Machines*, **3** (1), 73–96. **[G, J]**

G. Cottrell. 1985. Connectionist Parsing. Proceedings of the Seventh Annual Cognitive Science Society Conference, Irvine, CA. **[N]**

Sreerupa Das, C. Lee Giles and Guo-Zheng Sun, (1992). Learning Context Free Grammars: Capabilities and Limitations of a Neural Network with an External Stack Memory. In: *Proceedings of The Fourteenth Annual Conference of The Cognitive Science Society.* **[L]**

Dawes, R. (1990). Quantum neurodynamics and the representation of knowledge. In: D.S. Levine & M. Aparicio (eds), (1993). *Neural Networks for Knowledge Representation and Inference.* Hillsdale, N.J.: Lawrence Erlbaum Associates. **[G]**

M. Derthick (1990). Mundane reasoning by setting on a plausible model. *Artificial Intelligence 46*, 1-2, pp.107-158, 1990. **[R]**

Derthick, M., & Plaut, D. C. (1986). Is distributed connectionism compatible with the physical symbol system hypothesis? In *Proceedings of the eighth annual conference of the Cognitive Science Society.* (pp. 639-644). Hillsdale, NJ: Erlbaum. **[G]**

Diamond, J., McLeod, R., and Pedrycz, W. (1990). A fuzzy cognitive system: examination of a referential neural architecture. In *International Joint Conference on Neural Networks 1990, Vol.2*, pages 617–622. **[F]**

Diederich, J. and Long, D.L. (1991). "Efficient Question Answering in a Hy-

Berenji, H.R. and Khedar, P. (1992). "Learning and Tuning Fuzzy Logic Controllers Through Reinforcements", *IEEE Transactions on Neural Networks*, Vol.3, No.5, pp.724:774. **[F, L, C]**

Bever, T.G. (1991). The demons and the beast - Modular and nodular kinds of knowledge. In: R. Ronan & N. Sharkey (eds.), *Connectionist Approaches To Natural Language Processing.* Lawrence Erlbaum (UK). **[N, G]**

D. S. Blank, L. A. Meeden, J. B. Marshal, 1992. "Symbolic manipulations via subsymbolic computations," in J. Dinsmore (ed.), *Closing the Gap: Symbolic vs. Subsymbolic Processing,* pp. 113-149, Hillsdale, N.J. Lawrence Erlbaum. **[G]**

L. Bookman, (1989). A Connectionist Scheme For Modeling Context, In D. Touretzky et al. eds. *Proc.1988 Connectionist Summer School*, pp.281-290. San Mateo, CA: Morgan Kaufman. **[N]**

Bookman, L. A. (1993). Schema recognition for text understanding: An analog semantic feature approach. In J. Barnden & J. Pollack (eds.) Advances in connectionist and neural computation theory, (Vol.1). Norwood, NJ: Ablex. **[N, J]**

Bradshaw, G., Fozzard, R., and Ceci, L. (1989). A connectionist expert system that actually works. In *NIPS 88*, pages 248–255. **[E]**

Brown, G. D. A. and Oaksford, M. (1990). The development of "Symbolic Behaviour" in natural and artificial neural networks. In Eckmiller, R., Hartmann, G., and Hauske, G., editors, *Parallel Processing in Neural Systems and Computers.* Elsevier. **[L]**

Carpenter, G.A. et al. (1992). "Fuzzy ARTMAP: A Neural Network Architecture for Incremental Supervised Learning of Analog Multidimensional Maps", *IEEE Transactions on Neural Networks*, Vol.3, No.5, pp.698:713, 1992. **[F]**

D. J. Chalmers, (1990). "Syntactic transformations on distributed representations," *Connection Science 2*, 1-2, pp. 53-62, 1990. **[L]**

Chang, E. and Sekine, M. (1991). "ARENA, a Rule Evaluating Neural Assistant that Performs Rule-based Logic Optimization", in: *Proceedings of the International Joint Conference on Neural Networks*, pp.678-683, November 1991. **[R]**

Barnden, J.A. (1985). Diagrammatic short-term information processsing by neural mechanisms. *Cognition and Brain Theory, 7*, (3 & 4), pp.285–328. **[R]**

Barnden, J.A. (1988). The right of free association: relative-position encoding for connectionist data structures. In *Procs. 10th Annual Conference of the Cognitive Science Society.* Hillsdale, N.J.: Lawrence Erlbaum. pp.503–509. **[R]**

Barnden, J.A. (1989). Neural-net implementation of complex symbol-processing in a mental model approach to syllogistic reasoning. In *Procs. 11th Int. Joint Conf. on Artificial Intelligence* (Detroit, August 1989). San Mateo, CA: Morgan Kaufmann. pp.568–573. **[R]**

Barnden, J.A. (1992). Connectionism, generalization and propositional attitudes: a catalogue of challenging issues. In J. Dinsmore (ed), *The Symbolic and Connectionist Paradigms: Closing the Gap.* Hillsdale, N.J.: Lawrence Erlbaum. pp.149–178. **[G]**

Barnden, J.A. (in press). On the connectionist implementation of analogy and working memory matching. To appear in K.J. Holyoak & J.A. Barnden (eds), *Advances in Connectionist and Neural Computation Theory, Vol. 2: Analogical Connections.* Norwood, N.J.: Ablex Publishing Corp. **[A]**

Barnden, J.A. (forthcoming). Connectionist meta-representation for propositional attitudes. *J. Experimental and Theoretical Artificial Intelligence, 5* (1). **[R]**

Barnden, J.A. & Pollack, J.B. (eds). (1991). *Advances in Connectionist and Neural Computation Theory, Vol. 1: High Level Connectionist Models.* Norwood, N.J.: Ablex Publishing Corp. **[C]**

Barnden, J.A. & Srinivas, K. (1991). Encoding techniques for complex information structures in connectionist systems. *Connection Science, 3* (3), pp.263–309. **[R]**

Bechtel, W. (1988). Connectionism and rules and representation systems: Are they compatible. *Philosophical Psychology*, 1(1):5–16. **[R, G]**

Becraft, W.R., Lee, P.L. & Newell, R.B. (1991). Integration of Neural Networks and Expert Systems for Process Fault Diagnosis. *Proc. 12th International Joint Conference on Artificial Intelligence*, 832-837. **[J, P]**

Ajjanagadde, V., & Shastri, L. (1989). Efficient inference with multi-place predicates and variables in a connectionist system. In Proceedings of the eleventh annual conference of the Cognitive Science Society (pp. 396-403). Hillsdale, NJ: Erlbaum. [**R**]

Ajjanagadde, V. (1990). Reasoning with function symbols in a connectionist system. Proceedings of the 12th annual conference of the Cognitive Science Society. Hillsdale, NJ: Erlbaum. [**R**]

P. Anandan, S. Letovsky, E. Mjolsness, 1989. "Connectionist variable binding by optimization," *Proceedings of the 11th Cognitive Science Society.* [**O**]

Anderson, J. (1990). Data representation, neural networks, and hybrid computation. in: D.S. Levine & M. Aparicio (eds), (1993). *Neural Networks for Knowledge Representation and Inference.* Hillsdale, N.J .: Lawrence Erlbaum Associates. [**G**]

E. Ardizzone, A. Chella, M. Frixione, S. Gaglio. 1992. Integrating Subsymbolic and Symbolic Processing in Artificial Vision, *Journal of Intelligent Systems*, Vol.1, No.4, pp.273-308. [**J**]

D. H. Ballard, 1986. "Parallel logical inference and energy minimization," *Proceedings of the 5th National Conference on Artificial Intelligence*, Philadelphia, pp. 203-208. [**R**]

Barnden, J. (1989). Neural-net implementation of complex symbol-processing in a mental model approach to syllogistic reasoning. In *Proceedings of the international joint conference on artificial intelligence*, pp.568-573. Los Altos, CA: Morgan Kaufmann. [**R**]

J. A. Barnden, 1991. "Encoding complex symbolic data structures with some unusual connectionist techniques," in J. A Barnden and J. B. Pollack, *Advances in Connectionist and Neural Computation Theory 1,* High-level connectionist models, Ablex Publishing Corporation, pp. 180-240. [**R**]

J. A. Barnden, K. Srinivas, (In Press), "Overcoming rule-based rigidity and connectionist limitations through massively-parallel case-based reasoning", *Int. Journal of Man-Machine Studies.* [**A**]

Barnden, J.A. (1984). On short-term information processing in connectionist theories. *Cognition and Brain Theory, 7* (1), pp. 25–59. [**R**]

APPENDIX A

BIBLIOGRAPHY OF CONNECTIONIST MODELS WITH SYMBOLIC PROCESSING

This bibliography is compiled by Ron Sun from the contributions solicited from researhers through electronic mailing lists anouncements. Especially valuable for this bibliography are the lists of references from Todd Lubert and Detlef Nauck. The selection of papers from these contributions is based mainly on the following criterion: a paper x is included in this bibliography, **if and only if** x appears in a major conference, or x appears in a journal, or x appears in a well-edited book, or x is a monograph from a well-established publisher, or x is important and influential, **and** x is written in English. A deliberate effort is made to eliminate redundant or repetitive papers (but the results may still not be fully satisfactory).

The bibliography is annotated with the following categories:

- G — general discussions and surveys.
- C — collections of papers.
- F — fuzzy logic and neural networks: hybrids and implementations.
- R — reasoning (rule-based and the like) and variable binding.
- N — natural language, text, or speech processing.
- S — schemas, scripts, semantic networks, or other conceptual structures.
- L — learning of symbolic structures.
- A — analogical or case-based reasoning.
- E — expert systems.
- J — juxstaposition and linking of symbolic systems with neural networks.
- O — topics other than the above.