

“Individual Inquiry Plan”
WSD – Design Languages
E. Christopher Mare
6 November 2002

In order to produce “A Pattern Language for Ecovillages,” a handbook for the design of sustainable human settlements for the 21st century, it will be most useful to compile a working bibliography to inform the pattern development. This bibliography will necessarily be multi-, inter-, and trans-disciplinary, and will concentrate on those sources that provide an epistemological foundation from which the structure of the language may emerge and take form. An “epistemological foundation” is the integrated *knowledge* which informs choice and decision making.

The bibliography can be divided into four essential subcategories: I) Previous Pattern Language Work, II) Ecology/Living Systems Theory, III) Holistic and Nature-based Design, and IV) Sustainable Human Settlements.

I) Previous Pattern Language Work: Since “A Pattern Language for Ecovillages” is essentially a rewrite of the original *A Pattern Language*, yet this time streamlined for a more specific, sustainable function, it will be very useful to examine the entire store of previous “pattern language” writing. This includes, especially, the writings of Christopher Alexander, whose thinking permeates the whole concept. These sources are:

- 1) *The Timeless Way of Building* – Christopher Alexander
- 2) *A Pattern Language: Towns, Buildings, Construction* – Christopher Alexander, et al.
- 3) *The Oregon Experiment* – ibid
- 4) *A Pattern Language which Generates Multi-Service Centers* – ibid
- 5) *The Production of Houses* – ibid
- 6) *Notes on the Synthesis of Form* – Christopher Alexander
- 7) *Community and Privacy* – Serge Chermayeff and Christopher Alexander
- 8) *A Pattern Language for Living Communication* – Doug Schuler
- 9) *Patterns of a Conservation Society* – Ecotrust
- 10) The Pattern Language work of Warwick Rowell at Rosneath Farm, Dunsborough, Western Australia

II) Ecology and Living Systems Theory: Since “A Pattern Language for Ecovillages” is essentially a handbook for designing human settlements that are ecologically integrated into Nature, it will be very important that the structure of the patterns mimic a natural ecology, and that the patterns themselves are fundamentally grounded in an ecological sensibility. The ideal ecovillage could be considered nothing less than a ‘living system’ ecologically embedded within larger living systems and composed of integrated, smaller subsystems. For these reasons, the following sources are included in the epistemic bibliography:

- 1) *Ecology: The Experimental Analysis of Distribution and Abundance* – Charles J. Krebs
- 2) *Ecology: A Bridge between Science and Society* – Eugene Odum
- 3) *Human Ecology* – Frederick Sargent II, editor
- 4) *Deep Ecology for the 21st Century* – George Sessions, editor
- 5) *The Way: An Ecological Worldview* – Edward Goldsmith
- 6) *Living Systems* – James Miller
- 7) *General Systems Theory* – Ludwig von Bertalanffy
- 8) *The Systems View of the World* – Ervin Laszlo
- 9) *The Logic of Living Systems* – Francois Jacob
- 10) *Gaia: A New Look at Life on Earth* – James Lovelock

III) Holistic and Nature-based Design: “A Pattern Language for Ecovillages” will be an attempt at providing and substantiating an alternative paradigm to the one currently employed when designing and planning settlements. The current paradigm could be said to be reflecting a ‘mechanistic’ worldview, and so the settlements produced are mechanistic in their configuration. Sustainable settlements will be, by definition, nature-encoded, and so sources used to support this emerging paradigm include:

- 1) *The Taoist I Ching* – Thomas Cleary, translator
- 2) *Permaculture: A Designer’s Manual* – Bill Mollison, et al.
- 3) *Ecological Design* – Sim Van der Ryn and Stuart Cowan
- 4) *The Power of Limits* – Gyorgi Doczi
- 5) *Metapatterns* – Tyler Volk
- 6) *Natural Pattern Forms* – Richard L. Dube
- 7) *Sacred Geometry* – Robert Lawlor
- 8) *The Geometry of Art and Life* – Matila Ghyka
- 9) *Design with Nature* – Ian McHarg
- 10) *Dwelling, Seeing, Designing: Toward a Phenomenological Ecology* – David Seamon, editor

IV) Sustainable Human Settlements: “A Pattern Language for Ecovillages” is, by definition, a design language for the production of sustainable human settlements. A sustainable settlement is one that can be continued into the indefinite future. In order to fully understand the implications of this statement, it is important to review the current writings on this theme before undertaking the design of the language. Sources to facilitate this understanding are:

- 1) *Ecovillages and Sustainable Communities* – Context Institute
- 2) “Village Design” – Permaculture Activist, issue #35
- 3) *Toward Sustainable Communities* – Mark Roseland
- 4) *Eco-City Dimensions* – Mark Roseland, editor
- 5) *Building a Sustainable Society* – Lester Brown
- 6) *Sustainable Communities* – Sim Van der Ryn and Peter Calthorpe

- 7) *Sustainable Cities* – Lois Arkin, et al., editors
- 8) *Green Urbanism: Learning from European Cities* – Timothy Beatley
- 9) *Villages* – Richard Critchfield
- 10) *Designing Sustainable Communities: Learning from Village Homes* – Michael and Judy Corbett

It must seem obvious by now that fully preparing for creating “A Pattern Language for Ecovillages” requires in-depth study in a variety of fields. I would suggest that initial preparation requires nothing less than devoting an entire academic degree to the subject; there are so many angles and dimensions to consider. This bibliography is just a surface representation of all the lines of thought that need to be incorporated into the conceptualization. For that reason, any progress I make now, as a consequence of this class on “Design Languages,” is just a preliminary step; and so any input from students who have not developed the full background knowledge must remain tentative.

Bibliography

- Aberly, Doug, editor (1994) *Futures by Design: The Practice of Ecological Planning*. New Society Publishers; Gabriola Island, B.C., Canada
- Albarn, Keith, et al. (1974) *The Language of Pattern*. Thames & Hudson; London
- Alexander, Christopher (1964) *Notes on the Synthesis of Form*. Harvard University Press; Cambridge, MA
- Alexander, Christopher, et al. (1968) *A Pattern Language which Generates Multi-Service Centers*. Center for Environmental Structure; Berkeley, CA
- Alexander, Christopher, et al. (1975) *The Oregon Experiment*. Oxford University Press; New York
- Alexander, Christopher, et al. (1977) *A Pattern Language*. Oxford University Press; New York
- Alexander, Christopher (1979) *The Timeless Way of Building*. Oxford University Press; New York
- Alexander, Christopher, et al. (1985) *The Production of Houses*. Oxford University Press; New York
- Arkin, Lois, Walter, Bob, and Richard Crenshaw (1992) *Sustainable Cities: Concepts and Strategies for Eco-City Development*. Eco-Home Media; Los Angeles
- Bailey, Kenneth D. (1994) *Sociology and the New Systems Theory: Toward a Theoretical Synthesis*. State University of New York Press; Albany
- Bane, Peter, publisher (1996) “Village Design.” *The Permaculture Activist*, #35
- Bartel, Roland (1983) *Metaphors and Symbols: Forays into Language*. National Council of Teachers of English; Urbana, IL

- Beatley, Timothy (2000) *Green Urbanism: Learning from European Cities*. Island Press; Washington, DC
- Bell, Gwen, editor (1976) *Strategies for Human Settlements: Habitat and Environment*. The University Press of Hawaii; Honolulu
- Benyus, Janine (1997) *Biomimicry: Innovation Inspired by Nature*. William Morrow and Company, Inc.; New York
- Bevin, Marjorie Elliott (1984) *Design through Discovery*. CBS College Publishing; New York
- Brown, Lester (1981) *Building a Sustainable Society*. W.W. Norton & Company; New York
- Bryant, Susan V., editor (1984) *Pattern Formation: A Primer in Developmental Biology*. Macmillan Publishing Company; New York
- Buchanan, Mark (2002) *Nexus: Small Worlds and the Groundbreaking Science of Networks*. W.W. Norton & Company; New York
- Calthorpe, Peter (1993) *The Next American Metropolis: Ecology, Community, and the American Dream*. Princeton Architectural Press; New York
- Carter, Vernon Gill and Tom Dale (1974) *Topsoil and Civilization*. University of Oklahoma Press; Norman
- Chermayeff, Serge and Christopher Alexander (1965) *Community and Privacy; Toward a New Architecture of Humanism*. Anchor Books; Garden City, NY
- Choguill, Charles J., Kissin, John and Richard H. Seyfarth (1972) *Ecological-Economic Analysis for Regional Development*. The Free University Press; New York
- Cleary, Thomas, translator (1986) *The Taoist I Ching*. Shambhala; Boston and London
- Coats, Callum (1996) *Living Energies*. Gateway Books; The Hollies, Wellow, Bath, UK
- Common, Michael (1996) *Environmental and Resource Economics: An Introduction*. Addison Wesley Longman, Ltd.; Harlow, Essex, England
- Conforti, Michael (1999) *Field, Form, and Fate: Patterns in Mind, Nature, and Psyche*. Spring Publications, Inc.; Woodstock, CT
- Corbett, Judy and Michael Corbett (2000) *Designing Sustainable Communities: Learning from Village Homes*. Island Press; Washington, DC
- Daily, Gretchen C. (1997) *Nature's Services: Societal Dependence on Natural Ecosystems*. Island Press; Washington, DC
- DeBlij, Harm J. (1977) *Human Geography: Culture, Society, and Space*. John Wiley & Sons, Inc.; New York
- Dice, Lee R. (1962) *Natural Communities*. University of Michigan Press; Ann Arbor
- Doczi, Gyorgi (1994) *The Power of Limits: Proportional Harmonies in Nature, Art, and Architecture*. Shambhala; Boston and London
- Doxiadis, Constantinos (1968) *Ekistics: An Introduction to the Science of Human Settlements*. Oxford University Press; New York
- Doxiadis, Constantinos (1977) *Ecology and Ekistics*. Westview Press; Boulder, CO

- Dube, Richard L. (1997) *Natural Pattern Forms: A Practical Sourcebook for Landscape Design*. Von Nostrand Rhenhold; New York
- Earle, Carville, et al. (1996) *Concepts in Human Geography*. Rowman & Littlefield Publishers, Inc.; Lanham, MD
- Fasold, Ralph (1987) *The Sociolinguistics of Society*. Blackwell Publishers, Inc.; Cambridge, MA
- Ferguson, Francis (1975) *Architecture, Cities, and the Systems Approach*. George Braziller, Inc.; New York
- Fisk, Pliny (undated) *Sustainable Design Compendium*. Center for Maximum Potential Building Systems, Inc.; Austin, TX
- Forman, Richard T. and Michael Godron (1986) *Landscape Ecology*. John Wiley & Sons, Inc.; New York
- Fraenkel, Gerd (1965) *Writing Systems*. Ginn and Company; Boston
- Fraser, Douglas (1968) *Village Planning in the Primitive World*. George Braziller, Inc.; New York
- Fuller, R. Buckminster (1975) *Synergetics: Explorations into the Geometry of Thinking*. Collier Books; New York
- Ghyka, Matila (1977) *The Geometry of Art and Life*. Dover Publications, Inc.; New York
- Gilman, Robert, editor (1991) "Eco-Villages: Sustainable Communities around the World." *In Context*, #29, Bainbridge Island, WA
- Gilman, Robert, et al. (1991) *Eco-Villages and Sustainable Communities: A Report for Gaia Trust*. Context Institute; Bainbridge Island, WA
- Goldsmith, Edward (1998) *The Way: An Ecological World-View*. The University of Georgia Press; Athens
- Goudie, Andrew (1993) *The Human Impact on the Natural Environment*. Blackwell Publishers, Ltd.; Oxford, UK
- Gregory, Derek and Rex Walford, editors (1989) *Horizons in Human Geography*. Barnes and Noble Books; Totowa, NJ
- Grenander, Ulf (1996) *Elements of Pattern Theory*. Johns Hopkins University Press; Baltimore, MD
- Grossinger, Richard, editor (1978) *Ecology and Consciousness*. North Atlantic Books; Richmond, CA
- Hiss, Tony (1990) *The Experience of Place*. Alfred A. Knopf; New York
- Hudson, J.S. (1970) *A Geography of Settlements*. MacDonald and Evans, Ltd.; London
- Jackson, Hildur and Karen Svensson (2000) *Ecovillage Millennium: News from the Global Ecovillage Network*. Gaia Trust; Naerum, Denmark
- Jackson, John Brinckerhoff (1984) *Discovering the Vernacular Landscape*. Yale University Press; New Haven, CT
- Jacob, Francois (1970) *The Logic of Living Systems*. Hazell Watson & Viney, Ltd.; Aylesbury, Bucks, Great Britain

- Jacobs, Jane (1969) *The Economy of Cities*. Random House; New York
- Jantsch, Erich (1975) *Design for Evolution*. George Braziller, Inc.; New York
- Jeffers, John N.R. (1978) *An Introduction to Systems Analysis: With Ecological Applications*. University Park Press; London
- Kim, Ke Chung and Robert D. Weaver, editors (1994) *Biodiversity and Landscapes: A Paradox for Humanity*. Cambridge University Press; UK
- Kitching, R.L. (1983) *Systems Ecology: An Introduction to Ecological Modeling*. University of Queensland Press; St. Lucia, Queensland, Australia
- Kotke, Wm. H. (1993) *The Final Empire: The Collapse of Civilization: The Seed of the Future*. Arrow Point Press; Portland, OR
- Krebs, Charles J. (1994) *Ecology: The Experimental Analysis of Distribution and Abundance*. HarperCollins College Publishers; New York
- Krishnan, Rajaram, Harris, Jonathan M. and Neva R, Goodwin, editors (1995) *A Survey of Ecological Economics*. Island Press; Washington, DC
- Kunstler, James Howard (1993) *The Geography of Nowhere: The Rise and Decline of America's Man-Made Landscape*. Touchstone Books; New York
- Kwok, Man-ho, translator (1997) *Tao-te Ching*. Element Books, Ltd.; Rockport, MA
- Laszlo, Ervin (1972) *The Systems View of the World*. George Braziller, Inc.; New York
- Lawlor, James (1982) *Sacred Geometry: Philosophy and Practice*. Thames and Hudson, Ltd.; London
- Leidy, Denise Patry and Robert A.F. Thurman (1997) *Mandala: The Architecture of Enlightenment*. Asia Society Galleries; Singapore
- Lee, Irving J. (1941) *Language Habits in Human Affairs: An Introduction to General Semantics*. Harper & Row Publishers; New York
- Lenski, Gerhard, Lenski Jean and Patrick Nolan (1991) *Human Societies: An Introduction to Macrosociology*. McGraw-Hill, Inc.; New York
- Levy, John M. (1991) *Contemporary Urban Planning*. Prentice-Hall, Inc.; Englewood Cliffs, NJ
- Lovelock, James (1979) *Gaia: A New Look at Life on Earth*. Oxford University Press, UK
- Mandelbrot, Benoit (1983) *The Fractal Geometry of Nature*. W.H. Freeman and Company; New York
- Mare, E.C. (1998) *General Systems Theory as a Conceptual Tool for Village Designers*. Village Design Institute; Seattle
- Mare, E.C. (1998) *A Preliminary Outline for "A Pattern Language for Ecovillages."* Village Design Institute; Seattle
- Mare, E.C. (2000) *Ecovillages as Living Systems: Reviewing and Renewing Organic Settlement Patterning*. Village Design Institute; Seattle
- Mare, E.C. (2000) *The Ecovillage as a Living Cell*. Village Design Institute; Seattle

- Mare, E.C. (2000) *An Introduction to Ecovillage Economics: Advocating a Human Scale*. Village Design Institute; Seattle
- Mare, E.C. (2000) *Sustainable Cities: An Oxymoron?* Village Design Institute; Seattle
- Mare, E.C. (2001) *Classic Egyptian Settlement Patterns*. Village Design Institute; Seattle
- Mare, E.C. (2002) *Sustainable Settlement Energetics: EMERGY and Ecovillage*. Village Design Institute; Seattle
- Margolin, Victor and Richard Buchanan (1995) *The Idea of Design*. The MIT Press; Cambridge, MA
- Mayall, W.H. (1979) *Principles in Design*. Von Nostrand Reinhold Company; New York
- McCloskey, D.D. (1998) "Ecology and Community: The Bioregional Vision." *Columbiana*, #20, pp. 14-27
- McHarg, Ian (1992) *Design with Nature*. John Wiley & Sons, Inc.; New York
- Milani, Brian (2000) *Designing the Green Economy: The Postindustrial Alternative to Corporate Globalization*. Rowman and Littlefield Publishers, Inc.; Lanham, MD
- Miller, James Grier (1978) *Living Systems*. McGraw-Hill, Inc.; New York
- Mollison, Bill and David Holmgren (1978) *Permaculture 1: A Perennial Agriculture for Human Settlements*. Tagari Publications; Tyalgum, NSW, Australia
- Mollison, Bill, et al. (1988) *A Permaculture Designer's Manual*. Tagari Publications; Tyalgum, NSW, Australia
- Morgan, Gareth (1986) *Images of Organization*. SAGE Publications; Beverly Hills, CA
- Mumford, Lewis (1961) *The City in History: Its Origins, Its Transformations, and Its Prospects*. Harvest Books; San Diego, CA
- Mumford, Lewis (1963) *Technics and Civilization*. Harcourt, Brace and Company; San Diego, CA
- Murphy, Pat (1993) *By Nature's Design*. Chronicle Books; San Francisco
- Naess, Arne (1989) *Ecology, Community, and Lifestyle*. Cambridge University Press; UK
- Norberg-Schulz, Christian (2000) *Architecture: Presence, Language, Place*. Skira Editore; Milano, Italy
- Northam, R.M. (1975) *Urban Geography*. John Wiley & Sons, Inc.; New York
- Odum, Eugene (1959) *Fundamentals of Ecology*. W.B. Saunders Company; Philadelphia, PA
- Odum, Eugene (1997) *Ecology: A Bridge between Science and Society*. Sinauer Associates, Inc.; Sunderland, MA
- Odum, H.T. (1983) *Systems Ecology: An Introduction*. John Wiley & Sons, Inc.; New York
- Odum, H.T. (1996) *Environmental Accounting: EMergy and Environmental Decision Making*. John Wiley & Sons, Inc.; New York
- Ong, Walter J. (1982) *Orality and Literacy: The Technologizing of the World*. T.J. Press, Ltd.; Padstow, Cornwall, Great Britain

- Proctor, Richard M. (1969) *The Principles of Pattern*. Von Nostrand Reinhold Company; New York
- Pye, David P. (1978) *The Nature and Aesthetics of Design*. Von Nostrand Reinhold Company; New York
- Rescher, Nicholas (1996) *Process Metaphysics: An Introduction to Process Philosophy*. State University of New York Press; Albany
- Ricklefs, Robert (1990) *The Economy of Nature*. W.H. Freeman and Company; New York
- Roseland, Mark, editor (1997) *Eco-City Dimensions*. New Society Publishers; Gabriola Island, B.C., Canada
- Roseland, Mark (1998) *Toward Sustainable Communities*. New Society Publishers; Gabriola Island, B.C., Canada
- Roughgarden, Jonathan (1998) *Primer of Ecological Theory*. Prentice-Hall, Inc.; Upper Saddle River, NJ
- Saarinen, Thomas F. (1976) *Environmental Planning: Perception and Behavior*. Houghton Mifflin Company; Boston
- Sale, Kirkpatrick (1980) *Human Scale*. Perigree Press; New York
- Sale, Kirkpatrick (1985) *Dwellers in the Land: The Bioregional Vision*. Sierra Club Books; San Francisco
- Sargent II, Frederick, editor (1974) *Human Ecology*. North-Holland Publishing Company; Amsterdam
- Schmookler, Andrew Bard (1984) *The Parable of the Tribes: The Problem of Power in Social Evolution* University of California Press; Berkeley and Los Angeles
- Schumacher, E.F. (1973) *Small is Beautiful: Economics as if People Mattered*. Harper & Row Publishers, Inc.; New York
- Seamon, David, editor (1993) *Dwelling, Seeing, and Designing: Toward a Phenomenological Ecology*. State University of New York Press; Albany
- Sessions, George, editor (1995) *Deep Ecology for the 21st Century*. Shambhala; Boston and London
- Sheldrake, Rupert (1994) *The Rebirth of Nature*. Park Street Press; VT
- Shelley, Fred and Audrey Clarke (1994) *Human and Cultural Geography*. Wm. C. Brown Publishers; Dubuque, IA
- Short, Professor John Rennie (1992) *Human Settlements*. Oxford University Press; New York
- Smil, Vaclav (1991) *General Energetics: Energy in the Biosphere and Civilization*. John Wiley & Sons, Inc.; New York
- Smith, Robert Leo (1972) *The Ecology of Man: An Ecosystem Approach*. Harper & Row Publishers; New York
- Steiner, Frederick (1991) *The Living Landscape: An Ecological Approach to Landscape Planning*. McGraw-Hill, Inc.; New York

- Steyaert, Thomas A. (1971) *Life and Patterns of Order*. McGraw-Hill, Inc.; New York
- Taylor, A.M. (1999) *Time-Space Technics: The Evolution of Societal Systems and World-Views*. Reprint from "World Futures: The Journal of General Evolution," Volume 54, #1
- Todd, John and Nancy Jack Todd (1994) *From Eco-Cities to Living Machines: Principles of Ecological Design*. North Atlantic Books; Berkeley
- Thom, Rene (1975) *Structural Stability and Morphogenesis*. W.A. Benjamin; Reading, MA
- Thompson, D'arcy Wentworth (1942) *On Growth and Form*. University Press; Cambridge, England
- Thompson, George F. and Frederick R. Steiner (1997) *Ecological Design and Planning*. John Wiley & Sons, Inc.; New York
- Tuan, Yi-Fu (1974) *Topophilia: A Study of Environmental Perception, Attitudes, and Values*. Prentice-Hall, Inc.; Englewood Cliffs, NJ
- Van Andruss, Christopher and Judith Plant, and Eleanor Wright (1990) *Home! A Bioregional Reader*. New Society Publishers; Gabriola Island, B.C., Canada
- Van der Ryn, Sim and Peter Calthorpe (1986) *Sustainable Communities: A New Design Synthesis for Cities, Suburbs, and Towns*. Sierra Club Books; San Francisco
- Van der Ryn, Sim and Stuart Cowan (1996) *Ecological Design*. Island Press; Washington, DC
- Van Kooten, G. Cornelius and Erwin H. Bulte (2000) *The Economics of Nature: Managing Biological Assets*. Blackwell Publishers; Malden, MA
- Vernadsky, Vladimir (1929) *The Biosphere*. Synergetic Press, Inc.; New York
- Volk, Tyler (1995) *Metapatterns: Across Space, Time, and Mind*. Columbia University Press; New York
- Von Bertalanffy, Ludwig (1968) *General Systems Theory*. George Braziller, Inc.; New York
- Waddington, C.H. (1978) *The Man-Made Future*. St. Martin's Press; New York
- Warner Jr., Sam Bass (1972) *The Urban Wilderness: A History of the American City*. University of California Press; Berkeley
- Watt, Kenneth E.F. (1966) *Systems Analysis in Ecology*. Academic Press; New York
- Weisman, Alan (1995) *Gaviotas: A Village to Reinvent the World*. Chelsea Green Publishing Company; White River Junction, VT
- Zeleny, Milan, editor (1980) *Autopoiesis, Dissipative Structures, and Spontaneous Social Orders*. AAAS Selected Symposium 55. Westview Press; Boulder, CO
- Zelinsky, Wilbur (1966) *A Prologue to Population Geography*. Prentice-Hall, Inc.; Englewood Cliffs, NJ
- Zygote Graphics (1972) *Village I*. California Institute of the Arts; San Francisco