



Environmental & Architectural Phenomenology Newsletter

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Spring 1996

The main focus of this issue is *water*. From the inception of *EAP*, we have sought to include qualitative research exploring various aspects of the natural world. The features in this issue look at the importance of water in human life from several different angles. Geographer Carol Prorok reviews Walter and Mary Brennemans' *Crossing the Circle at the Holy Wells of Ireland*, a study of the holy springs, or "wells," associated with pre-Celtic, Celtic, and Christian traditions in Ireland.

In turn, ecologist Nigel Hoffmann provides a review of German hydrologist Theodor Schwenk's *Sensitive Chaos*, a phenomenological study of water and other fluid phenomena in nature. Most of the illustrations in this issue are from Schwenk's book.

In addition, we include an essay by Australian landscape architect Barbara Schaffer, who is a member of the project, *Restoring the Waters*, an effort in Sidney to convert the artificial storm-water canals of the city back to the original natural system of streams and creeks. The aim is more sustainable, healthful, and aesthetically-satisfying landscapes.

We close with an essay from writer, poet, and sculptor Tom Jay, who explores the implicit relationships among words, landscape, and place.

As always, we encourage readers to send material, whether news, reviews, essays, poems, drawings, items of interest, and the like. *Let us hear from you!*

PHENOMENOLOGY CONFERENCES

The annual conferences of the **Society for Phenomenology and Existential Philosophy (SPEP)** and the **Society for Phenomenology and the Human Sciences (SPHS)** will be held at Georgetown Univ., Wash., D.C., Oct. 10-12, 1996. SPEP Contact: M. Bower, Philosophy Dept., Earlham College, Richmond, IN 47374-4095 (317-983-1438); SPHS contact: M. Connolly, Brock Univ., Physical Education Dept., St. Catharines, Ontario L2S 3A1 (905-688-5550).

The 15th International Human Science Research Conference will be held in Halifax, Nova Scotia, at the Nova Scotia College of Art and Design, August 14-17, 1995. One conference theme is "Art and Design for Personal, Social and Cultural Change." Contact: Dr. C. Taylor, Art Education, Nova Scotia College of Art & Design, Halifax, NS B3J 3J6.

Below: The horns of the African kudu antelope. "The form of the vortex, with its quality of creating a connection with the surrounding world, appears in the horns of many animals." From Sensitive Chaos, pp. 49-50—see the review in this issue.



ITEMS OF INTEREST

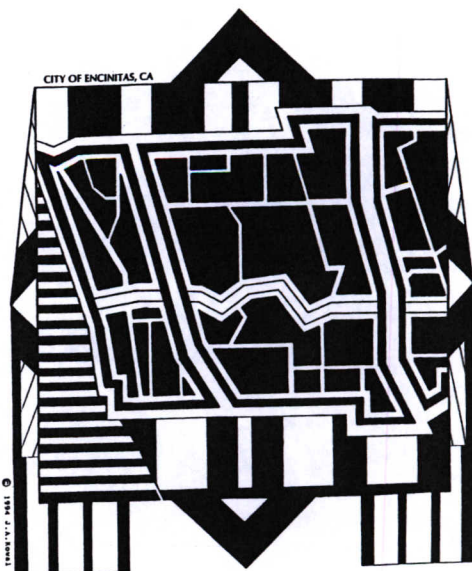
Vision into Action is a 10-day residential training in applied deep ecology, to be held July 19-28, 1996, at the Chinook Learning Center, Whidbey Island, Washington. One aim is "to turn awareness of the Earth's beauty and suffering into practical actions for change" and to consider "how to implement sustainable alternatives in our personal lives and communities." Contact: Institute for Deep Ecology, PO Box 1050, Occidental, CA 95465 (707-874-2347).

MAP² Consultations is a design firm specializing in cartographic prints that present cities and other places in terms of aesthetics, economy, and form-function interactions. Presently, the firm specializes in California sites; right is a print for the city of Encinitas, California. The firm is run by cartographer Jeffrey A. Kowal. For images available and prices, write: PO Box 163562, Sacramento, CA 95816.

Transforming Art is an Australian journal that explores the relationship between creativity and the arts. Typically, each issue focuses on a particular theme—e.g., theater, water, environmental art, or forging a dialogue between art and science. The journal includes articles and interviews and is published once or twice a year. Address: *TA*, PO Box 92, Hazelbrook 2779, Australia.

Northern Earth is a British quarterly that "deals with the sacred landscapes, traditions, folk cultures and anomalies of Northern Britain and elsewhere." The focus is on such themes as megalithic sites, alignments, patterns in the landscape, paranormal events, and "other areas at the interphase of human consciousness and the land, from ancient times to today." Address: *NE*, 10 Jubilee Street, Mytholmroyd, Hebden Bridge, West Yorkshire HX7 5NP England (01422-882441).

Interspecies Communication was founded in 1978 to promote a better understanding of what is communicated between human beings and other animals. Methods focus an integration of the arts and the sciences with a strong emphasis placed upon environmental preservation. IC believes that the environmental crisis is largely a result of how human beings



perceive their place in nature. A central aim is to help people to reestablish their emotional, spiritual, and cultural ties with the natural world. 273 Hidden Meadow Lane, Friday Harbor, WA 98250.

The Fellowship for Intentional Community, founded in 1986, is a non-for-profit educational organization that "fosters connections and cooperation among communarians and their friends." The group provides publications, referrals, support services, and sharing opportunities for a wide range of intentional communities, including cohousing groups, ecovillages, community networks, and people seeking a home in community. One of the group's publications is *Communities, Journal of Cooperative Living*, a quarterly of articles and news on intentional communities and intentional living. Address: Rt. 1, Box 155-B, Rutledge, MO. 63563 (816-883-5545).

The Center for Psychology and Social Change explores "the mutuality between our inner and outer worlds, and applies psychology to the process of healing and reshaping destructive relationships in the social, ecological, and spiritual realms." The group's projects "invite sustainable, equitable and peaceful

ways of living." Address: 1493 Cambridge Street, Cambridge, MA 02139 (617-497-1553).

CITATIONS RECEIVED

Alexander, C., Black, G. & Tsutsui, M., 1995. *The Mary Rose Museum*. NY: Oxford University Press. ISBN 0-19-521017-4.

This latest volume in the "Pattern Language" series describes Alexander's efforts to design a museum to house the remains of Henry VIII's great warship. Alexander argues that he provides "a model for the way a large and highly technical building can be designed with proper importance given to human comfort and feelings." Includes some 100 drawings and photographs.

Benjamin, D. N., ed., 1995. *The Home: Words, Interpretations, Meanings, and Environments*. London: Avery. ISBN 1-85628-888-9.

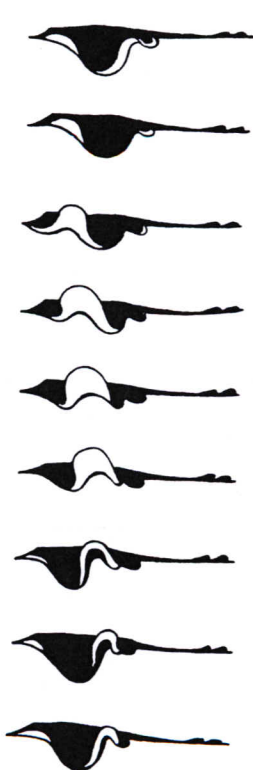
These 14 essays "offer an interdisciplinary and multi-cultural spectrum of viewpoints on the study of the home." One essay is entitled, "Identity, Intimacy and Domicile: Notes on a Phenomenology of Home," by architect J. Pallasmaa. Other contributors include R. J. Lawrence, J. D. Porteous, D. Stea, A. Rapoport, and S. Kent; foreword by D. Saile.

Boschetti, M., 1995. Attachment to Personal Possessions: An Interpretive Study of the Older Person's Experience, *Journal of Interior Design*, 21: 1-12.

This article explores the importance of personal possessions in older people's attachment to place, using the interpretive themes of *connection/extension* and *continuity/discontinuity*.

Chidester, D. & Linenthal, E. T., eds., 1995. *American Sacred Space*. Bloomington: Indiana University Press. ISBN 0-053-21006-2.

These eight essays, all by scholars of religious studies, examine "places in America where economic, political, and social forces



The ray's motions as a wave (from Schwenk, p. 35).

clash over the sacred and the profane, from the wilderness areas in the American West to the Mall in Washington, D.C., and they investigate visions of America as sacred space at home and abroad." Especially useful is the editors' citation-packed introduction, which is a review of sacred-space research organized by the topics "sacred space," "production of sacred space," "contested sacred space," and "American sacred space."

Cooper Marcus, C., 1995. *House as a Mirror of Self*. Berkeley, CA: Conari. ISBN 0-94323392-5.

This environment-behavior researcher examines "what our relationship to our home says about ourselves." Based on in-depth interviews with more than 60 individuals, the book considers "the deeper meaning of home and its impact upon the psychology and soul from infancy through adulthood." Each chapter concludes with exercises, including visual images, drawing, and reflective questions.

Drengson, A., 1995. *The Practice of Technology*. Albany, NY: SUNY Press. ISBN 0-7914-2670-X.

This book addresses "the connections between technology, ecologically-centered philosophy, and the wisdom of spiritual disciplines." The author argues that "ecological and social responsibility should be built into the design of new technology practices based on ecosophy (ecological wisdom) that enable us to harmonize with our specific place and ecological context."

Environmental Theory Arena, 1995, 3, 2 (summer).

This special issue focuses on phenomenological approaches to "environmental social science." Authors include B. Boveland ("Perspectives on the Lifeworld"), D. Paterson ("Creating a Sense of the Sacred in the Public Realm"), D. Seamon ("To Open Feeling: Phenomenology, Emotional Experience, and Humane Habitats"), and I. Leman Stefanovic ("Dwelling in Cavtat: A Phenomenological Reading of Place"). This journal is published twice a year by graduate students in the doctoral program in Environmental Psychology at the City University of New York (see *EAP*, 5, 3:3).

Foltz, B., 1995. *Inhabiting the Earth: Heidegger, Environmental Ethics, and the Metaphysics of Nature*. NY: Humanities Press. ISBN 0-391-03898-2.

This book undertakes "the first sustained analysis of how Heidegger's thought can contribute to environmental ethics and to the more broadly conceived field of environmental philosophy." A key emphasis: "the primacy of the poetic in the task of learning to inhabit the earth rightly."

Kirchoff, B., 1995. A Holistic Aesthetic for Science, *Journal of Scientific Exploration*, 9 (4): 565-78.

This biologist first reviews the evidence for the role of a scientific aesthetic and then suggests the "conscious adoption of a new aesthetic based on love" that can lead to "an appreciation of the wisdom of nature." This aesthetic might lead to "see the phenomena in their full richness and complexity, to pay attention to the patterns that arise in the phenomena as a whole."

Mugerauer, R., 1995. *Interpreting Environments: Tradition Deconstruction, Hermeneutics*. Austin: University of Texas Press. ISBN 0-292-75189-3.

This book "seeks to make deconstruction and hermeneutics accessible in the environmental disciplines." Case studies include a deconstructivist analysis of Egyptian, French neoclassical, and postmodern attempts to use pyramids; and a hermeneutical reading of the American understanding of natural landscape.

Norberg-Schulz, C., 1996. *Nightlands: Nordic Building*. Cambridge: MIT Press.

An effort to describe "the Nordic sense of place" and its translation into architecture.

Norwood, K. & Smith, K., 1995. *Rebuilding Community in America*. Berkeley, CA: Shared Living Resource Center. ISBN 0-9641346-2-4.

This book is a step-by-step primer for designing and facilitating non-traditional communities, including urban cooperative blocks, village clusters, and co-housing. The aim is "innovative home design, more cooperative relationships, energy-conserving lifestyles, and stronger mutual support."

Sessions, G., 1995. Postmodernism and Environmental Justice: The Demise of the Ecology Movement? *Trumpeter*, 12 (3): 150-154; Political Correctness, Ecological Realities, and the Future of the

Ecology Movement, *Trumpeter*, 12 (4): 191-96.

This eye-opening, two-part review of recent developments in poststructural environmental thinking is a frightening wake-up call to the callous disregard with which many critical postmodernists, eco-Marxists, and socialist feminists hold the natural world and ecological issues.

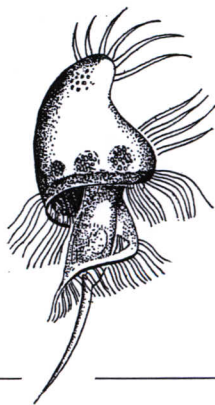
MEMBERSHIP NEWS

Malcolm Wells is an architect, designer, painter and writer. He is particularly well known for his writings about and designs of underground buildings. His 16 books include *Gentle Architecture* (1982), *Underground Buildings* (1990), and *Infrastructures* (1994).

He writes: "In 1964, after 10 years spent spreading corporate asphalt on America in the name of architecture, I woke up one day to the fact that the earth's surface was made for living plants, not industrial plants. I've been an underground architect ever since!" Address: Underground Art Gallery, 673 Satucket Road, PO Box 1149, Brewster, MA 02631.

Kingsley K. Wu, who teaches in the Department of Creative Arts at Purdue University, sends word of a China tour he will be leading shortly--"Passages Along the Silk Road," to be conducted May 23-June 10, 1996. Places to be visited include Beijing, Urumqi, Turpan, Dunhuang, Xi'an, Guangzhou, and Hong Kong. Address: 1431 Woodland Ave., West Lafayette, IN 47906 (317-463-7945).

Many unicellular water animals incorporate the archetypal spiralling movement of water into their shapes and propel themselves with a screwlike movement (from Schwenk, p. 21).



BOOK REVIEW

Walter L. Brenneman, Jr., and Mary G. Brenneman, 1995. *Crossing the Circle at the Holy Wells of Ireland*. Charlottesville: University Press of Virginia. ISBN 0-8139-1548-1.

As I drank in the richly textured portrait of Ireland's holy wells by this husband-and-wife research team, my mind could not help but draw forth my own intimacy with India's sacred places and loric spaces. The length and breadth of India's landscape is replete with the evidence of people's loric and sacred experiences in both past and the present times. So it is with Ireland, a land where Celtic goddesses continue to hold forth in earthly presentation while Christianity penetrates Ireland with celestial insistence.

The Brennemens illustrate their book with photographs that capture the reader's imagination and the wells' multivalent symbolism for the Irish people. The book opens with an enticing description of the Brennemens' fieldwork and the character of specific wells. The authors also explain their phenomenological method as a framework for understanding the nature of the wells themselves and as the position from which their own field work progressed.

It is here that I take exception to this otherwise superb work. Methodologically, they note that the religiousness of humankind is meaningful *only* in its historical expression (p. 10). I contend that the religiousness of humankind is meaningful in its historical *and* spatial expression. All people must experientially negotiate both the temporal and spatial presentation of the world. Being in the world is both a temporal and spatial experience simultaneously.

In fact, the intersection of both particular space (as place) and particular time is essential to Brennemens' thesis. Even though they relegate the role of spatial experience in religious expression to an ecological origin that at once is embedded historically and then is environmentally determined as historical (arid regions and sky religions) or cosmogonous (fertile regions and earth religions), the authors highlight the place-bound nature of the wells (pp. 10-11).

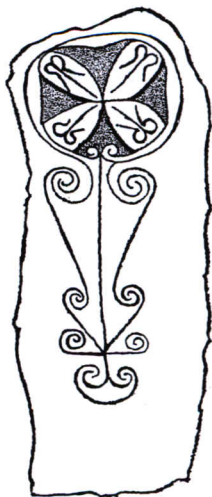
Despite my methodological disagreement with the Brennemens, I find their book to be one of the most exciting contributions to a geography of religion in a very long time. Each chapter moves the reader deeper and deeper into an empathetic relationship with the Irish experience of: (chapter 1) The Nature

of the Sacred Spring, (2) Myth and Ritual at Celtic Irish Springs, (3) Loric Power at the Wells, (4) The Coming of Patrick, (5) From Brigid to Mary, and (6) Mary as the Lady at the Well in Modern Ireland.

In particular, Brennemens' notion of *loric* power as localized and particularized vs. the *sacred* as universalizing and world-creating mythos is enlightening—not only in the context of Irish religious experience but for the human experience of the religious in general. In addition, Brennemens' explication of the syncretism of Celtic/loric with Christian/sacred experience provides a necessary and refreshing map for other scholars engaging in their own projects of other times and places.

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Below: A cross-pillar at Reask, Ireland: "The movements of the word of the universe emanating from the sun." Note the many vortices (from Schwenk, p. 135).



BOOK REVIEW

Theodore Schwenk, 1965. *Sensitive Chaos: The Creation of Flowing Forms in Water and Air*. London: Rudolf Steiner Press, 1965 [reprinted by the Anthroposophic Press, Hudson, NY].

Written by German hydrologist Theodore Schwenk, *Sensitive Chaos* is a penetrating qualitative exploration of the nature of water. In terms of method, Schwenk draws on the style of phenomenological science derived from the poet and dramatist Johann Wolfgang von Goethe (1749-1832), who produced a sizeable number of studies dealing with such diverse natural phenomena as plants, color and light, geology, weather, and plant and animal morphology.

Originally published in English in 1965, *Sensitive Chaos* was reprinted for the fourth time in 1990. According to the notes on the back cover, it was rereleased to meet an "ever-widening interest and demand." In fact, the book's ideas are so original, rich, and visionary, that one feels the time when this book will be of most use has perhaps not yet arrived.

The book is not easily understandable at the start. One's first impression may be that Schwenk's work is merely a scientific text—a technical paper on the subject of flowing substances, with associated facts about life-forms in the sea and the atmosphere. Every idea, however, has much more depth than "fact." As readers realize Schwenk's intention, they find that his "facts" undergo a transformation and take on ethical and spiritual qualities.

The "spiritual" dimension here is not opposed to the "scientific"; rather, the one grows from the other. Schwenk points to a way whereby phenomena such as waves or vortices may come to reveal themselves as "spiritual" entities. His aim is to suggest:

a way beyond pure phenomenology, towards an ability to "read." The path will be difficult and it will be necessary for the reader to penetrate observantly and patiently into many details

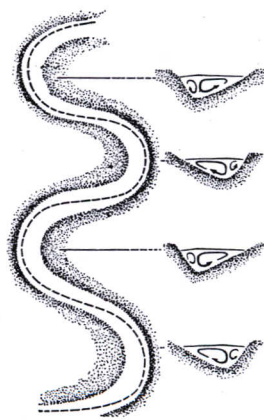
until gradually a comprehensive view opens up.

Through watching water and air with unprejudiced eyes, our way of thinking becomes changed and more suited to the understanding of what is alive. This transformation of our way of thinking is, in the opinion of the author, a decisive step that must be taken in the present day (p. 11).

It becomes apparent in the course of the book that the capacity to "read" phenomena in this way depends as much on the development of an artistic intuitive power as it does on clear, precise scientific thinking. Schwenk points out that the spiritual nature of water was once understood by people in an instinctive way. Even in the 18th and 19th centuries, there was awareness that water had a living awareness. In the book's foreword, Schwenk writes,

Natural philosophy in the time of Goethe and the Romantic movement still gave water its place as the image of all liquids and the bearer of the living formative processes. People experienced the fluid element to be the universal element, not yet solidified but remaining open to outside influences, the unformed, indeterminate element, ready to receive definite form; they knew it [in the words of 19th-century German poet Novalis] as the "sensitive chaos" (p. 9).

For Schwenk this way of understanding is no mere nostalgic remembrance. Rather, he believes that humanity's lost sense of the spiritual nature of water is connected with the potential loss of its very *physical* substance, evidenced by the world-wide drying up of springs. In the past, water was understood in a mythic, instinctive way, through the apprehension of the divinities of water who were approached with great reverence. Schwenk attempts to bring alive a parallel understanding of water's spiritual aspect



Naturally flowing water follows a meandering course; spiralling currents differ in size at the bend of the river (Schwenk, p. 16).

through a modern scientific approach that includes careful observation and description.

WAVE AND VORTEX

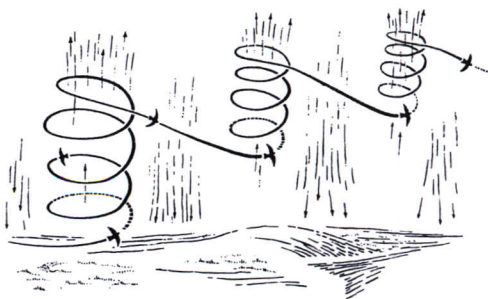
The archetypal aspects of water that form the foundation of Schwenk's study are the circulating system and spiralling surface—in other words, the *wave* and the *vortex*. These phenomena occur in water and air as well as in living organisms. For example, many unicellular water animals incorporate the spiralling movement of water in their forms and propel themselves with screwlike movements. Spiralling surfaces can also be found in the structure of human bones and muscles, just as wave forms can be found in the movements of the fins of a fish. There are innumerable instances of the vortex within the organic world—e.g., the shapes of shells, the horns of antelopes, the cochlea and semi-circular canals of the ear, and the fibers in the auditory nerve.

Schwenk demonstrates that the connections between the morphology of organisms and water phenomena are not arbitrary. Instead, he argues that the organs of living things represent a metamorphosis of these fluid phenomena. The creative forces of wave and vortex come most clearly to expression in water, and every organism and each of its organs must pass through a liquid state in the course of development. All living forms, no matter how complex, can be seen to have been differentiated from these flowing forms.

THREE FEATURES OF WATER

Through his observations of the relationship between water phenomena and organisms, Schwenk is led to ask whether water is itself an organism. He discusses in what sense such a notion is valid. Water stands in a unique relationship to the living world. While water is obviously no particular type of organism, it reveals itself as an unspecialized organism through which forces work to bring about the creation of specialized organic forms. From this discussion, Schwenk identifies three features of water that reappear in all organisms, each specialization emphasizing one of the three characteristics.

Water's first characteristic feature is *metabolic activity*, which relates to its capacity to dissolve



Vertical spiralling columns of air, on which gliding birds are carried to great heights (from Schwenk, p. 103).

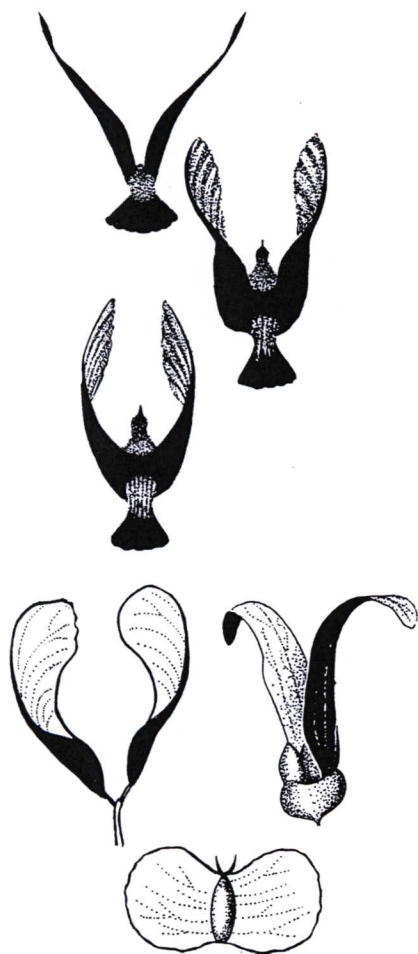
substances and mediate chemical and biochemical relationships. Water is constantly carrying out this activity. Water's second characteristic, its *rhythmical activity*, is most clearly seen in the archetypal phenomenon of the wave, though this quality also appears in the rise and fall of sap in plants and in the pulsation of the blood in animals. Rhythm is the feature most commonly associated with life.

Water's third characteristic is its *sensitivity*, which perhaps is best illustrated by the highly delicate surface of the vortex. Such surfaces, says Schwenk, are like undifferentiated sense organs. Water's capacity for instant reaction can be observed when a gentle breeze over a pond covers its surface with tiny waves. A stream flowing over rocks creates countless inner surfaces and vortices, which are in fact extraordinarily delicate membranes. The Earth's oceans are literally a vast sense organ open to the greater cosmic influences, the most apparent of which is the influence of the moon on the tides.

EXPRESSIONS IN THE BODY

Schwenk goes on to describe how each of these three features appear, to varying proportions, in three component "systems" of the human organism—sensation, metabolism, and circulation. In the ear, which is part of sensation, the "sensitive" characteristic of water is accentuated in that the vortical form of water becomes, in the spiral-shaped cochlear, a highly delicate organ of hearing.

To a lesser extent, the rhythmic activity of water appears in the way sound is transmitted as waves through the inner ear. Also, the metabolic character



Above: phases in the flight of a bird. Below: Single phases of the flight of birds are captured in the forms of different air-borne seeds (Schwenk, p. 117).

becomes, in the spiral-shaped cochlear, a highly delicate organ of hearing.

To a lesser extent, the rhythmic activity of water appears in the way sound is transmitted as waves through the inner ear. Also, the metabolic character of water manifests in what Schwenk calls a "metabolism of sound," whereby sounds received are broken down and then built up again according to the ratios inherent in them.

In the intestine, which is part of the metabolic system, the metabolic characteristic of water comes to the fore. Here the capacity of water to break down, dissolve and transport substances becomes metamorphosed into complex organic processes.

To a lesser extent, the sensitive and rhythmic characteristics appear and contribute to intestinal function in that substances ingested become liquid in the stomach and are then guided by rhythmic contractions into the intestines. The substances pass through the loops and spirals of the intestinal tract, just as water in a river spirals and meanders in its bed.

In the heart and human circulation system, the rhythmic function dominates. Schwenk suggests that the whole function and form of the heart reflects water's streaming, rhythmic activity, which is taken up and "clothed" in the solid form of the organ.

Again, the other two characteristics of water are present, but to a lesser extent. The fibers of the heart are vortical in form, and Schwenk shows how the "sensitive" aspect of water appears in the particular nature of the heart's nervous system. In other words, the heart's metabolic activity is related to the blood's capacity, as a liquid, to take in and materialize archetypal images of organic form. Schwenk writes:

[The heart] is permeated through and through with a delicate capacity of perception through which it takes account of the messages brought to it from the organism by the blood (p. 91).

Schwenk's interpretation of these three systems illustrates how he goes about "reading" natural phenomena to produce a comprehensive picture of organic formation. He speaks of a supersensible world of energies--what he calls *etheric formative forces*--that work through the medium of water in the creation of living forms.

AIR AS STREAMING FORM

In the last third of his book, Schwenk discusses

cosmic influences reaching the Earth must pass through the atmosphere, which then passes them to the waters of the Earth and then to living forms.

As with creatures of the land shaped by characteristic movements and functions of water, living things of the air are formed from the characteristic forms and functions of air—for example, the shape of airborne seeds. Schwenk also argues that the forms of birds' wings in motion are "condensed" from air's streaming movements.

Schwenk highlights one feature of air that distinguishes it from water (which tends to repeat the same flowing patterns over and over again—for example, the ripples as it flows around a rock in a stream): At any moment, air can entirely reshape itself. Air is enormously sensitive and capable of being molded by the most subtle formative forces.

WATER, AIR, AND ART

Schwenk ends his book with a brief exploration of the occurrence of flowing forms in art. He shows how sculpted objects and other kinds of design from primitive cultures show an instinctive apprehension of the archetypal movements of water and air.

We arrive, then, at a characterization of art out of the understanding of nature's creative movement. Schwenk suggests that these "laws" expressed in pre-modern art worked their way into the whole social structure of their makers.

Pointing out that this total understanding has largely been lost today, Schwenk speaks of the disjointed quality of modern art—its inability to understand these "laws" of flowing form, on the one hand, but the struggle to regain them, on the other. *Sensitive Chaos* presents a way in which a renewed understanding of these "laws" might come about through scientific consciousness infused with an artistic spirit.

Nigel Hoffmann, Editor
Transforming Art
PO Box 92, Hazelbrook 2779
Australia

This review originally appeared in Transforming Art, 4, 2 (1994) and is reprinted with permission.

FROM SENSITIVE CHAOS

This passage illustrates the perceptive way in which Schwenk looks at specific appearances of water with the aim of identifying deeper, more general patterns—in this case, two contrasting forms of the wave.

There is a play of rhythmical movements in rivers, seas, and oceans. The most constantly recurring form which meets the eye as it moves, is the wave. It may be observed in every little stream and every river where the water flows over stones or round posts and piers. We have all at one time or another watched the ceaseless onward flow of water...Here it is parted by a boulder and then unites again, swirling from side to side and creating eddies. There it may be seen jumping over a stone and flowing on in waves.

But do the waves flow onwards? Closer inspection will show that the water perpetually flows *through* their constant form. This seems to contradict our usual idea of waves. Mostly they are to be seen wandering over the surface of stationary water; maybe a stone falls into the water and waves spread out in circles, or we watch the ceaseless movement of the incoming tide on the sea shore. Perhaps we sit in a boat and feel the waves passing rhythmically along underneath it, or we may see a piece of wood bobbing up and down on the passing waves without very much altering its position.

If however we were to throw a piece of wood into a stream it would be carried away by the current over the waves caused by a stone. This shows that the waves in a flowing stream are totally different from those that wander as a fluctuating movement over still water. The wave behind a stone in a stream remains always at the same place, a lasting form, with new water constantly flowing through it, whereas in the stationary water of a lake or sea the form of the wave is transferred in movement across the surface. There are, then, two contrasting phenomena:

In a stream: The wave *form* remains at the same spot with new water constantly flowing through it.

In the sea: The wave *form* wanders across the surface, the water itself remaining in the same place (p. 27).



RESTORING THE WATERS

Barbara Schaffer

Barbara Schaffer is a Sydney landscape architect who works with the Australian Conservation Foundation on the *Restoring the Waters* Project, an effort aimed at rehabilitating Sydney's stormwater canal system. A longer version of this essay first appeared in the 1994 volume of *Transforming Art* (see p. 2), and we thank editor Nigel Hoffmann for allowing us to reprint portions of the essay here. The accompanying drawings, by Blake Willis, show a typical Sydney canal before and after restoration.

This is a story about water and city living. While the subject of drains may seem mundane and uninteresting, they can reveal much that is of significance for city dwellers. Of immediate concern for Sydneysiders is the problem of storm water--the runoff from urban areas. Channelled through a system of urban canals and underground pipe, this water usually is highly polluted by the time it reaches waterways such as the city's harbor or the ocean.

Restoring the Waters is a project that aims at rehabilitating these canals through the reconstruction of the streams that existed before the canals. The project provides an opportunity for the application of environmental art as a way of restoring damaged ecosystems. The results may also help to heal the psychological rift between nature and urbanites.

Without water a city cannot survive. Nutrient pollution of Australian waterways is a significant problem as toxic and non-toxic algal blooms are reported more and more often. Sydney already has exceeded its water-supply capacity and would suffer severe disruption in a long drought.

When it rains in Sydney, water runs into the network of canals that crisscross the urban area and then flows into the Harbour or out to sea. Because it

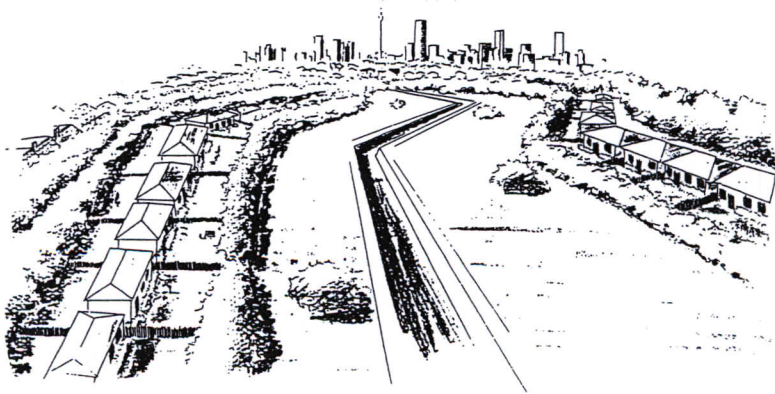
is polluted, the water cannot be used for domestic purposes and, when dumped into the waterways, causes algal growth and contamination of marine life.

Water is a substance to which most people can easily relate--a source of comfort and delight. Water is a universal symbol of life, purification, and renewal. Perhaps more than any other element, it has the potential to forge a new emotional link between people and nature in the city.

To create an ecologically sustainable future, we need to manage our water and land in an integrated manner that maintains ecological quality as, at the same time, people are uplifted and inspired. Environmental art is the highlighting of the essential values of a landscape. By giving expression to a "poetics of place," such art can provide a reference point for people within their landscapes.

AS THE CREEKS ONCE FLOWED

The canals in Sydney are generally situated at low points in the landscape and mark the places where the creeks once flowed. This canal system has two functions--first, to channel the stormwater as speedily as possible away from urban areas; and, second, to act as a flood mitigator. Associated with the canals



are large easements that are treeless, grassy areas intended to protect surrounding development against the possibility of floods.

All but the largest creeks and streams of Sydney's landscape have vanished from the map. Speaking to the older people in any municipality, one hears them lament the creek that once was. They tell of their earlier enjoyment of the creek and of the disappointment they felt when their creek was canalized.

In one fell swoop, an "engineering solution" destroyed the habitat for trees, birds, animals, and people alike. What was not foreseen was the problems arising from using these streams and aquifers as a sink for the unwanted by-products of human society. In most industrialized countries, disposal of hazardous substances is now controlled by government regulation, but there is often great leniency given to companies that discharge waters into drains and creeks. Pollution from sewage and other sources regularly finds its way into the Sidney canals.

Just as a river flows from the mountains to the sea, the urban canals run from the high points in the water catchment down to the larger waterways. The canal system resembles a mosaic covering the whole urban area—a network of artificial watercourses of which people are hardly aware.

Why? Because unlike creeks, there is nothing enticing about the canals, which are usually formed of straight units with constant cross-section. The bed and banks consist of humanmade materials—concrete or brick, iron sheet or pipe.

The key question is whether these canals and easements might be restored to a condition with something of the quality of the original creeks—an environment in which people, animals and plants might flourish. If this restoration could be accomplished, space currently open and without spirit could begin to tell a new story.

LEARNING FROM NATURAL CREEKS

From observing undisturbed creeks and rivers, much can be learned for restoring channelized areas. Natural creeks are never straight: they meander through the landscape. Trees generally line the banks and, by limiting light, reduce the growth of excessive vegetation and algae in the water. In a natural condition, waterways accommodate the silt. Reeds and

other marine plants purify the water by absorbing nutrients and pollutants.

Natural creek systems usually have adjacent billabongs or ponds which retain water in dry times and take in water in times of flood. Such environments attract birds and animals and, part of a larger drainage system, allow wildlife to move and spread.

Can such natural systems be returned to an urban environment? Most urbanites resign themselves to environmental changes, depressing and ugly as they may be. The restoration project outlined here is no doubt visionary and expensive, but these facts do not make the possibility unrealistic or impossible.

Because a particular infrastructure is in place does not mean that it always must remain. Neither is it enough to say that all newly developed areas will avoid old mistakes. We must find creative ways to addressing the problem within the existing infrastructure. Similar projects have already been undertaken in Europe, and there is no reason why they could not happen here in Australia.¹

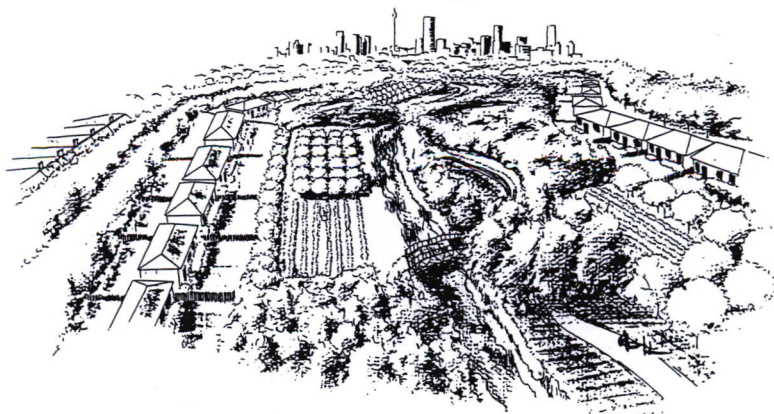
A PLAN FOR RESTORATION

Restoring the Waters takes advantage of the large areas of unused land that exist on either side of the canals. The plan aims for the ecologically sustainable management of storm water. The approach is an integrated planning process whereby natural water courses and existing humanmade drainage systems are interconnected to manage the quantity and improve the quality of the water.²

The aim of this program is to create more biologically diverse waterways that purify and control the movement of storm water by incorporating well planned, artificially-constructed wetlands, retention basins and sedimentation ponds. The hard-edged, linear canal system would be supplanted by ponds, wetlands and natural streams incorporating urban forests and community gardens.

In terms of the streams themselves, the maximum meander possible would be introduced to the stream bed, depending on the size of the easement. The whole system could be adapted for water purification measures, the larger easements becoming the site of extensive retention ponds and reed-bed systems.

As the water passed from pond to pond it would become increasingly pure. At least in parts of the



transformed system, water could be diverted through "Flowforms," which increase the oxygen content and "living" quality of the water.³ If Sydney's canal system could be transformed in this way, there would be an interconnected array of riverain habitats, thus allowing the movement of wildlife through the urban landscape. Along banks, trees would be planted to shade the water-courses and to minimize the growth of unwanted vegetation.

Because of its cleansing and storage capacities, the new system would allow for the beneficial use of urban storm water--e.g., to irrigate parks and gardens. Along the rehabilitated canals, cycleways, walking tracks and parks could be established, creating new recreational opportunities and reinforcing the linkages among canals.

A crucial question concerning this scheme is whether restored streams could adequately fulfil the function for which they were converted to canals--i.e., the effective removal of stormwater. Retention ponds should make this removal possible. Rather than polluted stormwater rushing into the canals, the water would be released more slowly through the streams' reedbeds and gradually purified.

Much is now known about reedbed purification systems and macrophytic environments for the treatment of sewerage and other pollutants.⁴ A reedbed system can purify household water wastes to a virtually drinkable state. In a more distant future there could perhaps be a separate water supply to the whole of Sydney for use on lawns and for other functions that do not require drinking-quality water.

HEALING THE RIFT WITH NATURE

The urban landscape is a mirror of our values. It is seldom acknowledged that the process by which cities regulate their land is a reflection of unexamined assumptions, ideals, and predilections. Environmental awareness means, among other things, examining these assumptions to come to a new understanding of the relationship of people and nature.

The new ecological picture is of the city, suburbs and countryside as a single evolving system within nature, containing enormous diversity and yet inherently unified. One task of urban design is to fashion the city according to such a picture.

Environmental art can be understood as a way of highlighting the "poetics of place" and reinstating a balance between people and nature too often breached by human interference. Only when regarded as a form of art can this project be seen in its full potential--not merely as a technical exercise but as an act of creatively transforming the landscape.

Notes

1. *Rivers and Streams*, Departments of Water Resources, State of Bavaria, Germany, 1989.
2. See "Restoring the Waters," an Australian Conservation Foundation Project Proposal prepared by S. Salmon, B. Dowsett, & B. Schaffer, N.S.W. Stormwater Forum, 1983.
3. See the review of *Sensitive Chaos* in this issue--Ed.
4. Tortanas, S. "Wetland Treatment of Stormwater," *Ambio*, 22 (Nov. 1993).



THE PLACELESS, NEIGHBORLESS REALM: LANGUAGE, HOMESCAPE, AND REINHABITATION

Tom Jay

Tom Jay is a sculpture, poet, and writer who lives in Chimacum, Washington. He writes poems and essays about the bioregional implications of art and ideas of home and place. He also creates sculptures on these themes. This essay is part of a longer article, "Familiar Music: Reinhabiting Language," originally published in the 1995-96 volume of *Connotations*, the journal of the Island Institute, Sitka, Alaska. The excerpts here are reprinted with permission. Address: Box 295, Chimacum, WA 98325.

Every language on the planet has an age. English is relatively young, 700 years old, the child of a spear point wedded between Norman French and Anglo-Saxon. Some languages are thousands of years old--Irish, German, Greek, and Persian. Some are tens of thousands of years old--Kung, Ainu, Basque, and the Aboriginal languages of Australia and the Americas.

Each language has been historically¹ shaped by its homescape. Languages live and die, lasting as long as their lore is true. As the Irish poetess Nuala Ni Dhomhnaill remarked in the *NY Times Book Review*,

tate a numinous reality.

Nuala Ni Dhomhnaill makes a similar point:

Irish is a language of enormous elasticity and emotional sensitivity; of quick hilarious banter and a welter of references both historical and mythological; it is an instrument of imaginative depth and scope, which has been tempered by the community for generations until it can pick up and sing out every hint of emotional modulation that can occur between people. Many international scholars rhapsodize that this speech of ragged peasants seems always on the point of bursting into poetry.

Further on Dhomhnaill picks up the theme on a deeper level:

The way so called depth psychologists go on about the subconsciousness nowadays you'd swear they had invented it, or at the very least stumbled on to a ghostly and ghostly continent whence mankind has previously never set foot. Even the dogs in the street in West Kerry know that the "otherworld" exists, and that to be in and out of it constantly is the most natural thing in the world... The easy interaction with the imaginary means that you don't have to have a raving psychotic breakdown to enter the "otherworld." The deep sense in the language that something exists beyond the Ego envelope is pleasant and reassuring, but it is also a great source of linguistic and imaginative playfulness, even on the most ordinary and banal of occasions.

The diversity of languages, like the diversity of species, is founded in landscapes. Mountains, rivers, seas, and deserts impound and amplify our various linguistic streams. The Pyrenees and Alps transformed Latin into Spanish, French, and Italian. The ethno-linguistic puzzle of Aboriginal California is nearly synchronous with the larger features of Californian geography. Long residency in a locale, dwelling in its *focus*,² works resonance into language; local vernacular, the precious "mettle" of neighborhoods, is coined in the slow alchemy of human

According to the linguist, Michael Krause, minority languages in the English-language sphere face a ninety-percent extinction rate between now and sometime in the next century. Therefore, in these days, a major problem is the growth of an originally Anglo-American, but now genuine global, pop-monoculture that reduces everything to the level of the most stupendous boredom. I would think that the preservation of minority languages like Irish, with their unique and unrepeatable ways of looking at the world, would be as important for human beings as the preservation of the remaining tropical rain forest is for biological diversity.

Languages offer unique perspectives on the world, different articulations of reality. Twenty years ago I had a conversation with a then young friend named Ben. When Ben was five or six years old, his family moved to the South Pacific island of Woleai. His parents had contracted to teach English as a second language to the people of Woleai. Ben soon became fluent in Woleain and entered the culture it centered.

For eight years, Ben spoke English with his parents and Woleain with everyone else. I once asked him if he believed in ghosts. "When I speak English, I don't," he replied. "What do you mean? I asked. "Well," he answered, "When I speak Woleain on Woleai, I see them." Language in synch with a landscape ripe with ancestral mythology can precipi-

beings ancestrally rooted in place.

These are quaint, almost esoteric, notions to us moderns. The deep wisdom and prescient witness of languages rooted and nourished in landscape seem archaic to modernity and its current shibboleth, the sharp toothed "wisdom" of the market.

Certainly, language is not static. Words are born and die. Like other life forms, they adapt their behaviors to fit new circumstances, new weather. Words may spiral through a classical, almost formal, transformation from an original meaning to its opposite. Linguists tell us that, at least until recently, this pilgrimage usually took about 300 years.

In the reductive heat of commercial-industrial time, however, words fare no better than souls or small birds. Consider the word *bad*, which has recently somersaulted through our speech, its gyre a circus act rather than a slow, stately, and shadowy round dance—what the ancients called enantiodromia.

When I was a child in the late forties and early fifties, *bad* meant wicked—a sense still close to its root meaning of "open to all influence, especially the worse." By the time I was in high school, *bad* still meant wicked to my parents, but to my peers and me it meant brazen, tough, strong, and fearsome. By the seventies, Michael Jackson had promoted *bad* into a word that evoked daring and personal power. *Bad* nearly finished its loop in 30 years. I fear for *bad*, we may have exhausted it, fried it in the overheated rush of our ennui-driven need for clever new twists of speech to advertise our "attitude."

It is telling that the defining metaphor of recent society, "the bottom line," derives from a business profit and loss statement. Evidently our reality is founded on currency, cash flow and liquidity. No wonder our endeavors seem to float and drift rather than root or stand.

Money and the easy logic of profit have conspired with hyper-inventive and increasingly frivolous technologies to foster a civilization addicted to speed and change, revolution rather than evolution. The fossil-fueled mechanics and spendthrift energetics of modern civilization and its entropic friction with the natural world have serious consequences for the *conservative* dynamics of language. Market-induced entropy has overwhelmed and obliterated indigenous dialects and reduced, simplified, and polished our present speech into a dubious glass that reflects our vanity and cleverness rather than refracting the wonder of creation into our collective understanding.

Students of English report that English is losing its spoken vocabulary, the diversity of its terms, despite its eminence as the lingua franca of the planet. And therein lies the reason for its malaise. Perhaps English is forfeiting its descriptive power because it has assumed a generic monocultural perspective. English is spoken everywhere but it doesn't *live* anywhere. Everywhere but England, English is becoming a language without a landscape. English is an imported language and, though it reigns, it doesn't dwell, a husband without a home.

Indeed if English continues to thin in the monophop flood it facilitates it may diminish into a trade language intimate with markets and politics but unable to name the quality of light on the snow-dusted spruce of a wind clear Sitkan sunset. English has become the official argot of the fluxing no man's land of the market, and the market has become a kind of "virtual" planetary film, an agitated, digitized dead fish iridescence, a communication without community, a commerce bereft of mercy, a thin and tragic dissolution of earth's beauty.³

Still there remain spirited English vernaculars, dialects of local color and weather-quicken wit (I recall my Gulf Coast Texan brother-in-law's description of Ross Perot as a hand grenade with a bad haircut). But the neighborhoods of these loric idioms are increasingly vulnerable to the acetone media and its solvent capacity to smudge the subtlest and brightest hues of lingo. It is difficult indeed for indigenous beings—birds, words, plants, critters and perhaps now even weather to escape the money-driven institutionalized revolution embodied in modern growth capitalism.

But permanent revolution, economic or political, is terror—a terror as real as Robespierre's, Stalin's, Khomeini's or Mao's. And we are conspiring with that terror in the way we've let ourselves be named. We are now by consensus and our own calling *consumers*, a word that derives from the Latin *consumo*, to spend everything, to destroy utterly, to destroy by fire.

But as late as eighty years ago *consumer* had negative connotations. We used the term to name a selfish and wanton sort. The change in the word's usage testifies to a changed society. Eighty years ago we called ourselves neighbors, citizens, and brother and sister, skith and kin. Neighbor is an Old English

word which meant near-fellow dweller. Citizen is from an Indo-European root *ci* or *cei*--to lie down, to rest. The same root gives us home and cemetery; a citizen is a homebody, a deep dreamer. Kith and kin arrive via Old English *cyth*--native land; and *cynn* relates to kindred, one's own kind, hence kith and kin, the local haunt.

Like any living creature, English wants to know where it is. Now spoken English surely lives with commerce estranged from local culture. English presently has more words in its spoken vocabulary for money than it does for moving water: bread, bucks, dough, change, cash, whip-out (my favorite), long green, swag, roll, stash, dibs, currency, quid, pile, jingle, lucre, pelf, plasting, and the like.

These words describe specific and nuanced relations to money; whip-out is not a term favored by investment bankers, nor are pelf and lucre likely to leap in the hipster's rap. English is still healthy in its mission, its instinct to witness and report its present habitat, its location. English is faithfully articulating our reality, firming and confirming the current edge between us and the large world. The rub is our world by the witness of our words is becoming a fantasy, the placeless, neighborless realm of modern culture.

In contrast, consider these words, breathless pilgrims awaiting the simple gift of our breath: *Lea*--a meadow drenched in sunlight; *rill*--a small forceful stream; *lynn*--a pool beneath a waterfall; *beck*--a small brook; and *brook*--a break out in the bank of a larger stream that waters a marsh. Speaking these words may rearticulate and reenlive our world.

If English continues as a commerce's barker, it may become in a few centuries a new Chinook jargon, a mono-pop argot with a simple grammar and vocabulary. The English dialects wedded to places will have perished in the cash-flow flood or evolved in fortunate solitude into sounds and names, pronunciations and enunciations incomprehensible to their cosmopolitan cousin.

The true genius of English, its poetic eye and musical ear, the subtle temper of its humor, will be reticent, musing in hinterlands "out of touch" waiting

out the scourge of money's reductive, fire, faithfully naming and calling the winds, rains, and creatures of the neighborhood, the kith and kin of the natural world forsaken by its mother tongue.

In the early sixties, bioregional visionaries Freeman House and Jeremiah Gorsline used the term *reinhabitation* to describe a social antidote to the devastation of natural and human communities by economies of transient consumerism. They proposed that the most revolutionary act was to settle permanently in a place and assume responsibility for the neighborhood with all the near fellow dwellers, mountains and rivers, flora and fauna and, I might add, English.

We must reinhabit our language as well as our ecologies. If we stay put in deed and word our rap will gradually unravel and in time reweave us more deeply into place. Our speech will become part of the texture of locality, its felt meaning. Then our reality might once again resonate with ancestral echoes as well as the myriad voices of the weather and the land. Our words will become the welcome and the witness of our home's peculiar beauty and our lore will last nurtured in the practiced cycles of locality.

Imagine your home place--the giant oak in the park, the bandstand with the leaky roof, the white ice-scoured mountains, the evergreen forests and thigh-thick winter steelhead, the polished stone of your fathers grave... Imagine the familiar surround and the horizon that holds it as the rim of a bell. Imagine you are the tongue of that bell, silent and still in its shelter. The tongue cannot will itself to move and ring the bell, only the swollen wave of weather's mystery may move tongue and bell together and ring out familiar music.

Notes

1. *Loric*, from the Old English *Laeran*, to teach, to lead someone on his or her way. *Laeran* is akin to Old English. *Laest* track which gives us *last*, which endures, a remaining way, a path that lasts. Lore is a lasting, well worn track, the way of the ancestors.

2. *Focus*, from the Latin for hearth, the dwelling place of the household gods.

3. *Market*, from the Latin *merc*--merchandise, hence commerce, mercy (the price of pity?), and Mercury, god of trade, speedy messenger, secret thief, and guide of souls to the otherworld.

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