



# Environmental & Architectural Phenomenology Newsletter

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This issue begins *EAP*'s 9th year. We thank readers who have renewed their subscription. As of early December, we have received 79 renewals. Those who have not responded will find a second notice inside. Many of you have forgotten. Please renew.

We are especially grateful to those who have made extra contributions with their renewal. This year we list these donors' names on p. 2 and express a big, big thank you!

The specific focus of this issue is Goethean science, which can be described as an implicit phenomenology of nature. Though Johann Wolfgang von Goethe (1749-1832)—the founder of this way of study—is best known as one of the world's great poets and playwrights, he also developed a qualitative style of science that drew on firsthand experience of

the particular phenomenon.

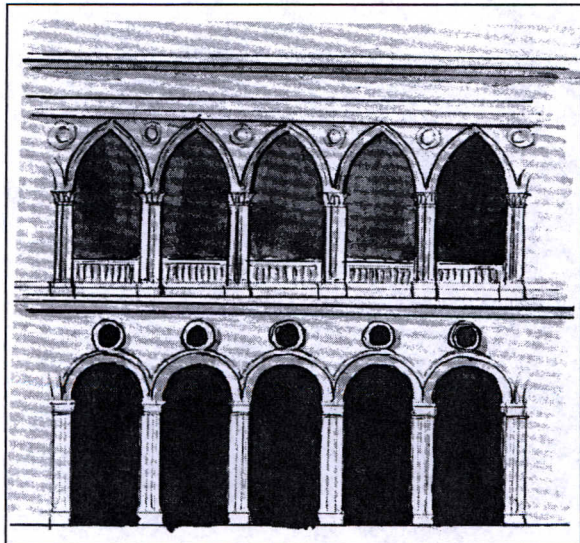
Most of Goethe's own scientific work focused on plants and the nature of light and color. More recent work by other researchers has used the approach to examine other topics, including the nature of water, animal form, and the built environment.

This issue reviews two recent books on Goethean science: first, physicist Henri Bortoft discusses biologist Margaret Colquhoun and artist Axel Ewald's *New Eyes for Plants*, which presents Goethe's botanical work; second, philosopher Ingrid Stefanovic considers Henri Bortoft's *Wholeness of Nature*, a broad philosophical discussion of Goethe's way of science and its meaning for contemporary developments in the philosophy of science.

We also include an essay by ecologist Mark Riegner, who examines the relationship between Goethe's understanding of nature and the perspective of "deep ecologists." Finally, David Seamon introduces educator Sir George Trevelyan's *Active Eye in Architecture*, a creative effort to apply Goethean science to seeing the built environment. We conclude with the first chapter of Trevelyan's book, first published in 1977 and long out of print.

Partly, this focus on Goethean science has come about because *EAP* editor David Seamon has recently completed editing, with physicist Arthur Zajonc, *Goethe's Way of Science: A Phenomenology of Science*, to be published in early 1998 by SUNY Press in Seamon's series, "Environmental and Architectural Phenomenology." This volume incorporates 13 articles, including a section on "Doing Goethean science." We hope the pieces in this issue of *EAP* indicate the considerable value of Goethean science as one style of phenomenology.

*Facade of the inner courtyard of the Doge's Palace in Venice. A drawing from Sir George Trevelyan's Active Eye in Architecture—see p. 13.*



## DONERS TO EAP, 1998

We would like to thank the following individuals who have contributed more than the base subscription rate for 1998. Without your generosity, we could not continue production, and we are very grateful.

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## ITEMS OF INTEREST

The 15th conference of the International Association for People-Environment Studies (IAPS) highlights **Shifting Balances: Changing Roles in Policy, Research and Design**. The focus is "changes taking place in the interactions between the actors who take part in the process of researching, planning, designing and actually making the environment." The conference will be held 14-17 July 1998, at Eindhoven University. Contact: IAPS 15, EIRASS, Eindhoven Univ. of Technology, PO Box 513, Mailstation 20, 5600 MB Eindhoven, The Netherlands.

**Local Environments** is a new international journal focusing on "local environmental and sustainability policy, politics and action defined in the broadest possible manner." The journal is a reflection of "the importance of the 'local' in informing and developing wider regional, national and international environmental and sustainability policy and practice."

Contact: Prof. Mark Roseland, Geography Dept., Simon Fraser Univ., Burnaby, BC Canada V5A 1S6 (604-291-4161).

The **British Sacred Land Project** was recently launched by the Alliance of Religions & Conservation, Worldwide Fund for Nature, and the International Consultancy on Religion, Education and Culture. The aim of the project is to "rehallow Britain by identifying and reopening pilgrimage routes, holy wells, holy rivers and streams and creating new sacred spaces, such as gardens." The project emphasizes a multi-faith approach, embracing the megalithic sites of ancient Britain as well as the holy places of Christianity and the newer faiths in Britain like Islam and Buddhism (the Samye Ling Tibetan Buddhist Centre, for instance, is to plant 2,700 indigenous trees at their headquarters on Holy Island). Contact: SLP, ICOREC, Didsbury Park, Manchester M20 5LH, England.

**Unlimited by Design**, a conference on Universal Design, will be held 3-6 May, 1998, at Hofstra University on Long Island. Sponsored by Boston's Adaptive Environments Center, the conference emphasizes designs usable for all people, regardless of individual limitations. Adaptive Environments, 374 Congress St., Suite 301, Boston, MA 02210.

The **University of Creation Spirituality (UCS)**, directed by philosopher Matthew Fox, is a new "university in spirituality" that seeks to "reinvent education, worship, and work." The program is "about bringing the sacred back to our work and everyday lives" and is modeled on the cathedral schools of the Middle Ages "that not only gave birth to Chartres Cathedral but to the University itself." The program offers a doctor of ministry "for people of all professions" through one-week intensives offered six times per year. Contact: UCS, 2141 Broadway, Oakland, CA 94612 (510-835-4827).

The 21st **Making Cities Livable** conference will be held 9-13 March 1998, in Carmel, California. Special emphases include urban villages and sustainable urban development. Contact: PO Box 7586, Carmel, CA 93921 (408-626-9080).

# CITATIONS RECEIVED

Krell, D. F., 1997. *Archetecture* [sic]. Albany, NY: SUNY Press.

This philosopher argues that "the heart of the word *architecture*, the Greek root *tec-*, can be traced back to an earlier and more pervasive root, *tio-*. The verb *tikein* means "to love," "to engender" to reproduce."

Marcus, C. C. & Francis, C., 1998. *People Places: Design Guidelines for Urban Open Space*, 2nd Ed. NY: Van Nostrand Reinhold.

An updated, expanded edition that "summarizes existing research on how urban open spaces are actually used...." Discusses seven types of open space, including urban plazas, neighborhood parks, and campus outdoor spaces.

Oliver, P., ed., 1997. *Encyclopedia of Vernacular Architecture of the World*. NY: Cambridge Univ. Pr.

This three-volume work includes discussion of "the theoretical approaches and architectural principles that underpin the study of the vernacular," including an entry on "phenomenology" by Robert Mugerauer.

Right, From George Trevelyan's *Active Eye in Architecture* (see p. 13): *The development of a Renaissance facade.*

In A, a plain unbroken wall holding potentialities unrevealed.

In B, directions of development begin to be indicated.

In C, the appearance of openings and upper molding that "for all the world is an elementary capital, with another as potential base."

In D, the appearance of giant columns as pilasters holding an entablature.

In E, a refined replication of D as the Doric order of the ground level becomes the more refined Ionic order of the second level. In addition, the wall member "has articulated itself into two free columns showing open space behind."

In F, a refined replication of E: "Still slenderer are the large columns now changed into Corinthian, and the subordinate columns are broken away entirely...to be absorbed by the arch, which has transformed itself into a window."

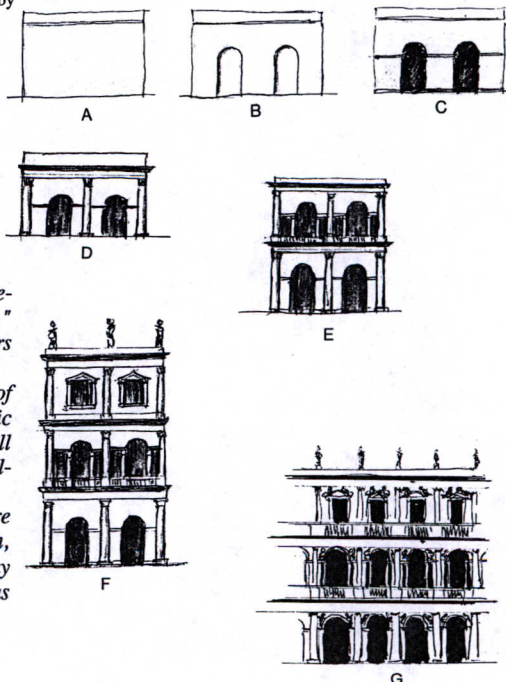
In G, the facade completed (*Active Eye*, p. 26).

Olsen, W. S. & Cairns, S., eds., 1996. *The Sacred Place*. Salt Lake City: University of Utah Press.

Many of the 62 short pieces of this collection have been published elsewhere and are mostly by imaginative writers, poets, and students of literature. The book's focus is "the relation between what we call the sacred and what we witness as the apparent world." The editors argue this relation "is the turn American literature in the 21st century will take, a post-post-modern turn toward the natural world, the wilderness, as an empowering scene of encounter."

# MEMBERSHIP NEWS

Vincent B. Canizaro is a doctoral student in Architecture at Texas A&M University where he also teaches Junior and Senior design studios. His dissertation is tentatively titled, "Drawing Place: A Qualitative Approach to Architectural Representation." This topic includes aspects of a paper, "The Necessity of Drawing Place," which he presented at the "Making Sacred Places" conference in Cincinnati in October, 1997. He sends the following abstract of the paper:



Design media are the primary translators between the design intentions architects hold and the execution of those ideas in the everyday environment. I contend that drawings as representations act as filters of design intentions and that traditional ways of drawing filter out the qualitative aspects we intend in the design of good environments that are responsive to human needs. The solution to this problem is a practice I call 'drawing place'. This notion both provides a qualitative goal (the making of 'place') and also engenders a new attitude (receptivity) toward design media that will enable architects to think and design more qualitatively and thereby create more enriched environments.

Canizaro would like to hear from other *EAP* readers interested in this topic: 609 Turner # Y, College Station, TX 77840 (vince@archone.tamu.edu; 409-696-1112).

**Evelyn Dunn Koblentz** is an independent philosopher who lives in Baltimore. Her article, "Deconstruction Deconstructed: The Resurrection of Being" was published in the Jan/Feb issue of *Contemporary Philosophy*, which will be publishing another in 1998. She writes that she "read another paper at a philosophy conference [sponsored by CP] in Estes Park, Colorado, and was invited to submit another for their next year's conference in New Hampshire. I was the only presenter without a college affiliation. I made no converts to my iconoclastic metaphysical system, but I think I left them with something to think about." She sent the following:

*Letter to the Editor:*

The accounts of the furniture designers in the fall issue of *EAP* deeply moved me; they hit upon a responsive chord in relation to recent insights that have emerged in my ongoing development of a metaphysical system, which I call "integrative philosophy." A pertinent segment of a paper in progress is quoted below:

"Western thought erroneously views subjectivity and objectification as a duality of equals and tends to equate subjectivity with irrationality. Rather than bearing a negative connotation, subjectivity refers to the human subject's whole mode of existence, as a being with a body, a mind and feelings, and as an integral part of Being-as-a-Whole. Objectivity is the rational part of that whole human being, that reduces the rest of Being to a matrix of conceptualized abstractions for the whole human self to utilize for its own purposes.

"The distinction between opinion and knowledge clarifies the misuse of the concept of subjectivity. Subjective opinion may or

may not reflect validated objective input, but subjective knowledge is experienced as valid, not only in the head, but also in the heart, bones or gut, as a feeling-tone of one's whole being, so that, for example, the solution to a problem can be called beautiful, signifying its likely validity."

Initiated by Socrates, reductive objectivity is the revered mode of western thought; the role of synthesizing subjectivity tends to be derided and left in limbo. To be meaningfully valid, objective reasoning requires subjective input, which grounds rationality in the tempering synthesis of the whole context, or, in, the case of metaphysics, in the Whole Context, or Being.

The students have learned the most basic lesson of their entire professional training. Thanks to *EAP* for enabling its readership to share the experience.

Sincerely,  
Evelyn Dunn Koblentz  
3908 N. Charles St., #703, Baltimore, MD 21218

**Justin Winkler** writes from Switzerland that he is now editor of the *Soundscape Newsletter*, a publication that focuses on the acoustic ecology and sonic environments (see *EAP*, 5,2). He is interested in receiving subscriptions and relevant information. Address: rue Haute 8/case Postal 913, CH 2013 Colombier, Switzerland.

He explains that he suffers from "tinnitus aurium," a ringing in the ears for which there is no medical remedy. He writes: "It is probably this tinnitus that led me to study soundscape issues and to become interested in phenomenology." He continues with the following report in regard to asking tinnitus sufferers to become more aware of their experience:

"A small group of tinnitus patients from northwestern Switzerland was involved in a listening assignment in summer, 1997. They were told to write down their tinnitus experience in five-minute intervals of attentive listening. We found that such an effort creates sensitivity and may be a part of a cure.

"Here is an example by a lady in her 50s. As her report suggests, she was captivated by her everyday home soundscape:

"A blackbird sings in the acacia, another accompanies her with jubilation. There is also a thrush that can be heard, and the crickets chirp loud like before a thunderstorm. With a drone a plane flies over our house toward the city. Our cock 'Amadeus II,' crows forcefully. The wind moves the leaves of our acacias and hazel shrubs.

"Upstairs, in the kitchen, a door slams. A car passes, the motor disturbs the silence. One of our eight chickens cackles comfortably—how many eggs will we be able to get today from

her? Down in the wood along the brook a crow croaks. Again a plane on the way to the city.

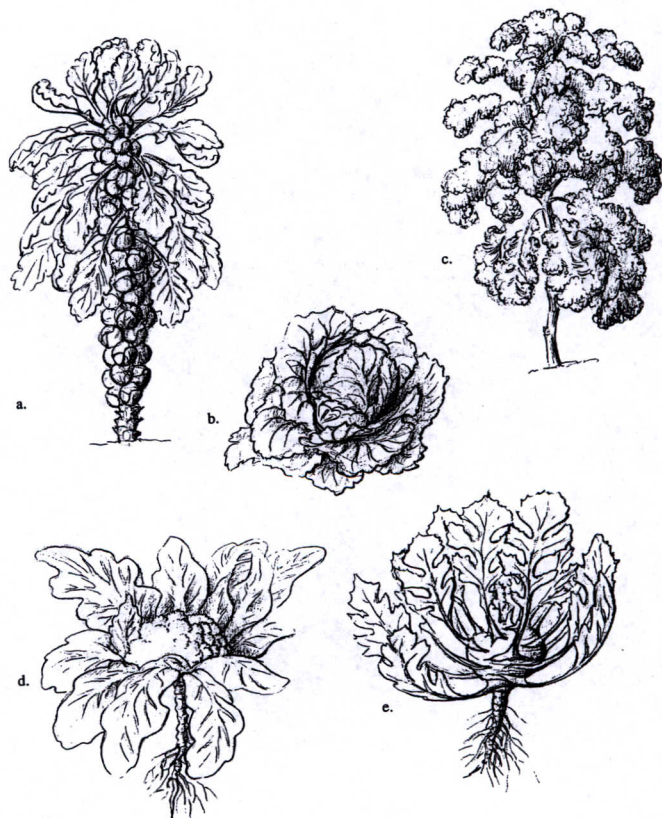
"The cloud cover moves toward the east, the sun cannot get through. The singing birds change their places partly in silence, partly with loud twittering. Just now I heard the sound signal of the railway—now it is already driving through the village.

"The wind blows into my face, the air is fresh. At my feet I see the blue columbines bloom, the roses' burgeons are shimmering red. Two ants whisk past my feet.

"Oh, yes, only now I see, there, the daisy that has grown from the scratch of the pavement and is blooming. How beautiful! The wind moves it gently.

"Only now I become conscious of my tinnitus—there is a hiss in my ears, but I will filter it out by enjoyable thoughts. After all, I am well, nature lives, and so do I."

Paula Ramseir-Weber, Oberdorf, Switzerland, 1 June 1996.



*Above: One important exercise in Colquhoun & Awald's New Eyes for Plants (see p. 7) is seeing and drawing similarities and differences among plant species within the same plant genus. The aim is to become familiar with the "wholeness" of the plant family through outward variations of each particular plant. These drawings depict members of the cabbage family (Brassica). The swollen side buds of the Brussels sprout (a) are contracted, made larger, and moved down the stem in the cabbage (b). In kale (c), the leaves expand and become round and crinkly, while the swelling, hardening flower makes the cauliflower (d). In turn, a swelling stem marks the kohlrabi (e).*

## BOOK REVIEW

Henri Bortoft, 1996. *The Wholeness of Nature: Goethe's Way toward a Science of Conscious Participation in Nature*. Hudson, NY: Lindisfarne Press. ISBN 0-94-262-79-7.

Over the years, the reductionism of positivist science has been seriously criticized for its piecemeal analysis of natural phenomena. Rejecting traditional, atomistic study of individual parts, ecologists have focused instead on larger, ecosystemic wholes. Similarly, environmental philosophers have sought a new, holistic way of thinking to replace the narrow, individualistic perspectives of earlier environmental approaches. Henri Bortoft's book is a recent contribution to this critique of reductionism and to the search for a holistic understanding of nature through a Goethean, phenomenological way of seeing.

The book is written in three parts. Readers of EAP may remember Bortoft's remarkable essay, "Counterfeit and Authentic Wholes: Finding a Means for Dwelling in Nature," in David Seamon and Robert Mugerauer's *Dwelling, Place and Environment* (NY: Columbia Univ. Press, 1989). This essay is reprinted and expanded as Part I of *The Wholeness of Nature*. Part II is entitled "Goethe's Scientific Consciousness," and Part III addresses the problem of "Understanding Goethe's Way of Science."

The enlarged essay in Part I on authentic and counterfeit wholes presents, to my mind, some of the strongest arguments in the book. Here, Bortoft shows how the phenomenon of "the whole" is significantly other than simply a super-part or an inventory of the totality of component parts.

For example, in reading sentences, I do not collect a list of individual words in my mind to constitute the whole sentence. Hermeneutic interpretation of texts indicates that the meaning of the whole sentence, in some sense, needs to be present in the individual words as I read, and that the parts must reflect the whole in order to be situated meaningfully within their proper context. The relation between whole and parts is shown to be analogous to the image of a hologram: "No matter how often we break the hologram plate, the picture is undivided. It remains whole even while becoming many" (p. 9).

In Part II, Bortoft explores "Goethe's Scientific Consciousness" and provides a thorough and readable

introduction to Goethe's way of seeing. While Bortoft is extremely sympathetic to Goethe, the reader may still remain somewhat perplexed about aspects of Goethe's own phenomenology.

For instance, one reads that "the theory is the facts when these are seen in another dimension" (p. 72). References like these to "another dimension" or to the "intensive depth of the phenomenon" and finally, to Goethe's "intuitive way of science" sometimes seem mystical or metaphysical—but certainly in need of further philosophical explanation. Bortoft asks us to follow Goethe and to "plunge into the visible aspect to produce dishabituation from the verbal-intellectual mind and the analytical mode of consciousness" (p. 90). That "plunge" often seems to require a great leap of faith to accomplish, despite Bortoft's courageous attempt to offer examples and explanations of Goethe's way of seeing.

We are told that "the effect of this shift from the intellectual to the intuitive mind is that the phenomenon becomes its own explanation. It discloses itself in terms of itself and thereby becomes self-explanatory" (p. 73). These and similar concepts are invoked by Bortoft and, while he genuinely seems to want to dedicate himself to illuminating the meaning of such intuitions, they are often far short of "self-explanatory." In fact, the very terms used ("intuition," "intensive depth," "another dimension") echo the same metaphysical concepts that Bortoft works hard to avoid in enlarging upon Goethe's apparently phenomenological method.

The above criticisms are not of Bortoft as much as they are of Goethe's own intuitive way of science. Indeed, in Part III, Bortoft dedicates himself to further advancing our understanding of Goethean phenomenology. His discussions of the significance of "the organizing idea" in cognitive perception and scientific knowledge are extremely illuminating (although I am perplexed again as to why Bortoft wants to emphasize *cognitive* perception over a phenomenology of perception). While founder of phenomenology Edmund Husserl's name is rarely invoked, for

those who have not read his works, the first three chapters of Part III provide a wonderful introduction to the problem of constitution of meaning.

The final chapters deal with "The Goethean One," "Seeing Comprehensively," and "The Possibility of a New Science of Nature." Aside from the book's first chapter, these final discussions are for me the most intriguing. Here, Bortoft explores the possibility of seeing diversity as constituting unity rather than being subsumed under it. There is some overlap with ideas of philosopher Martin Heidegger (for example, as presented in his *Identity and Difference* [NY: Harper, 1969]) but Bortoft is not easily slotted into

academic categories.

In this sense, his book is quite non-traditional. Sometimes, I was frustrated with Bortoft's frequent repetition of ideas: a more careful, academic style of writing might have avoided this problem. On the other hand, it is precisely his non-traditional style that is the condition for his originality of thought and courageous exploration of non-familiar territory in the philosophy of science. In this respect, this book offers a breath of fresh air in the stuffy corridors of academic musing on the question of wholeness.

—Ingrid Leman Stefanovic

Department of Philosophy, University of Toronto

## BOOK REVIEW

Margaret Colquhoun & Axel Ewald, 1996. *New Eyes for Plants*. Landsdown, Stroud: Hawthorn Press. ISBN 1-869890-85-X [distributed in the U.S. by Lindisfarne Press, Hudson, NY].

The new history and philosophy of science provides the opportunity to become free from an enchantment with science and the dogmatic scientism that was its inevitable consequence. This freedom is not to be confused with the rejection of science. Far from it. By undermining our prejudices about what science is, the revolution in the history and philosophy of science opens the door to the possibility that there could be another kind of science.

Such an alternative kind of science is complementary to mainstream science. It may look, superficially, as if it contradicts it, so that we can get into the battle of 'right' and 'wrong'. But in fact each different kind of science reveals nature in a different way. This means that nature itself can manifest differently, i.e. can be differently, according to the mode of science with which it is investigated.

This difference is more than saying that there can be different perspectives—as if nature were something fixed and finished, like an object. It is more organic than this 'objective' picture of nature permits us to conceive: it is nature that presents itself differently. So the *kind* of science we do has ontological, and not just epistemological, consequences for nature.

### GOETHE'S WAY OF SCIENCE

The way of science of Johann Wolfgang von Goethe represents a style of learning and understanding that

is still largely ignored today—although the signs are that interest in it is now growing.

Whereas the approach of modern science is largely intellectual and analytical, Goethe's approach proceeds through careful observation of the phenomenon to awaken the intuitive mode of consciousness that encounters the 'authentic wholeness' of what is observed—i.e., the wholeness that is proper to the phenomenon, its own, and not the counterfeit wholeness of an intellectual theory.

The development of a faculty of perception for this authentic wholeness is a key feature of Goethe's way of working with the phenomenon. It involves an emphasis on *attention* when observing the phenomenon. It involves the development of a *disciplined* power of imagination—what Goethe called 'exact sensorial imagination'—that opens the investigator to the phenomenon's intrinsic wholeness, which takes him or her deeper into the phenomenon itself without going beyond or behind it to find an explanation. In this way the phenomenon becomes self-meaning, it becomes its own explanation.

### DENYING EXPERIENCE

It is the paradox of modern science that, whereas it turns toward the world we encounter by means of the senses, it nevertheless denies that the world we experience in this way has any reality in itself.

It is indeed ironic that we have been brought up to believe that modern science is empirical. By this we mean that, beginning from observation and experiment, the scientist proceeds to develop inductive generalizations based on empirical facts so that the knowledge we attain is certain because it is grounded in experience. The history of science shows clearly that, not only did it not happen in this way (Hume came to see that it couldn't have happened in this way--and Kant understood why not) but that, in fact, modern science developed by doing the very opposite, turning its back on the world as experienced in favor of what it believed lay behind it.

Far from beginning when scientists 'came to their senses', modern science began when scholars *took leave* of their senses--in favor of the mathematical, for example. It is a further irony that Goethe, thought by many in his own time (and later) to have misunderstood what science is, actually did the very thing that most of us have been brought up to believe, wrongly, that science does anyway.

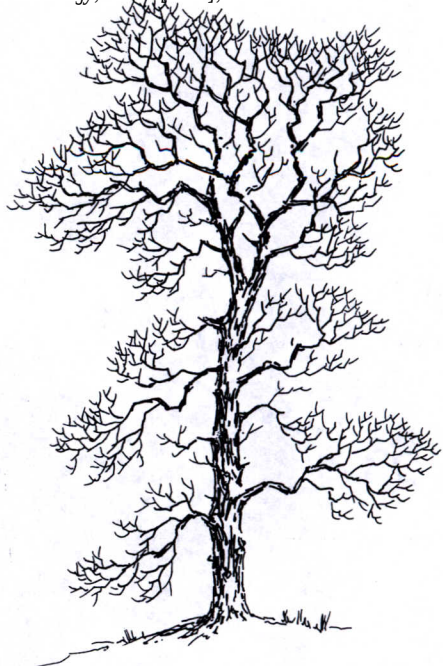
#### BEGINNING WITH EXPERIENCE

Goethe began with the world as we experience it--what phenomenologist Edmund Husserl called the *lifeworld* (to distinguish it from the scientifically reduced world of mathematical physics). Instead of supposing that this reality of experience has the status of an illusion of the senses as modern science began by doing and trying to find the reality of the world 'behind the scenes' (mathematical laws, atoms, and so forth), Goethe entered into the world as we experience it to discover a depth *within* it. This depth is the wholeness of the phenomenon, and we can come to experience this directly for ourselves (whereas it inevitably escapes conventional science that is always looking beyond the phenomenon as experienced ['behind the scenes'] for explanation).

#### NEW EYES FOR PLANTS

This new way of seeing is concrete instead of abstract, but what this possibility means can be discovered only by experiencing it for oneself. In *New Eyes for Plants*, Margaret Colquhoun and Axel Ewald have written a practical workbook for observing and drawing plants, which will greatly help readers experience Goethean seeing for themselves.

This book is to be worked with directly and combines science with art in a manner in tune with Goethe's remark: "He to whom nature begins to



Above: Oak tree drawn from memory. The authors argue that "drawing from memory takes us one stage deeper into our capacity to experience Nature.... [W]e have become united [with the thing] to a certain extent.... The regular practice of this exercise can train our faculty of noticing and memorizing 'wholeness' in our environment" (p. 40).

reveal her open secret will feel an irresistible yearning for her most worthy interpreter, art."

It must be emphasized that the reader need have no accomplishment or even any skill in art: what matters is making the attempt to draw, not achieving a superb result. As was once known in drawing classes in art colleges, 'drawing' means 'seeing', so that these two activities can work together to produce an image in which the phenomenon itself *becomes* visible. Goethe's way of science strives to make the phenomenon visible in such a way that it 'shows itself' as it is in itself.

According to Paul Klee, "Art does not reproduce the visible, but makes visible." So it is perhaps not surprising that we should find a close affinity between Goethean science and art. However, we should not fall into the trap of thinking that this similarity

means they are the same. Science and art 'make visible' in different ways—they are like parallel lines but going in opposite directions. Yet they can work together to enhance perception, as Colquhoun and Ewald so ably show.

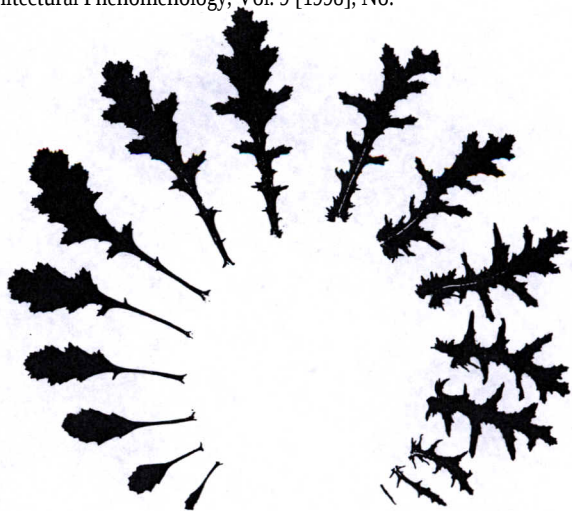
### MERGING SCIENCE AND ART

It is interesting in this connection that, in the last interview he gave (*New Scientist*, 27 February, 1993), physicist David Bohm said that he thought the division between art and science was temporary, and that he expected some day that they would merge. Such a union would give an alternative to the present emphasis on mathematics in science. Colquhoun and Ewald have shown very clearly one way in which such a merging of science and art can be achieved.

This book has grown out of years of collaboration between the two authors in research and teaching—especially from a series of courses known as the Life Science Seminar, held since 1990. The approach is not a projection from a theory about how things ought to be done, but something that has been worked out together with people who are doing it. This means that the prospective reader—'participator' would be a better term—can be confident that this really is a practical way to develop new organs of perception for plants.

As well as leading the participator into 'doing art' with plants, there are many practical exercises in observation and the development of imaginative thinking in the Goethean manner. By these means the reader is progressively led to experience the true dynamic wholeness of the plant, from the first emergence of the seedling through to the final development of the fruit. Each stage of growth is carefully described, with a wealth of illustration, so that even someone who is totally unfamiliar with the botanical description of the growth of plants will find that this is not a handicap with the book.

To each stage of the growing plant there is a corresponding season and manner of perception to be developed by the scientist-artist's own activity. This is a truly holistic approach: the *quality* of the season



*Above: Leaf sequence of a mature groundsel plant, arranged in sequence. These leaves are cut from the main stem of the plant and arranged from bottom to top. In creating and studying the leaf sequence, one should imagine being inside the first leaf and then picture the transformations from leaf to leaf (pushing, pulling, expanding, contracting and so forth) required to complete the sequence. The authors claim this way of seeing allows one's thinking to become "more alive and mobile" and provides one example of Goethe's "exact sensorial fantasy."*

of the year is reflected in the quality of the corresponding stage of the growing plant, and the same *quality* is reflected in the manner of perception appropriate to the stage and season.

There is here the subtle harmony of the knower and the known that is characteristic of Goethe's way of science. This book is an outstanding introduction to Goethe's holistic approach and a superb visual production, with many beautiful drawings.

—Henri Bortoft  
34 Grove Lane  
Holt, Norfolk NR25 6EG  
England

*This review was first published in Resurgence and is reprinted with permission. Information on the Life Science Seminar can be had by writing: Kirk Bridge Cottage, Humbie, East Lothian EH36 5PA, Scotland.*

## GOETHEAN SCIENCE: TOWARD A HEIGHTENED EMPATHY WITH NATURE

Mark Riegner

*Riegner teaches in the environmental studies program at Prescott College. He holds a Ph.D. in ecology and evolution and is particularly interested in phenomenological approaches to studying form and pattern in plants and animals. The following essay was originally published in Stella Natura, the 1998 Kimberton Hills Biodynamic Agricultural Calendar, available from the Bio-Dynamic Farming and Gardening Association, PO Box 550, Kimberton, PA 19442 (800-516-7797). The essay is reprinted with permission. Riegner's address: Environmental Studies Program, Prescott College, 220 Grove Avenue, Prescott, AZ 86301.*

As a response to the growing environmental problems of the 20th century, the "deep ecology" movement emerged during the 1980s and offered a fresh articulation of the human being's place in nature.<sup>1</sup> At the heart of deep ecology is the notion of *biocentrism*: that all living things, human beings included, have equal intrinsic value, and that human beings have no special role to play in the scheme of things.

This idea is further supported by the movement's adherence to a Darwinian view of evolution which, by implication, relegates the human being to an insignificant corner of the pageant of life. If, as is generally believed, consciousness emerged by chance events and was subjected to the same laws of evolution as all other characteristics of living things, then no claim can be made for the uniqueness and importance of human consciousness.

In this essay, I explore some alternative views to those held by many, but not all, deep ecologists, regarding especially the human role in nature. My intention is to indicate a direction of thinking that may better lead to what the movement calls the "cultivation of ecological consciousness."

As we approach the 21st century, a radically new way of thinking is needed to realize the noble goals identified by deep ecology, including a heightened empathy with the phenomena of nature. Ironically, the seeds for such a radically new way of thinking were sown over two hundred years ago through the efforts of the poet, dramatist, and naturalist Johann Wolfgang von Goethe (1749-1832). Remarkably, however, most scholars have not understood Goethe on his own terms and have thus failed to recognize the value of his contributions toward developing a path of heightened communion with nature.

Central to a Goethean approach is the understand-

ing that the human 'I' is the stage upon which nature can come to a more complete manifestation. Deep ecology would struggle with this Goethean perspective because it is obviously anthropocentric, a standpoint that the deep ecologists equate with human chauvinism and egocentricity. Must, however, anthropocentrism necessarily be equated with chauvinism and selfishness? If the human being does have a pivotal role to play in the scheme of things, why can't our associated tasks be acknowledged with deep *humility* and a sense of service in the face of the weighty responsibilities that lie before us?

Certainly, modern humanity has collectively behaved chauvinistically and egotistically toward nature, with self-serving aims of control and manipulation, although there is also widespread ignorance of the implications of our actions. But if we eternally condemn humanity for its past and current actions, we thus overlook the latent possibilities of forging a necessary and new communion with nature, new especially to the Western mind.

The difficulty in appreciating Goethe's world view rests in the fact that his way of seeing and understanding necessitate more than just a paradigm shift in which only the content of thinking changes. Rather, his way of knowing requires a conscious transformation of the thinking activity itself—a shift in our cognitive abilities and mode of awareness.<sup>2</sup>

From a Goethean perspective, if individuals are attentive and engaged in the phenomena at hand, they will declare themselves "out of themselves." In other words, through cultivating a state of active receptivity, the observer will enable phenomena to reveal themselves as what they are, as indicated in Goethe's dictum, "Seek nothing beyond the phenomena for they themselves are the theory."

How does this mode of perception happen? According to physicist Henri Bortoft, we meet the world with active ideas whose activities are the ideas themselves, which serve to organize our seeing.<sup>3</sup> If I contemplate a dandelion, the organizing idea is in the seeing of the dandelion itself; I cannot see the dandelion unless I can think the dandelion.

This thinking is not to be confused with the thought of the dandelion—the mental picture or representation of what is seen—which can insinuate itself between the observer and what is being observed. If I genuinely see the dandelion, then the sensory element, in Bortoft's words, "coalesces" with the organizing idea and I experience meaning, not the meaning of, but the meaning *which the dandelion is*.

Accordingly, there is more to the dandelion than what my senses alone can tell me, just as there is more to the words printed on this page than the varied shapes and arrangements of the markings we recognize as letters. This something more is revealed through the activity of thinking. The world, therefore, is literally a text, and through the union of sensory elements and organizing idea—which occurs in human consciousness—meaning emerges.

The situation, however, is somewhat more complex because the organizing idea performs two contrary activities simultaneously: it both *distinguishes* and *relates*. As Bortoft explains, the act of distinguishing necessarily relates that which is being distinguished to that which it is distinguished from, although we are typically aware only of the consequence of separation.

The roots of our alienation from nature may derive from this peculiarity of human consciousness. If so, then to cultivate a genuine "ecological consciousness"—that is, an awareness that doesn't just think about ecological relationships but cognitively *experiences* the activity of relating—one must become aware of this hidden activity in thinking. Bortoft argues this awareness can be accomplished by focusing attention to the *act of seeing* rather than to *what is seen*.

Ironically and regrettably, the science of ecology is currently unqualified to develop a genuine ecological consciousness beyond the construction of a superficial scaffolding. What initially held promise in the work of original thinkers like Leopold, Muir, and Thoreau has been preempted by scientific reductionism and quantification. Certainly, there is value in the modern scientific method of inquiry. It is worthwhile to question, however, whether there exist other

modes of cognitive experience that may uncover yet new strands in the fabric of reality.

If one can invert one's awareness to experience the act of seeing rather than what is seen, a shift occurs in which one becomes cognizant of the activity of the phenomenon coming into presence. Accordingly, it becomes apparent that the phenomenon appears as both sense perception and as meaning.

This idea is more than a mere representation or correspondence—it is a manifestation of the phenomenon itself, as indicated in Goethe's dictum above. By this process, the observer participates consciously in the phenomenon and serves to bring its hidden aspects into being. The individuality of the observer—i.e., his or her "I"—becomes an active but transparent vessel so that the phenomenon itself "thinks" in the mind of the observer. The result is a communion of understanding that transcends both subject and object.

This possibility leads one to question if we live only in a world of material things or in an additional dimension of meaning to which we can cultivate a thoughtful and heartfelt sensitivity. Such a notion has important implications for reintegrating ourselves in nature, for when one walks along a shore or through a forest, one walks not only through a physical landscape but also through a "mindscape."

Clearly, practice and discipline are essential to approach such deeper experience and, as Goethe often indicated, the observer is transformed through the process of participatory seeing: "Each phenomenon in nature, rightly contemplated, awakens in us a new organ of inner understanding."

This process of self-transformation, linked to a more complete manifestation of nature, is an urgent challenge facing us today. Deep ecology would do well to entertain the notion that humanity is as critical to nature as nature is to humanity: through their communion, each has the potential to achieve greater actualization.

#### NOTES

1. See, for example, Warwick Fox, *Toward a Transpersonal Ecology* (Boston: Shambhala, 1990).

2. This point is eloquently described by Henri Bortoft in his *The Wholeness of Nature* (Lindisfarne Press; Hudson, NY, 1996). Although I cannot do justice to all of Bortoft's ideas in this short essay, I draw on some of his interpretations to help outline what this shift of awareness may entail and what a Goethean approach may offer.

3. See note 2.

## INTRODUCTION: THE ACTIVE EYE IN ARCHITECTURE

Sir George Trevelyan, 1977. *The Active Eye in Architecture: An Approach to Dynamic and Imaginative Seeing*. Ross-on-Wye, Herefordshire: Wrekin Trust.

In this small book, now out of print and difficult to obtain, educator George Trevelyan works to apply Goethean seeing to the essential nature of architecture. Trevelyan's first aim is to introduce the reader to a way of looking whereby seemingly static architectural forms are seen to shift and grow. His second aim is to use this way of seeing to identify basic aspects of architecture, particularly the lived-tension between solid and space, material and spirit.

In the book's first chapter, which we reprint here, Trevelyan discusses the steps in his process of looking. He explains that, conventionally, we look at architecture passively and see a building as a finished, inert thing. Instead, the need is to see the building in movement—to look at "how forms come into being, change, and evolve" (p.1). Trevelyan summarizes his way of seeing as follows:

This approach to architecture starts always from the strict observation of what the eye is drawn to do when it looks on a building. We are standing behind the eye and watching the movements that it is invited to make by the architectural forms. We watch how it selects certain key images and then likes to superimpose these on kindred images and see the 'movement' of merging and change that takes place through the revealing of differences.

This way of looking can be a severe and accurate process of observation and has, as such, nothing to do with speculation or emotional sentiment. We inevitably find, however, that the process of active looking brings the building alive so that it speaks to us, and the secrets of the forms begin to reveal themselves.

Then, to interpret our sensory experiences to each other, we have first to speak of them in musical or rhythmic terms or in adjectives that express feeling. In a group studying a building this way, we shall hear of the "thrilling shaft of moving light sinking like a sword between columns," "the terrifying effect of circles cutting into each other," "the exciting movement" as a building is seen to swing, and so forth... Every building calls forth a different looking (p. 37).

In ten short chapters, Trevelyan specifies characteristics of this way of seeing, illustrates its lineage in Goethe's study of the metamorphosis of plants, and applies the approach to several buildings and architectural elements.

Though Trevelyan offers only passing comments on the state of modern architecture, he does not so much condemn it as suggest that it has become minimal, expressing harried activity no longer in touch with any deeper needs or aims. For example, he points out that today's unadorned modernist skyscrapers, in their emphasis on verticality and height, reflect action alone without any deeper spiritual sense to express metamorphosis in architectural form.

Ultimately, it is the architect who creates buildings, and Trevelyan implies that until the end of the Renaissance, many architects unself-consciously participated in active seeing and created buildings that spoke and moved. *Active Eye* also implies that modern designers are not as able to see actively and the result is less thorough, evocative design.

Written by an amateur rather than a specialist in architecture, the book, in places, suffers from awkward interpretations and observations that, for this reader at least, seem erroneous or "out of joint." The great value of the book, however, is not so much its interpretive conclusions but, rather, its presentation of a creative method for seeing the built environment in a new, unusual way. In this sense, *Active Eye* is an important contribution to environmental and architectural phenomenology and indicates how a Goethean way of seeing can have value for understanding the *built* as well as the natural environment.

--David Seamon

## THE ACTIVE EYE IN ARCHITECTURE

George Trevelyan

This work is concerned with the art of looking. It is based on the conviction that many people are missing a clue that awakens an imaginative vision of architecture and that this way of looking can be taught, bringing with it a notable enhancement of pleasure in architectural explorations. I have myself studied architecture for years, but the discovery of the 'art of looking' came as something of a revelation.

Let it be clear from the outset that this way of seeing has little to do with architectural history as such. The reader can get full value from the approach here offered without any knowledge of dates or names of architects or technical jargon, for we are concerned with the vision of how forms come into being, change and evolve. We must see that the static forms are 'frozen' but are in truth in a dynamic relationship to each other. Our task is to release stone into movement as an imaginative experience.

From descriptions by chroniclers it sounds as if the townspeople of the Italian Renaissance still had a natural faculty for active looking. There was a vivid response to the unveiling of a piece of sculpture or the raising of a new facade. In contrast, the last two centuries have shown a marked development in an intellectual emphasis—a shift that may well have killed the more immediate and living appreciation of form. This earlier kind of awareness must be consciously recovered if we are to find full enjoyment, for the study of architectural history alone will not give us the gift of dynamic looking.

### SEEING AS ACTIVE DEED

I offer a simple thesis to anyone prepared to explore buildings in this way. My method of seeing is essentially no more than a teaching technique but it may lead us a long way. At first sight it may appear naive and childlike, yet it brings to our seeing a factor often left out from the more intellectual study of history or architectural structure.

First proposition: *Our seeing should be an active deed rather than a passive reception of images.*

You can reach out and with the tip of your eye beam touch a capital or run up the fluting of a column. You are called on to experience that this manner of visual awareness is truly a refinement of the sense of touch and that the tip of the eye beam is a sensitive organ that can bring back knowledge to you. All that is needed is to grasp the idea of the active deed of looking and make conscious the touch.

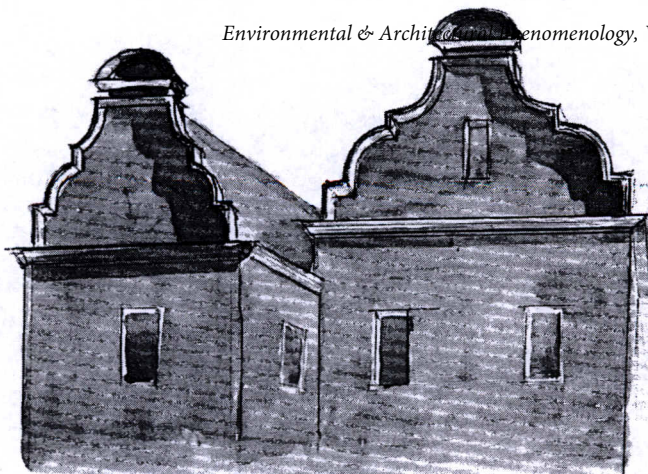
We can explore with this sensory organ of the eye beam, which moves readily from point or linear looking to the exploration of planes. If we direct this attention to the center of a panel we will find that it fans out and fills the whole area, thereby impressing the shape upon our memory. What might be called the 'liquid of our looking' can be directed into a hollow or coved recess so that a vivid experience of the form is given back to us.

The powers of the eye beam are infinite. As a shaft of sensitized awareness, it can penetrate a solid marble column and appreciate its roundness in one gesture of 'touch.' Furthermore, it can spread three-dimensionally to fill out an enclosed area of space. An entire chamber can be experienced and the 'pressure' of space felt.

The difference between this style of seeing and our normal way of looking may seem small but the contrast is fundamental, since the mental attitude of recognizing the active deed of directing a finger of looking to touch the building is experienced as a real extension of consciousness far beyond the limits of the physical body.

### FORMS IN MOVEMENT

Now we may come to the exciting step. We are concerned with the seeing of forms in architecture and an understanding of how they come to birth and develop. It is all too easy to see pillars or pediments or arches in a static way. But through active looking, *we come to see all forms as in process of coming into being, transforming themselves or fading away.* Seen imaginatively, these forms are all in movement just as the forms in nature, be they plant, cloud, or human body—all are at some point in development.



The principle holds throughout nature and in so far as human beings' creations reflect natural processes, the apparently static forms in architecture may also be seen in movement.

How can we experience this inner movement? There is a very simple technique:

*Proposition 2. We must learn to look at the images our eye makes and watch how they transform one into another when we attend to these changes consciously.*

Be it said here that it is a difficult thing to follow these simple processes from the written word alone or from drawings and photographs. Rather, this technique of looking is best done in front of the actual building. Readers are invited to make something of an imaginative effort, which they can then experiment with for specific buildings directly.

We allow the eye to rest upon a facade. Without any trying on our part, the eye it will be caught by some salient feature of interest. For example, it will find a pillar and run up and down or relish an arch or the shape of a gable. Every building offers an entirely novel visual experience and must be approached without preconception.

Your task is to *stand behind your eye and watch its movement*. Transfer attention from the building to what your eye wants to do when it contacts the building. Recognize these are totally different processes. You are now standing back to observe an

objective process, namely your own eye movement and the images it finds and what they do.

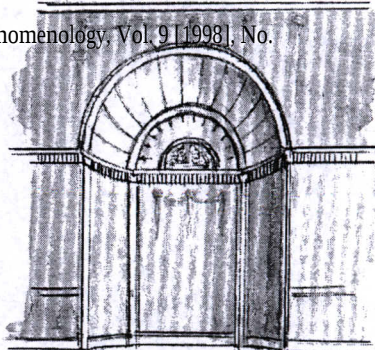
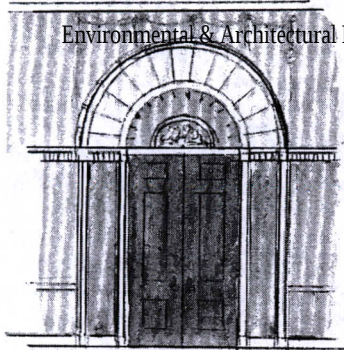
You'll find the eye chooses two kindred images, be they arches, windows or pilasters. Their relatedness draws the eye. Consciously, place one image on the other. Do this firmly, looking from one image to another. Suddenly one image seems to leap into the next *with a sense of movement* and their differences are revealed.

It is perfectly simple, naively so. You have carried the after image of the first form and placed it over the second form with the result that the first runs into the second and settles there. You have created a sense of movement by this deliberate process and for a magical instant the image seems alive. Your task is to observe this movement. It is our clue. You have begun to discover that the images are in a true sense alive. You have yourself consciously participated in making two image forms flow one into the other. A process has now begun which need not end until the entire building is on the move.

### SOME EXAMPLES

Let us now take some simple examples. Remember we are concerned with two questions: First, what are forms doing? Second, in what direction are they changing? Into what are they transforming?

1. Look at the facade in the Court of the Doge's Palace in Venice (drawing, front page). What does your eye do? Obviously, it is caught by the black round arches. Where then does it leap? To the corresponding pointed arch above it. Move the eye from one shape to the other until the one truly appears to move into the other. Register that sense of movement. Then what about that remarkable circular hole above the round arch? Your eye includes this and it appears as a kind of softening-up in preparation for the metamorphosis into a pointed arch, for inevitably the potentiality of the new form lies in the first. Now you see that the circular form in the spandrel between the tips of the pointed arch is



nothing other than the used-up husk of the powerful circular hole, discarded since it has done its work.

2. Now consider two dutch gables from Hoveton House (drawing, left). Here are two kindred shapes. Look strongly from one to the other and you will get a feeling as of breathing. The rather thin and mean shape on the left fills out and becomes much more complete and satisfying, more buxom and full blown.

3. Next to the dining room at Heveningham Hall (drawing, above). These two forms, door and alcove, are at either end of this fine room. Obviously they compare with each other. But take the door and place it as an image over the alcove. Move back and forth till the two merge. Then the flat form appears to be sucked in to form the alcove. You actually feel that the alcove is the door frame swept in. When you experience the movement between the forms you are given a rich experience of the making of an alcove and how this recess has been forced into the flat of the wall. Your seeing becomes dynamic. You sense what the architectural form is 'doing.'

#### A PRIMARY EXPERIENCE OF MOVEMENT

We are, I repeat, watching not the building but the reaction of the eye to the building. We are not merely seeing but we are deliberately observing our seeing, which is usually an unconscious process. To take one image and allow it to flow into a kindred image is the fundamental process and gives us the clue to all that is follows, both in vision and interpretation. We ourselves discover that every form with incredible variety is free to flow into other forms but, we shall find, does so according to definite laws.

Here then is the primary experience of movement on which this whole approach to architecture is built. We have discovered that the image instantly takes on a quality of life when related to a developed form of the same image. It is as if the architect has given us the forms in order to do this deed of releasing their hidden power of metamorphosis. Taken by themselves, they are but dead, stone shapes. When we look in this active way, however, they become vibrant living things, each in a great dance that relates them to all other forms.

Imaginative perception has to bring the static forms to life and discover that each has its own dynamic and is in process of growing, expanding, or fading, flowing into other shapes, some dominant, some humbly withdrawing. They are in a perpetual condition of coming to birth and receding, 'death and becoming.' To our new vision, stone is in movement and we ourselves have done the deed.

Remember that we are learning to do something quite new—to study not the building but the reaction of the eye to that building, the images that it calls up and their transformation one into the other. We are founding our whole approach on this very *objective* study of a *subjective* sense of movement.

When this experience of movement of images is achieved, it is as if the whole building becomes alive and mobile and communicates its secrets. The experience may only be a few moments but in that time you release something bewitched within the building. For this it has been waiting. There it has stood as nobly shaped blocks of dead substance until the active eye has enlivened the image. For those seconds of vision the building *becomes* architecture.