Editors' note: We have received the following commentary on the paper "An Emerging Paradigm for Landscape Architecture" by Ann M. Rosenberg (Landscape Journal, Vol. 5, No. 2). We welcome commentary from readers and will publish such responses as space permits.

While few people would argue that the profession of landscape architecture has ever been at a loss for words, Ann M. Rosenberg's (1986) recent article, "An Emerging Paradigm for Landscape Architecture," seems somehow indicative of a growing feeling that the profession and discipline of landscape architecture are at a loss for paradigms that can focus and direct future research, teaching, and design. Rosenberg's article is a significant exploration of bold and socially relevant new futures for the field. Clearly, with the rising sophistication of scientific and humanistic research within landscape architectural teaching and practice, new questions, theories of knowledge, and social callings have arisen that were heretofore unimaginable. In support of this exploration, the traditional fields of philosophy—ontology (the study of being), epistemology (the study of knowledge and how we can define it), ethics, and aesthetics—may well become familiar themes in Landscape Journal articles in years to come.

These questions and their meanings for past eras are too important to be obscured by a casual use of language that debases their potential to provide an important critique of contemporary political and environmental attitudes. Rosenberg's exploration of a possible new paradigm makes three broad assumptions that touch on all of the above philosophical issues:

1. Landscape architecture does not yet have a "paradigm" in the sense that Thomas Kuhn (1970) defined it in The Structure of Scientific Revolutions.

2. This lack of a paradigm has been the basic cause of difficulties in defining the profession and in establishing a theoretical basis for research.

3. The lack of a paradigm in landscape architecture can be traced to "a cultural world-view which has created a dichotomy between humans and the environment, and between art and science as ways of understanding reality" (Rosenberg 1986, p. 75).

Rosenberg (1986, p. 76) argues that "possession of a paradigm should have the effect of defining the profession [and] discipline in a way that has not been possible before." But can paradigms really be "possessed" by disciplines as if they were products for consumption? Her quest for a new paradigm in landscape architecture opens a fascinating array of questions about the future of landscape architecture and the search for an ethical, academic, and artistic role for the field. She raises a question that is as complex and difficult as any faced in theoretical speculation. It is also a very healthy question that every student, practitioner, and teacher might do well to consider even though a certain answer may never be possible. Yet, there is an aura of language about "paradigms," an aura that can mislead us if we use the term vaguely. Paradigms, however defined, are not necessarily panaceas for professions and disciplines that may have identity problems.

More significantly, Rosenberg looks to the future from a rather limited perception of the past that includes only Western history and professional activities. Her repeated assertion that the "18th century English romantic landscape was the first brief paradigmatic vision of a landscape in which humans and nature interpenetrated to their mutual enhancement" (Rosenberg 1986, p. 81), belies a disturbing ethnocentrism which completely ignores the environmental attitudes of Asian, ancient Greek, and Native American cultures, to name but a few. The new paradigm she proposes for landscape architecture is embellished with such loosely defined but alluring terms as "synergy," "holistic," and "dynamic." Like these words and the term "world-view," "paradigm" has become one of the great academic catch-phrases of our time; it is a term that has been used so frequently because it has so many possible applications.

Regardless of its contemporary application, there are few English words with more beautiful and promising histories than the term "paradigm." As a word with roots that can be traced back to Indo-European origins, "paradigm" shares its Indo-European and Greek origins with many other words that are now used to describe landscapes and language—words such as "paradise," "dictionary," "peristyle," and the word that we use to describe questions that are beyond language: "paradox." These are words that far precede the provocative definition by Thomas Kuhn (1970), the historian of science, who has stated that a paradigm is a "network of commitments" or a culturally achieved model that directs and structures perception and scientific research.

When first published in 1962, Kuhn (1970), in The Structure of Scientific Revolutions, developed a novel theory that the history of science may be read as a cultural phenomenon that is guided by gestalt-like paradigms or culturally reinforced meta-theories which cast order on the perceived world. For Kuhn, the paradigm, defined as a network of beliefs and commitments, could both open up and preclude the possibility for recognizing empirical events. He probably never imagined that his theory of the evolution of knowledge and his definition of "paradigm" would eventually be applied in disciplines ranging from psychology to adult education. Yet today, twenty-five years later, the Social Science Citation Index lists articles from over thirty fields under the heading "Paradigm." It was only a question of time before landscape architecture would join this list as a field that was, as if in an attempt at self-understanding, seeking out its
An Etymological Agenda

Perhaps it is time that departments of landscape architecture throughout North America consider the purchase of a complete *Oxford English Dictionary* to complement the *Construction Cost Estimators*, CAD systems, and the statistical software packages that are now staples in teaching and research. J. B. Jackson's (1984) superb history of the word "landscape" in the opening chapter of *Discovering the Vernacular Landscape* serves as an exemplar of the power of etymological research to sharpen and enrich our understanding of important professional terminology. Jackson's analysis of landscape is one that should be both humbling but yet intriguing for present day landscape architects—humbling because he shows how shallow and limited our very recent sense of landscape as a picturesque composition seems when compared with older meanings; and intriguing because these older meanings bring out a cultural and economic dimension that cannot be expressed in visual or painterly terms. Jackson's history of the term points out the rich historical fabric of meaning that has been virtually lost in our casual contemporary talk about "landscape beauty" and "landscape compositions."

Historically, landscapes have not always been viewed as visual compositions, just as paradigms have not always been models and roadmaps for academic research. In three areas, etymological studies of the terms often used in landscape architectural design and research can help us to understand and appreciate the nature of landscape architecture, but because the linguistic and philological origins of the word "paradigm" are so elegantly suited to the planning, design, and management of the land that are at the center of this field.

**1. Etymology as a story of questions.** Just as the term "paradigm" was not applied to the history of disciplines until the last thirty years, words such as "preservation," "restoration," and "style" were not used to describe architecture and designed environments until the eighteenth-century. One of the most interesting aspects of word histories is that terms gained expanded senses through time to meet the needs of new academic and artistic questions that are raised. It is not a coincidence, for example, that "style" and "preservation" first gained architectural connotations in a time that marked the beginning of art and architectural historiography.

**2. Etymology as memory of questions lost.** While words are adapted to suit new questions, older meanings, as unearthed in Jackson's history of the term landscape, are often forgotten. If we are to provide an effective external critique of the assumptions that underlie landscape architectural practice and research, we may be required to move outside the contemporary linguistic framework in which these assumptions and questions are based. Etymological study can provide some perspective on the questions that we have lost interest in raising and the attention directing force of contemporary word senses.

**3. Etymology as a tool in the creation of rich, new working definitions.** Just as Kevin Lynch (1972) argued for the preservation and appreciation of "layers of time" in the physical environment, there are layers of time in language—achieved and forgotten word senses and word combinations that, taken as a whole, provide a greater repertory for depth and variety of discourse than the language of any one era. Landscape architects may someday find a role for themselves as preservationists not only of ecological and historical variety in the landscape, but of the historical depth and critical potential of language that society might use to debate policy and environmental ethics in the political realm. In this preservation of the critical potential and clarity of discourse, etymological study plays a crucial role in reaching new definitions and a shared understanding of the words that we use.

Before landscape architects initiate an academic dialogue over paradigms, models, and calling for the future of the profession and discipline, there is reason to pause for consideration of what paradigms really mean, what they can mean, and how careful study of the history of the term "paradigm" can clarify this discussion. One critic of Kuhn's first edition of the *Structure of Scientific Revolutions* argued that he used paradigm in twenty-two different ways during the course of the book. In the postscript of the second edition, Kuhn (1970) replied that some of this criticism was valid but that much of the discrepancy was merely grammatical. But, by that time, the term had caught on with such force in other disciplines that little consensus of usage has been reached ever since. Does paradigm imply a deeply held world-view that tacitly guides perception and research? Does it imply schools of researchers defined by their varying methodologies of study? It is this second sense that Ervin H. Zube (1984) implies in his "Themes in Landscape Assessment Theory," an article that analyzes the existing strands of research within landscape assessment. A third connotation for paradigm is the framework of an ethical and ecological calling for landscape architecture that Rosenberg deduces from new conceptions of relativity, world systems, and synergy in the physical sciences.

As is true of many terms that originated with Greek and even earlier Indo-European roots, paradigm shares
its origins with many other words in English. The term comes to us as a combination of the Greek roots para and deikuni (to show or compare). Para or per appears as a first syllable in many English words that bear some relation to the concepts of beside, around, or outside; these include words such as "para-psychology," a field outside or alongside traditional psychology, "peritoneum," the membrane lining around a heart, and "parameter," a measuring beside. In all of these cases, a sense of boundaries and limits is somehow conveyed. Yi-Fu Tuan (1977), in Space and Place: The Perspective of Experience, finds the common root per in our words "experience," and "peril," and "experiment." Tuan (1977, p. 9) also uses this shared origin as evidence in the argument that active experience may require an advance beyond traditional boundaries and limits—that "one ventures forth into the unfamiliar and experiment with the elusive and the uncertain."

What then are boundaries in the physical and academic sense? The ancient Greek word for boundary (peras) and the etymologically related Persian word for garden (pairidaeza) provide a striking insight into an older sense of boundary that we have now lost, a sense of intellectual boundaries and the creation of places that we can apply to the questions of paradigms in landscape architecture.

Islands of Possibility: A Potential Definition

Long before humans thought of boundaries as defensive, as a barrier to keep something out or as a mere container, boundaries were understood by such peoples as the ancient Greeks as clearings, as openings that allowed a hidden presence to be revealed from concealment. A remarkable understanding of the history of language and the Greek sense of space and place prevades the philosopher Martin Heidegger's (1971) essay, "Building Dwelling Thinking." In much of his writing, Heidegger has described how the Greeks viewed the world as imbued with Being that was hidden and concealed. With regard to boundaries, Heidegger stressed the priority of Being that can be released through the act of building and dwelling. "A space is something that has been made room for, something that is cleared and freed namely within boundary, Greek peras. A boundary is not that at which something stops but, as the Greeks recognized, the boundary is that from which something begins its presencing" (Heidegger 1971, p. 154).

In another essay, "The Origin of the Work of Art," Heidegger (1971) provided a similar etymological analysis of the Greek concern for Being and the bringing forth of being. Our word "technology" is derived from the Greek word techne, a term that meant both art and craft. Yet, Heidegger argued that a deeper meaning of techne has nothing to do with practical form of production, but with an all-encompassing form of knowing that involves the bringing forth of beings that are concealed. "Techne, as knowledge experienced in the Greek manner, is a bringing forth of beings in that it brings forth present beings as such beings out of concealedness and specifically into the un-concealedness of their appearances..." (Heidegger 1971, p. 59). He later used this etymology in an argument stating that technology should be understood, not as a threat or loss of tradition, but rather, as the manner in which being shows itself to humanity in our time.3

In the case of both building and technology, Heidegger sought to shed light on present day conceptions by looking to older understandings that are still hinted at in history of language. In the years to come, landscape architects may look to the past and to contemporary science to define new paradigms of "ecological humanism," social responsibility, and facilitation for the field. But, the fascinating irony is that the histories of such terms as "paradigm" and "building" already point the way toward richer working definitions and alternative ontologies and epistemologies that can form the grounding for a provocative paradigm debate.

The very idea that technology and boundaries can be understood as facilitators of being, that they are geographical and historical clearings or islands of possibility for understanding and the revelation of potential order, is itself revolutionary. Like the fear of technology described by Heidegger, critics of contemporary environmental attitudes frequently point to the rationalism of Descartes and the causalistic scientific method of Francis Bacon as contributing to a "world-view" that has led to the environmental despoliation of our age. It is true that Descartes' understanding of space as homogenous and his isolation of subject and object is characteristic of a human-centered view of landscapes that can lead to their destruction. But we must remember that so much of what we do today as landscape architects, such as environmental engineering, computer land use information systems, and empirical social research, owe their development as techniques to a highly sophisticated approach of asking questions of the world that came into being during the Renaissance and the Enlightenment. Today, we can ask broader questions of the world as an ecological system of relativity and synergy because we stand on the shoulders of earlier epochs which brought forth different but equally important questions—questions that arose from an historical clearing of possibility.

While we may understand per in the sense of a boundary that brings forth a question or a view that might be concealed, the second syllable of "paradigm" implies a showing or a revelation. The Greek word deikuni meant a showing or comparing. As new academic boundaries that allow something which is concealed to be shown, paradigms are also significant for what is left unnoticed. Rather than blaming Descartes and his contemporaries for the challenges that we face today, we might define paradigms for landscape architecture in the Greek sense of a boundary, as islands of possibility in which something shows up for us that might otherwise be left unseen. This definition of paradigms allows both for tolerance of differing research methods and a significant social and political critique of ongoing research and design. The understanding of paradigms as boundaries that show something allows us to consider not only the questions that we are able to
raise, but the questions which remain concealed beyond the boundaries of our question raising lexicon.

Tolerance and a Respect for Diversity

Just as the paradise garden served as an island of human order in the desert, paradigms for landscape architectural research can also bring out an order in the world of perceived events. What is needed now is a celebrative understanding that, in its fullest sense, "paradigm" can mean more than a mere model for the conjugation of a verb or a model for landscape research techniques. Like the deepest sense of boundaries and building, paradigms in research can be defined as revelations, discoveries, and the eventual preservation of something silent. The quest for a single paradigm for landscape architecture ignores the sense of paradigms as showings and walled gardens in a landscape where many kinds of gardens may be possible.

The lack of any single paradigm for a field as diverse as landscape architecture need not be constricting. Certainly the rising number of articles submitted to Landscape Journal since its inception does not indicate a lack of theoretical work. Diversity and seeming disorder may have their merits for such a young research area. If anything, a strongly held paradigm can, as Kuhn has shown in several examples, inhibit theoretical research, especially given the emphasis that normal science tends to place on internal puzzle solving rather than on external critiques. Landscape Journal is ideally suited to be a forum for such vigorous debates over the future of teaching, scholarship, and design. Inevitably, the Journal will continue to report the case studies in perception and visual assessment research that are indicative of a kind of paradigm directed puzzle solving; nevertheless, it is the external perspectives that are brought out in the impassioned debate over possible futures that can truly draw interest to the whole idea of research and theory in landscape architecture. One of Kuhn's most thought provoking arguments is that paradigm debates within a discipline generally require a flight beyond rational, internal discourse; often, paradigms are chosen on the basis of a recourse to values.

Preserving Landscapes and Language

Today, landscape architecture uses a professional and academic language to advocate cultural landscape preservation and the sheparding of the land. In his essay, "Building Dwelling Thinking," Heidegger (1971) foresaw this concern when he pointed out the shared origins of the German words for the activities of farming, dwelling, and building. "The old word bauen, which says that man is insofar as he dwells, this word bauen however also means at the same time to cherish and protect, to preserve and care for, specifically to till the soil, to cultivate the vine" (Heidegger 1971, p. 147). In one possible sense, the act of building can be understood as the creation of boundaries that do not so much deface the land as allow a hidden face to come forth. It is not surprising that a philosopher who looked to history to argue that building can be a form of caring and preserving would also argue that it is the poet's role to preserve the depth and resonance of language. As landscape architecture asks great questions about is future, there may well arise a new appreciation of language, of its fragility, and its capability for evolution. If paradigms might be viewed as bounded islands, perhaps we will learn to tolerate an archipelago of diversity. If language is a key to effective questioning and social influence, perhaps we will sense a new calling to preserve its richness and clarity of application.

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Notes

1. This critic is Margaret Masterman whose article, "The Nature of a Paradigm," is cited by Kuhn (1970, p. 174) in his postscript to the second edition of The Structure of Scientific Revolutions.

2. "Building Dwelling Thinking" was first presented in a German language lecture on August 5, 1951. This essay, along with others collected in Poetry, Language, Thought (1971), represents a later phase of Heidegger's work in which he turned his deep knowledge of the history of language and knowledge to such issues as poetry, building, and thinking.

3. This argument appears in Heidegger's (1977, p. 14) essay, "The Question Concerning Technology." As in "Building Dwelling Thinking," Heidegger relied heavily on philological and etymological research to develop a philosophy that continues to be quite relevant to contemporary issues. His description of the recent technological conception of nature as a "standing reserve" of resources for human use holds great implications for future "ecological humanism" in landscape architecture.

4. One of the most frequent applications of the term "paradigm" in the last three centuries has been as the model for the conjugation of Latin verbs; this grammatical model, often for the verb "to love" (amare), can be memorized by the language student and used as a standard for comparison with other verbs.

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