Encounters with the Land
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October 1992 marks the 500th anniversary of Christopher Columbus's arrival in North America and his “discovery” of a “New World.” Sailing west in an attempt to find an oceanic route to the Orient, Columbus encountered a very old, populated world, whose peoples had diverse and complex histories and cultures. Although the Americas had been visited by other transoceanic voyagers, this encounter in 1492 placed the Eastern and Western hemispheres into permanent contact, and the cultural consequences of this contact continue to unfold in the late 20th century.

An exploration of America’s past reveals that to a great degree the lifeways of peoples and the history of exploration and settlement can be viewed in terms of encounters between landscape and culture. The occasion of the quincentenary presents an appropriate opportunity to consider the interaction between humans and the American landscape, particularly the West. This photographic essay presents selected aspects of the links between physical landscape and cultural landscape and very different perspectives on the American West—Native American landscape and tradition, and connections between physical setting and the history and direction of Euro-American exploration. The perspectives of different cultures reflect distinct approaches to knowing the Earth.

What is meant by “knowing the Earth”? Geology, as the scientific discipline that seeks to understand the Earth, has over the past two centuries provided a type of knowledge of Earth properties, processes, and history based increasingly on analytic description, abstraction, and specialization. In A Sense of the Earth (1971), David Levenson asked if geology and geologists were aware of, or capable of, interpreting the Earth and the nature of Earth-human relationships—the “geologic experience”—to society. Rather than being a complete set of details, our knowledge of the Earth is informed by inquiry that extends beyond the confines of specialized scientific disciplines to a larger human experience.

Communicating an understanding of the history and place of Earth or landscape in human affairs has commonly fallen within the domains of historians, geographers, and anthropologists. Geologists can also be a part of this group and examine the role and impact of the science in society and the interdisciplinary nature of relationships between the Earth and humans in time and space. There are many connections beyond traditional boundaries of the discipline. For example, geologic setting strongly influences the paths of cultures. Second, great diversity in views of the Earth—from science to myth—exists among peoples of the world.

Third, perspectives on landscapes are shaped by encounters with the land as well as expectations or preconceptions based on cultural images of the time. What did Euro-Americans seek and what did they see in the western lands? How was this an impetus for scientific (geographic and geologic) exploration? In addition, with regard to the American West, geographic and geological studies played a significant role in the historical development of the region.

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Desert hoodoos at dusk, Arches National Park, Utah. "Rocks and rock formations are prominent in the geography of Hopi Country, and in the mythological interpreta tion of the Hopi world.... Where a stranger to Hopi land will perceive only the barren starkness, and perhaps desolation all around, the Hopi people see a strength and beauty that comes from intimate familiarity with it...." —Emory Sekaquaptewa (1981)

Masonry cliff ruins, Frijoles Canyon, Bandelier National Monument, New Mexico.

Cracked pine, Bryce Canyon National Park, Utah.

View through a canyon slot, Utah.

Alpine peaks and meltwater, Titcomb Basin, Wind River Range, Wyoming.

Eroded volcanic landscape, Death Valley National Monument, California.

Erosion and the mud-laden Colorado River, Grand Canyon National Park, Arizona. The desert and canyon country of the Colorado Plateau was a natural laboratory for scientists and explorers like John Wesley Powell who, in the late 19th century, developed significant new ideas concerning landscape-shaping processes, the importance of geologic time, and land use in arid regions.

Early morning fog at Cape Royal, Grand Canyon National Park, Arizona. "The thought grew in my mind that the canyons of this region would be a Book of Revelations in the rock-leaved Bible of geology." —John Wesley Powell.
NARRATIVE—A DIFFERENT LANDSCAPE

The part of the North American continent known as the American West is much more than a region of distinct physiographic provinces, and it is only by broadening the concept of the history of westward movement and expansion that the end of the 15th century, Spain had explored the Caribbean, the West had been explored, adapted to, and inhabited by diverse groups of peoples for thousands of years. The human record of occupation in the Four Corners region of the American Southwest (southern Utah and Colorado, and northern New Mexico and Arizona), for example, is long. If not continuous over this period (Martin et al., 1991; Cordell, 1985), Prehistoric inhabitants of cultural traditions as diverse as Anasazi and Mogollon emerged later as Pueblo Indians, who remain in this area. To survive, or even flourish at times, in such a natural environment with variable climate and unpredictable water resources required adaptive change.

The great diversity and distinctiveness of Native American cultures, legends, myths, and spiritual beliefs and practices reflect in numerous ways the same ways that Euro-America has, and cannot be viewed with the same assumption that Native American lands are a blank slate. The Amerindians of the American Southwest and California were, in fact, the longest survivors of those who first set foot on these shores of the Americas. Throughout the centuries of occupation and interaction with European societies, the Native American West has been a region of great diversity and complexity, adapting to the changing conditions of the land and continuing to evolve as a result of the interactions with Euro-American societies.

For many American Indian cultures, the land was both a sacred space and a source of sustenance. The land was the source of food, water, and shelter, and it was also the source of spiritual knowledge and revered as a sacred place. The land was not only a source of sustenance, but also a source of spiritual power, and the land was seen as a living entity, with its own breath and heartbeat. The land was a source of life and a source of death, and it was a source of renewal and rebirth.

The land, the sky, and all that is within them—the land—includes human beings. Interactions in the Pueblo landscape are complex and multifaceted, influenced by the weather, the aridity and hardness of much of the terrain, and the high plateau country explain in large part the survival of the Pueblo people. The Pueblo people gave the sky and the earth around them survival dependences on each other and cooperated not only among human beings, but among all living beings, the animate and the less animate, since rocks and mountains also had seasons to obey, to travel occasionally.

—Leslie Marmon Silko

In the 1803 acquisition of the Louisiana Territory from France, the United States claimed almost 757 million acres of what is now the central and western regions of the country. This next step was the largest area for what was out there. Lewis and Clark's mission was, in President Jefferson's view, political and economic, as well as scientific ('literary') in motive (Goetzmann, 1982). In this first official, government-sponsored scientific expedition, the Corps of Discovery was to locate 'the most direct and practicable water communication across this continent for the purposes of commerce' by traveling up the Missouri River and crossing the Rocky Mountains to the Columbia River basin. Finding a navigable water route to the Pacific (the so-called North-West Passage or elusive Salt River, Buenaventura River), would enhance territorial claim, as well as commerce with Asia and the Natives (Boorstin, 1965; Goetzmann, 1966, 1982, 1985). In addition to studying the Indians, Lewis and Clark were to investigate the 'soil and face of the country' by noting the geography and identifying and collecting natural resources (including fur-bearing animals and minerals) that might be of commercial or scientific value. As the first major Euro-American expedition to cross the continent, it established a new way for Euro-Americans to reach settled the exploration of its geography and resources. Over the next 50 years this land of vast plains, mountains, and deserts became known to the nation primarily through the efforts of explorers.

-John Wesley Powell, Clarence King, Ferdinand V. Hayden, and George M. Wheeler, covered an immense region that included the western plains, Rocky Mountains, the Sierras, Great Basin, and Sierra Nevada.

Major questions and concerns about the west were not new. From the time, and human history emerged in the latter phase of western exploration, and dominated what historian William Goetzmann has described as the nation's 'coming of age' scientific-geographic and physical geographic, and physical geography, as well as a deep learning about the western landscape and the diversity and discoveries of the 19th century surveys. For example, J. W. Powell, in his 1873 report on the Colorado Plateau region, investigated geological processes and history of the Southwest.

Historians have pointed out that while the West was being discovered by Americans it was also being invented.

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The primary role of the Research Grants Program is to provide partial support for research by graduate students at universities in the United States, Canada, Mexico, and Central America. GSA strongly encourages women, minorities, and persons with disabilities to participate fully in this grants program. Eligibility is not restricted to GSA members. New application forms are available each fall in the geology departments of colleges and universities offering graduate degrees in earth sciences. Forms are mailed annually to GSA Campus Representatives and department secretaries and chairpersons in the United States, Canada, and Mexico. They are also available upon request from the Research Grants Administrator, Geological Society of America, P.O. Box 9140, Boulder, Colorado 80301. Please use only the 1993 application and appraisal forms.

Confidential evaluations from two faculty members are required from candidates for the M.S. or Ph.D. degree and must accompany applications submitted. PLEASE USE THE "APRAISAL OF APPLICANT" FORMS, WHICH ACCOMPANY THE 1993 APPLICATION FORMS. Application forms will not be accepted by facsimile.

The Geological Society of America awarded $315,769 in grants in 1992. The grants went to 248 students doing research for advanced degrees. The average amount awarded was $1273. The largest grant was $2500, but there is no predetermined maximum amount.

The Committee on Research Grants will meet in March to evaluate applications and award grants. In April, all applicants for grants will be informed of the committee’s actions by the Executive Director of the Geological Society of America.

ALL APPLICATIONS MUST BE SUBMITTED ON THE 1993 FORMS AND POSTMARKED BY FEBRUARY 15, 1993

REFERENCES CITED
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