

# Workspace

## Carolyn Merchant: The Past in the Present

By Michal Meyer

Twenty-five years after *The Death of Nature*, Carolyn Merchant is as strongly committed to the Scientific Revolution and to a vision of a world that can learn from the past as she ever was. In her latest book, *Reinventing Eden* (published 2003), the Scientific Revolution plays a pivotal role in the story of a secular Eden and its re-creation on earth. Science, technology, and society provide ways to examine both the Scientific Revolution and our own 21<sup>st</sup> century troubles, and possibly find some solutions.

Merchant is not apologetic about linking past and present, about her passion for the Scientific Revolution and present-day ills. "It drives the questions you ask of the past, but it doesn't determine the way you write the history. It is not a presentist history of finding what you are looking for, but rather assessing it as honestly as you can. We give up the claim of objectivity for the hope for honesty."

The 25<sup>th</sup> anniversary of the publication of *The Death of Nature* has given Merchant, professor of environmental history, philosophy, and ethics at the University of California, Berkeley, an opportunity to revisit the issues and implications raised in that book. Merchant was keynote speaker at a conference on the Scientific Revolution held at the University of Florida in February 2005 and took part in a session on *The Death of Nature* at Houston in March with the American Society for Environmental History (ASEH). A session on the book is planned for the upcoming History of Science Society Meeting in November. Out of that, says Merchant, will come a publication in *Isis* scheduled for June 2006.

The civil-rights movement, feminism, and the ecology movement that grew out of the Sixties shaped Merchant's early views. Rachel Carson's *Silent Spring* and Betty Friedan's *The Feminine Mystique*, both published in the early Sixties, contributed to that shaping. In 1967 Merchant graduated from the University of Wisconsin with a dissertation on the *vis viva* controversy among Leibniz, Descartes, Newton, and their followers in the latter part of the 17<sup>th</sup> and first half of the 18<sup>th</sup> century. She began teaching history of science at the University of San Francisco in 1969, and taught classes on science and society, the history of the Scientific Revolution, and the history of the occult sciences in the Renaissance. Mix this historical work with the civil-rights movement, protests against the Vietnam War, the first

Earth Day in 1970 and one can appreciate the genesis of *The Death of Nature*.

"It grew out of the 1970s and out of the tension in history of science as to whether there were internal and/or external influences on the history of science. The question was: Did science develop out of internal inconsistencies within itself, such as the work of Copernicus leading into the work of Kepler, Galileo and ultimately Newton? Or did the context of social change in the Renaissance, the explorations of the New World, and the rise of nation states, along with the craft traditions in technology, the importance of scientific societies and religion play a role in the way that science ultimately took shape? In *The Death of Nature*, I asked how did the rise of mechanistic science influence the ecological crisis that we have today and, in particular, how did the mechanistic world view lead to a sense that humans could dominate nature."

Merchant's environmental and ecological interests led her to ask new questions. While mechanization of the world picture in the Scientific Revolution was a hot topic, few, if any, historians of science were asking about its implications for the environment.

The book made a splash in the history of science, and the ripples extended beyond the academic community. "It got mentioned in *Newsweek* and in a hearing on science and technology in Congress," says Merchant. "It drew the attention of Women's Studies because it dealt with imagery of the nature of the world as female – the idea of the nurturing mother earth and virgin nature – and I also had discussed the role of women, not only in the craft tradition and as midwives but of women in science. Environmentalists also took notice

because it helped in part to explain the ethic and the philosophy that legitimated the management of nature and the control of nature."

Merchant had written an academic book that could speak to the issues of the day: to the sense of an ecological crisis and to the role of women in science and their opportunities. The discussions generated by the book delighted her. "For a book that came out of an academic context and yet was responding to social influences it achieved a sense that these issues (history of science of the 17<sup>th</sup> century) had much deeper meanings for our lives today than we might have imagined a couple of decades prior. I felt I was contributing to a historical understanding of how we got to where we were in the Seventies and onward."

Though the reception of the book was largely positive, there were dissenting voices. Some, says



Photo courtesy Jane Dominguez

Carolyn Merchant at the HSS Executive Office.

Merchant, had to do with the influence of ideas and of social events on science, and the impact of science on social change. "How do you justify those sort of connections? How do you show causality? Those were the issues historians of science faced as they were trying to meld the internal/external in history of science." Other questions had to do with seeing nature as female, the role of women in society and in science and the connections between them. Finally, the relevance of the past for society today was called into question. "Is it presentism to look at the present and then go back and find ideas that are living in the present in the past? Are we distorting history if we ask those kinds of questions of the past?"

Merchant sees her work — where the language, often violent, of Nature revealing her secrets affected both science and women — as fitting into that larger critique about the relationship between women and science, one that includes the work of Londa Schiebinger, Sandra Harding, Evelyn Fox Keller, and Donna Haraway.

Much has changed since the publication of the *Death of Nature*. "There is more emphasis today on the social construction of science and on the social construction of nature. We are also much more critical of modernism in trying to show its flaws, the problems of Enlightenment and rationalism, and also the contributions made by the Enlightenment. By the same token those critical stances raise the question of 'where do we go from here?' Do we just deconstruct the past and say these were the results of neocolonialism, of linguistic questions of how nature was described?" The changes in science itself, from a mechanistic approach to one of chaos and complexity, says Merchant, have led to a more complex understanding of human interactions and human interpretation of the world. With this in mind, her latest book, *Reinventing Eden*, offers a new way of living in the world, a way that Merchant calls a "partnership ethic."

"In *Reinventing Eden* I see the Scientific Revolution as a transformative moment in which the story of reinventing the earth as Eden took place through the simultaneous reinforcement of science, technology, capitalism and the Protestant ethic. These came together to make humanity believe that it could reinvent Eden on earth by cutting forests, irrigating deserts, managing the environment, and replanting it with monocultures. The medieval period and the Renaissance had thought of salvation as a return to Eden by an escape from earth, whereas the Scientific Revolution thought of the recreation of Eden on earth as a secular project."

*Reinventing Eden* takes a more nuanced view of the Scientific Revolution than *The Death of Nature*. Although science in the 17<sup>th</sup> century had a mainstream progressive interpretation that was part of the rise of nation states and concepts of civilization, Merchant says, it also had negative implications for the subordination of nature and of women in science, while also creating opportunities for women.

It is a more activist view. "You can view the history of mechanism as part of a progressive narrative or as part of a declensionist narrative, in which it plays a role in the decline of pristine nature and in the desecration of the earth, leading to the ecological crisis. One way out of this, for me, is through the emergence of new narratives born out of social and economic conditions that are not imperialist, not colo-

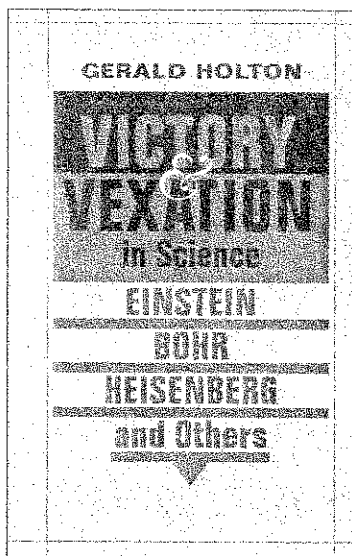
nialist, but that ascribe equality to all peoples, especially to men and women. I call this new ethic, which will be part of a new narrative, the "partnership ethic." I use the term partner to reflect that men and women can be partners with nature in an interactive dynamical relationship with give and take, rather than as manipulators, managers and dominators over it."

Merchant's passion for history continues to speak to the issues of 'now.' "The present generates questions that you can ask of the past. That is particularly true of environmental history, since changes in the environment reflect views on how people can transform nature using science and technology." **IS**

## VICTORY & VEXATION IN SCIENCE

EINSTEIN, BOHR, HEISENBERG, AND OTHERS

GERALD HOLTON



"Gerald Holton is the dean of Einstein scholars."  
—Dennis Overbye,  
NEW YORK TIMES

Never has the power of scientific research to solve existing problems and uncover new ones been more evident than it is today. Yet there exists widespread ignorance about the larger contexts within which scientific research is carried out. For example, the point of view some scientists adopt in their work or in their social commitments may become clearer if considered in light of the opposing views held by other scientists.

This is a theme Gerald Holton addresses in his new collection. Whether considering conflicts between Heisenberg and Einstein, Bohr and Einstein, or P. W. Bridgman and B. F. Skinner; tracing I. I. Rabi's shift of attention from superb science to education and scientific statesmanship; or examining the emergence, in the last few decades, of the need to connect scientific research to societal needs—in each case, Holton demonstrates a masterly understanding of modern science and how it influences our world. New in cloth.