Dear Sir,

Herewith inclosed you will receive an invoice of certain articles, which I have forwarded to you from this place. Among other articles you will observe, by reference to the invoice, 67 specimens of earths, salts and minerals, and 60 specimens of plants; these are accompanied by their respective labels, expressing the days on which obtained, places where found, and virtues and qualities when known. By means of these labels, references may be made to the chart of the Missouri, forwarded to the secretary of war, on which the encampment of each day has been carefully marked: thus the places at which these specimens have been obtained, may be easily pointed out, or again found, should any of them prove valuable to the community on further investigation.

Meriwether Lewis, letter to President Thomas Jefferson from Fort Mandan, April 17, 1805

At Harvard University’s celebrated Museum of Comparative Zoology, there exists an ornithological specimen, a woodpecker, *Melanerpes lewis*. Meriwether Lewis collected it on May 27, 1806, on the Clearwater River in what is now Idaho. He very likely delivered it to the artist and naturalist Charles Willson Peale for inclusion in America’s first museum of art and science, Peale’s Museum, in Philadelphia. The woodpecker, named for Lewis, is thought to be the only complete specimen remaining from the Corps of Discovery (although elk antlers from the expedition are displayed at Monticello, and the horn of a bighorn sheep is at the Filson Museum in Louisville, Kentucky). Thomas Jefferson’s primary directive to Lewis and Clark, to find river passage to the Pacific Ocean, is well known. Also familiar are the explorers’ journals—the first documentation by European Americans of overland travel to the western United States. Possibly less well known is the Corps of Discovery as a natural history expedition: Jefferson also directed Lewis to collect animal, mineral, plant, and ethnographic specimens. The explorers even carried, in their traveling library, volumes illustrating reference material pertinent to the voyage: John Miller’s translation of *An Illustration of the Sexual System of Linnaeus* (London, 1779), Benjamin Smith Barton’s *Elements of Botany* (Philadelphia, 1803), and the *Dictionary of Arts and Sciences* (1754–55). Jefferson, as a scholar of the Enlightenment, resisted any early 19th-century notions of extinction and actually thought Lewis might come across woolly mammoths in his travels. The explorers did, however, make a few “new” species known to Eurocentric science—the coyote and the prairie dog, for instance, and a variety of novel birds, like the Lewis woodpecker.

The year 2006 marks the fourth and final year of the bicentennial of the Corps of Discovery. Lewis & Clark College has adopted this commemoration as an opportunity to examine how “the journey continues.” Over the past four years, four themes have provided a focus for reexamining this watershed moment in American history and reflecting on how it reverberates in 21st-century academic thought. Since 2003, the College has looked at The World in 1800, Encounters (meaning the European American “encounter” with Native American culture), American Rivers, and, in 2006, Legacies. Lewis and Clark’s journals—and the explorers’ investigations into western American natural history—are very real and unexhausted endowments from the Corps of Discovery.

The theme “Legacies”—and that woodpecker at Harvard—spawned the exhibition *Artists and Specimens: Documenting Contemporary Experience*. The idea that specimens hold the power to inform collective knowledge, even centuries after the collector/explorer acquired them, is a concept used by some contemporary artists today. The works of Barton Lidice Benčič, Mark Dion, Terry Evans, Tony Foster, Cornelia Hesse-Hongegger, and Sue Johnson demonstrate that the potency of collected specimens resides firmly in the realm of visual arts as well as academic science.

The intersection of art and science occurs more often than one might expect. That very *Melanerpes lewis* at Harvard ended up as the specimen used by Alexander Wilson for his illustration of Lewis’ woodpecker in his comprehensive nine-volume study, *American Ornithology* (1808–14). There is even a long tradition of scientists drawing specimens in order to know them at a deeper level. Louis Agassiz (1807–73), the great French naturalist émigré to America, Harvard professor, and founder of the Museum of Comparative Zoology, routinely demanded that his students draw fossils from life, for only in so doing would students see the specimen in all its complex detail.

Much earlier, however, during the 16th through 18th centuries, art and science were aesthetically and physically blended in the historic phenomenon known as the cabinet of curiosities, or *Wunderkammer*. This theatrical precursor to both the natural history museum and the art museum typically combined art, plant and animal specimens, rocks, minerals, shells, ethnographic artifacts, and all manner of oddities and exotica including human body parts and aberrations of nature, such as double-headed animals. Perhaps the iconic *Wunderkammer* nautilus shell, encrusted with silver-gilt ornamentation, most embodies the Renaissance notion that art and science are twin vectors for understanding the world.
It is only since the late 19th century that we find, say, the Metropolitan Museum of Art and the American Museum of Natural History as separate institutions on opposing sides of Central Park. Art historian Lynn Gamwell, in her excellent book *Exploring the Invisible: Art, Science, and the Spiritual,*6 makes the case that, from the Romantics forward, artists were informed and influenced by the explosive accumulation of scientific knowledge. Gamwell’s work points up a striking consonance between the evolution of science and art during the past two hundred years—that Art Nouveau imagery paralleled technical advances in the ability to view biology, for example. Even more direct overlap is evident in work such as Ernst Heinrich Haeckel’s kaleidoscopic illustrations of marine life forms in *Kunstformen der Natur* (1899–1904), or Leopold and Rudolf Blaschka’s exquisite glass flowers and sea life specimens (from the 1860s through the 1930s).

The causative effect of new information traversing between disciplines is a hallmark of cosmopolitan thinking, and contemporary art is no exception. Since Marcel Duchamp’s introduction of ready-mades into visual art vernacular, contemporary artists have used objects—including specimens—as fluently as they use more traditional media. Marcel Broodthaers, Claes Oldenburg, Herbert Distel, Fluxus, Susan Hill, Lothar Baumgarten, Joseph Kosuth, and Fred Wilson are just a few artists whose work has focused on collection. Often the subtext involves the museum as the repository of such collections, and the elevated or didactic posture that the museum claims.7

Each of the artists in this exhibition uses the practice of collecting—even if this is defined as “collecting experiences”—to engage the viewer in questions of authenticity, truth, and the dissemination of knowledge. Both Mark Dion and Tony Foster use the world as their laboratory; the processes inherent in their practices are part and parcel of the artistic expression. Sue Johnson and Barton Lidice Beneš mine popular culture and commercially made artifacts. (Note how close this word is to “artifice,” another theme that runs through the work of both of these artists.) Cornelia Hesse-Honegger has employed her scrupulous observation and meticulous skill as a scientific illustrator to forward her role as an activist artist. Terry Evans has gone into the museum for her exploration, selecting specimens collected by others, and used them to look introspectively at plant and animal life on the prairie.

The range of work in *Artists and Specimens* goes far beyond themes of art versus science, the practice of collecting, or even what defines a specimen. The works span from lighthearted and humorous to deadly serious, but all have a subtheme that is rarely, if ever, present in traditional scientific inquiry: social commen-

tary. The questions these artworks pose involve not only what is in the world, but how we live in it.

*The beautifully illustrated admittance ticket to Charles Willson Peale’s museum read, “Admit the Bearer to Peale’s Museum, containing the Wonderful works of Nature and curious work of Art.”* Above this text, a banner displays the words: “The Birds and Beasts will teach thee!” In the late 18th century, Peale married science and art to evoke concepts of harmony and hierarchy, along with heavy doses of Christian doctrine and patriotism. Today, the artists of *Artists and Specimens: Documenting Contemporary Experience* continue to be extraordinarily curious about the world and motivated to present it visually, but references for our present-day Weltanschauung are considerably more complex than those extant two centuries ago. “Without things, we would stop talking,” says Lorraine Daston in her book *Things That Talk: Object Lessons from Art and Science.*8 The works in *Artists and Specimens: Documenting Contemporary Experience* invite us into the conversation.

Linda Tesner, Director
Ronna and Eric Hoffman Gallery of Contemporary Art
Lewis & Clark College

4. For information on all Lewis & Clark College programming surrounding the Lewis and Clark Bicentennial, see www.thepourneycontinues.org.

Sue Johnson
*Robert Hooke’s Flea,* detail from *Hidden Structures of the Universe,* 2001
Hidden secrets of Robert Hooke's flea specimen as viewed through a more powerful microscope.
SUE JOHNSON

in postmodern life—for most of us—knowledge accumulates in visual waves. The first steps on the moon. The food pyramid. The first live photographs documenting the giant sea squid. Until relatively recently, the didactic tools of childhood were biology charts, illustrated encyclopedias, and diagrams in science books, along with reportage and National Geographic still photography. Now, Internet images stream instantly information; most students search for something on the Internet before consulting a librarian. Technology has had a confounding impact—photographic manipulation is now literally kid-friendly—but, in truth, cornivance has been part of photographic history almost since its inception. Think of photographs of the Loch Ness monster, or those convincing UFO pictures. Or tabloids. Is seeing believing? Whom and what do we ultimately trust to inform us about the nature of our universe? And who has the power to organize this information and thereby overlay hierarchic values? These are central concerns in the thought-provoking and often humorous work of Sue Johnson's *The Alternate Encyclopedia*.

The *Alternate Encyclopedia* project began in 1991, and is now an ongoing series of chapters—or, better put, rooms in a museum—that explore various aspects of knowledge gathering. Johnson takes her cue from a certain type of vintage, one-volume encyclopedia, aimed at the popular audience, in which basic information is grouped thematically instead of alphabetically. Johnson cites Collier's *Cyclopedia of Social and Commercial Information and Treasury of Useful and Entertaining Knowledge on Art, Science, Pastimes, Belles-Lettres, and Many Other Subjects of Interest in the American Home Circle* (1882); *The Book of Popular Science* (a series published by the Gollner Society in the 1920s); and Compton's *Pictured Encyclopedia* (from the 1920s and '30s) as examples of published taxonomies with, ultimately, completely subjective means of organizing the ever-increasing collective body of information. The idiosyncratic juxtaposition of, say, hard science with practical home improvement tips in these books suggested an interface between natural history and domestic life that has intrigued Johnson for the past several years.

Johnson's *Alternate Encyclopedia* is also divided thematically: "Cultivating Young Minds," "New Wonder World," "Scientific American Woman," "Wild Animals I Have Known," and "Travel and Exploration." Her work in the *Artists and Specimens* exhibition includes components from these themes.

Works in the "Cultivating Young Minds" subset might snap one right back into an elementary-school classroom for a moment. Central to this subscape are huge diagrammatic charts called Abstractions. Here Johnson has over-painted old anatomy charts that were originally meant, presumably, to demystify the human body: *Abstraction with Prairie Dog* considers the mechanics of hearing. *Abstraction with Kingfisher* appears to illustrate the vascular system, with special emphasis on the heart and lungs. Johnson is further intrigued by the idea of animals observing humans with an intensity similar to that of human scientists observing nature; in each of these charts, the animal regards the human organ(s), and one might imagine its fascination. These charts are, of course, truly "abstractions," an ironic play on the art term for nonobjective work, for those sorts of scientific schemes are intentionally devised to distill and dumb down the essence of some bit of basic knowledge, a visual sound bite, if you will.

*Early Genetic Engineering for Kids* is another found object that Johnson re-presents. Johnson herself is equal parts artist, collector, archaeologist, and naturalist. She shops garage sales and flea markets to observe trends in social history: studying society's discards can be a revealing cultural exercise. On one such research excursion, she happened upon five Creepy Crawler sets (plus a child's collection of homemade insects) at a yard sale. Johnson remembered playing with Creepy Crawlers as a kid—it's like an Easy-Bake Oven for aspiring geneticists. The child squirts a colored substance called Goope into shallow molds of beetles and worms; bake these in a light bulb-heated cooker, and when the unnaturally colored insects are done, pries these hybrids from the mold as specimens. The toy is, metaphorically, a practice kit for genetic modifications, with a possible subliminal message of "better living through technology." We might think of genetic engineering as having its nascent in the 1960s, when Creepy Crawlers were first marketed, but in truth, the hybridization of plants dates much further back than that—to Gregor Mendel's genetic experiments with plants or even earlier, during "tulipomania" in 17th-century Holland. Human manipulation of nature—its history and its consequences—is an additional sub-theme that runs through Johnson's work.

The subscape "Scientific American Woman" reveals another subject of interest to this artist. Historically, women have been excluded from the male-dominated, closed club of science, relegated instead to more acceptable pseudoscientific corny arts of horticulture (gardening) and illustration (botanical watercolors, for example). The history of science is littered with examples of unacknowledged or underappreciated women contributors. Few know Beatrix Potter (1866—1942) as a scientist (she was, in fact, an amateur naturalist) who investigated and illustrated spores, molds, and fungi to such a level that she presented her findings to the Linnean Society in 1897. We know her now, of course, primarily for her charming children's books. Elizabeth Gould (1804—41) illustrated her husband's comprehensive *Birds of Australia*, but John Gould signed the plates "J & E Gould del et lith" [drew and lithographed], assuming equal credit for his wife's efforts. Innumerable other early female science illustrators received no credit at all. These tales of dismissal pique Johnson's imagination.

"Scientific American Woman" presents a body of work called *Hidden Structures of the Universe*, a ficitious presentation of recently discovered research conducted by an anonymous mid-'19th-century woman. This woman is thought to have been a student of celebrity scientist Louis Agassiz at the Museum of Comparative Zoology in Cambridge, Massachusetts. Her discovery—that the underlying structures of the universe bear a striking resemblance to women's undergarments—cost her dearly; it seems she was summarily dismissed from her mentor's laboratory, her fastidious research unpublished until now. How shocking it must have been to discover that, under a microscope, cells resemble a Victorian lady's purse (*Beaded Bag Diaatoms*)! Or that, upon closer examination, the fleas so famously portrayed by Robert Hooke (1635—1703) in *Micrographia* (1665) is actually trimmed in passementerie! Johnson's use of intaglio printmaking and book arts further emphasizes the potential legitimacy of this
unknown scientist's work, since viewers unconsciously associate these methods of reproduction as tools for the dissemination of verifiable knowledge. A play on the theme of "New Scientific Woman" presents Johnson herself as yet another unrecognized female naturalist. In the New Ark Preservation Project, Johnson has assembled a collection of objects—specimens—and hermatically sealed them with a FoodSaver, a device that sucks the air out of sealable plastic bags, compressing its contents. The FoodSaver is meant for leftover food, of course, but in Johnson's hands it bridges that historic gap between the domestic arts and amateur science.

Included in Johnson's New Ark Preservation Project are various products, many of which echo arts and activities traditionally associated with homemaking. Even here, Johnson asserts her own arcane taxonomy, dividing the specimens into objects that are "new"—i.e., manufactured—images of nature (like Pez dispensers with animal heads, or a Barbie doll as the "ideal woman") versus otherwise banal objects culled from feminine life (drier lint balls, bobby pins, and Easter grass, for example). In this project Johnson acts as a serious archivist, also making a photograph of each object in its airtight closure. These eerie photographic prints lend legitimacy to Johnson's project—after all, a scientist systematically documents each object in her collection. More recently Johnson has added a video component to the New Ark Preservation Project, Suspended Animation, or Having Just Broken the Water Pitcher is a one-hour video that records Johnson's amusements and adventures as she processes her specimens with the FoodSaver machine. We witness Johnson's white lab coat and the "whoosh" of the air being vacuumeed from the plastic bag as evidence that this is a highly scientific and potentially landmark project.

Johnson took the name for the subseries "Wild Animals I Have Known" from the title of an 1898 children's book by Ernest Seton Thompson, in which the author tells "true nature stores" about wild and domestic animals. Johnson is acutely aware that our own perception of nature—animals in particular—can be obsessively human-centric. She notes that "our way of 'knowing' animals . . . is to dissect, reshape, tame, wear, and eat them." A funny piece in this series is 35 Stuffed Tigers, in which 35 specimens collected on one day in 2003 are crammed willy-nilly into a vitrine. This is a tongue-in-cheek commentary on traditional natural history museum dioramas in which taxidermied (or otherwise processed) animals are positioned for the museum visitor as a substitute for viewing real animals in their own surroundings. But it is also an indictment of how we teach children about the natural world, leading us to question whether Tony the Tiger and his animated subspecies are suitable stand-ins for understanding the nature of the live beast.

The artist raises this cultural concern again in her elegiac gouache and watercolor wash paintings of fairy tale or mythological creatures, including Anatomy of Pegasus, Anatomy of Peter Cottontail with Cross-Section of Cottontail, and Anatomy of the Ugly Duckling. If, as Johnson posits, we understand life best when it is dissected and autoposed, then we should study the earthly attributes of Pegasus, Peter Cottontail, and the Ugly Duckling as scientifically as possible. These paintings, rendered in the style of science book illustration, have the convincing air of authority. But they also reference a long practice of humans desperately trying to know nature, while confounding the effort and perpetuating inaccurate knowledge by presenting fiction as fact. It wasn't so many centuries ago that unicorns and selkies were documented alongside known animals in the pages of medieval—and later—bestiaries. Even when John James Audubon (1785–1851) signed his bird paintings "drawn from life," in reality he often killed his subjects so that he could pose them (a minor form of ornithological theater). More disturbing is the evidence that Audubon based his work on drawings done by other artists, thereby obviating any sense of his own scientific observation and preserving any mistakes.

Johnson pays tribute to a variety of artistic traditions here, but she is fundamentally a Surrealist, following in that tradition byaltering and skewing reality while re-presenting it as plausible fact. Her work pays homage to Man Ray and Max Ernst, of course—Johnson's Abstraction charts even employ the collage of encyclopedias and catalog pages as a tribute to Ernst's process. But Meret Oppenheim might be Johnson's closest soul mate in the tradition of Surrealism. Oppenheim's pivotal Object (1936) now seems like a potential specimen in Johnson's cabinet of curiosities. In The Alternate Encyclopedia, Johnson gives us the sensory imagination to experience her subjects, just as Object fires the imaginary sensibility of a fur-lined cup.

2. Mark Dion and artist J. Morgan Paett have also toyed with imaginary amateur women scientists in their photographic fiction, Ladies' Field Club of York (1999), in which individual women clad in dark Victorian gowns pose for a tableau portraying an area of natural history: anthropology, botany, conchology, geology, lepidoptery, ornithology, palaeontology—plus a portrait of their trusted porter, who aids them in their field trips aboard a specially designed railroad carriage. Surrounding the woman in each portrait (singly or contempory art curator dressed for the part) are objects representing her interest. Mrs. E. N. Futers, the lepidopterist, holds butterflies, while Miss Mary Buckmose, the palaeontologist, appears amid fossils and a rather formidable rock pick.
4. Linda Duggan Partridge, "By the Book: Audubon and the Tradition of Ornithological Illustration," Huntington Library Quarterly, volume 59, numbers 2 and 3, pp. 269-301. Another famous example of an artist's unwitting perpetuation of incorrect knowledge about natural history is Albrecht Dürer's woodcut of a rhinoceros (1515). The animal was an intended gift to Pope Leo X when the boat carrying this exotic cargo was shipwrecked. The rhinoceros perished, but Dürer saw a written description of the beast, along with a sketch. Dürer made two pen and ink drawings of the animal, and one drawing was used as the basis for the woodcut now housed at the British Museum. Dürer's version of the rhinoceros featured plates of armor as "skin." This version of a rhinoceros was widely copied as an accurate depiction of the animal well into the 19th century. Sue Johnson has also reinterpreted Dürer's rhinoceros in her own intaglio print, Reversed Rhinoceros with Gauntlets, after A.D. (1999).