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# NEWS FROM THE GETTY

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*The Cosmic Mind*  
Anonymous scribe and illustrator  
Ink and watercolor on paper  
Pseudo Isidore of Seville (Isidore of Seville, Spanish  
ca. 560–636), "De philosophia naturali"  
Possibly Mainz, Germany, 1400s  
The Lawrence J. Schoenberg Collection

## GETTY RESEARCH INSTITUTE REVEALS SCIENTIFIC KNOWLEDGE AND SPIRITUAL INSIGHT FROM THE MEDIEVAL AND EARLY MODERN PERIOD

### *Migrations of the Mind: Manuscripts from the Lawrence J. Schoenberg Collection*

At the Getty Research Institute, the Getty Center,  
November 17, 2009–April 18, 2010

LOS ANGELES—Books illustrating medieval Muslim and Christian medicine, Chinese acupuncture, secret experiments in alchemical laboratories, and French and Persian visions of the cosmos are among the many treasures presented in *Migrations of the Mind: Manuscripts from the Lawrence J. Schoenberg Collection*.

On view at the Getty Research Institute at the Getty Center, November 17, 2009–April 18, 2010, *Migrations of the Mind* displays more than fifty medieval and early modern manuscripts, drawn from the private collection of Lawrence J. Schoenberg, illustrating the fusion of scientific knowledge and spiritual insight through the Middle Ages and Renaissance, and the geographic diffusion of such visionary ideas. Publicly displayed together for the first time, this extraordinary collection of beautifully illustrated manuscripts on the history of science and ideas demonstrates the circulation of knowledge around the world and across cultures during the medieval and early modern periods. These manuscripts were produced for caliphs, popes, merchants, and scientists. Copied and illustrated by hand, their content—their ideas and visions—illustrate the human urge for knowledge and creative invention.

Divided into eight thematic sections, the exhibition opens with *Intelligent Design*. "The division between science and religion is a modern one. In earlier intellectual communities, scientific study was often viewed as a form of spirituality, a vehicle for knowing an unknowable God," says David Brafman, curator of rare books at the Getty Research Institute, and curator of this exhibition. "The concept that man was made in God's image extended to the belief that human creativity imitates divine creation. Thus, art imitates nature." A manuscript in the exhibition that illustrates this concept is Zakariya ibn Muhammad al-Qazwini's *Creatures and Phenomena Marvelous and Strange*. This sensationalist, illustrated narrative traces the creation and evolution of celestial and terrestrial life; this medieval account quickly became one of the most popular scientific digests in the Islamic world.

The exhibition also includes topics such as *Harmony of the Spheres*, which features books perpetuating the classical Greek belief that the movements of the stars, musical harmonies, and geometric structures were expressions of a divine order created in the very fabric of the universe. Found in this section is a lavishly illustrated Indian manuscript, *Ragamala*, which equates musical harmonies with the weather of the seasons. The global reach of this concept is also articulated by scholars such as Qadi-Zade al-Rumi, in his *Commentary on the science of [heavenly] form*. This book illustrates the relationship between planetary orbits and the phases of the moon that were discovered by al-Rumi during his tenure as the first director of the observatory at Samarqand in Uzbekistan, an important intellectual outpost on the Silk Road at the threshold between east and west.

Another section, *Medicine: Between Heaven and Earth*, focuses on the studies of celestial medicine, herbal remedies and human anatomy. Manuscripts in this section include *Tashrih al-Mansur*, or *al-Mansur's Anatomy*, a fifteenth-century manual for Arabic and Persian physicians. The manuscript contains some of the earliest known illustrations of human anatomy in the Islamic world. *Al-Mansur's Anatomy* exerted enormous influence among European medical circles, as well. The book shows the color-coding of veins and arteries as blue and red, a visual concept still reflected today by the spiraling blue, red, and white stripes of a traditional barber's pole, harking back to the days of the barber-surgeon.

Medieval physicians believed that the operation of the body and the soul was tuned to the movement of the heavenly bodies. A Renaissance German manuscript features zodiacal charts indicating the right time of the month for medical procedures, such as bloodletting and bathing. The book's illustration of the most effective points on the body to tap for

bloodletting are remarkably similar to those found in the illustration of a Chinese acupuncture manuscript, also displayed in this section.

Like medical knowledge, mathematics circulated between the eastern and western worlds, the subject of *Numbers: the universal language*. As early as the ninth century, Islamic scholars translated the work of the classical Greek mathematician Euclid at the House of Wisdom in Baghdad. These illustrated commentaries, articulate theorems for picturing a three-dimensional world in two dimensions. During the Italian Renaissance, mathematical works by Islamic mathematicians, such as the fifteenth-century Iranian scholar Nasir al-Din al-Tusi, paved the way for the development of artistic perspective in Renaissance Italy and innovations in architectural engineering.

Although knowledge circulated freely, some manuscripts sought to conceal political and scientific information in codes and ciphers. Michele Zopello's *Book of Letter Simulations* is a codebook commissioned for Pope Calixtus III that describes the use of codes and ciphers for transmitting messages across siege lines. Antonio de' Medici's *Book of Secrets* contains medical recipes for drinkable gold as well as the alchemical apparatus that might synthetically produce it. Also included is an Arabic alchemical manuscript claiming to be the last testament from a father to a son about the secrets he has discovered in his laboratory. Though anonymous, the author hints that his identity is Jabir ibn Hayyan, the medieval Iraqi scholar often identified as the father of modern chemistry.

Other sections in the exhibition explore topics as diverse as artillery manuals, guides to animal husbandry, and texts on navigation, demonstrating the breadth and depth of the collection. "Lawrence J. Schoenberg devoted his career to acquiring rare books and manuscripts about the history of science and ideas," says Dr. Brafman. "His lifelong passion for science and art is reflected in a collection that will radically transform our approach to studying the historical world."

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