

Current Comments®

EUGENE GARFIELD

INSTITUTE FOR SCIENTIFIC INFORMATION®
3501 MARKET ST., PHILADELPHIA, PA 19104

"Cathedral of Man"

by Guillermo Wagner Granizo:
Tiles Tell the Tale of Human Achievements
in Science, Information, and Technology

Number 17

April 28, 1986

"Cathedral of Man," a monumental ceramic-tile mural celebrating the development of science, technology, communication, and information science, occupies a prominent place—both physically and spiritually—at ISI®'s headquarters in Philadelphia. The mural, an exuberant creation from the fertile imagination of San Francisco artist Guillermo Wagner Granizo, was installed on the third-floor landing of our main stairwell in September 1980. Most of our staff pass by it daily. Its bright colors and lively composition command attention. Granizo's interpretation of human progress from survival in the Stone Age to tomorrow's attainment of a comprehensive repository of knowledge, or "world brain,"¹ is both joyous and infectious. In fact, I can't imagine our building without it. The success of this mural (and any other) is its integration with the surrounding structure.

I briefly described "Cathedral of Man" in *Current Contents*® (CC®) in 1981.² Since then Granizo has added new tiles to extend the original commission. The main body of the work, designed as a triptych, comprises three arched "windows" that open onto composite scenes: the dawn of humanity, the age of exploration, and the modern era of technologically based information and communication. (See color insert in the center of this issue.) Ascending the stairs to the third floor, one confronts the panel

"Dawn" on the left side and "Modern Technology and Communication" on the right side of the facing wall. The third panel, "The Age of Exploration and Expansion," appears on the adjacent right wall of the landing. Portraits of over 70 scientists, inventors, information and social scientists, and humanists surround the three windows and the doorway on the left. The mural's background is orange, my favorite color and a personal, as well as corporate, trademark.

The tiles added in 1982 frame the recess of the doorway. Portraits now cover the adjacent left wall of the doorway and the facade over the doorway. A sunburst, clouds, and flying birds fill the ceiling of the doorway's recess.

The triptych was emphasized in the earlier essay. Here I want to discuss the portraits and the artist's life and work. A brief review of the content of the triptych, however, is required so that the reader can understand the work as a whole.

Images of Achievement

"Dawn," the first panel, reads chronologically from bottom to top. At the bottom, men and women hunt, gather, and fish, struggling for their survival. Some figures in a cave huddle together around a fire. The middle area of the panel depicts farming and the domestication

of animals. Images at the top of the panel evoke ancient Egyptian, Greek, and Roman civilizations: a pyramid, a charioteer, a gladiator, and an aqueduct. Here, too, is an Aztec calendar, Stonehenge, and a Navajo woman weaving a blanket. Granizo's caption reads: "Survival demanded thought, giving birth to creativity."

Turning to the adjacent right wall, one views the second panel in the triptych sequence. "The Age of Exploration and Expansion" also reads roughly bottom to top. A ship cruises along the blue waters of the bottom of the panel, its sails billowing with images of early maps and scientific instruments. A train and a hot-air balloon represent rapid overland travel and air travel; these innovations broke traditional boundaries of time and space and greatly advanced the speed of communication. Other new forms of communication—postal service, telegraphy, photography and film, the telephone, the radio, musical and scientific notation, and electronic signals—are featured at the top of the panel. Granizo summarizes the panel's content: "Curiosity led to the expansion of mind and boundaries." A supreme invention, artificial light, holds pride of place at the top.

The largest panel of the triptych, "Modern Technology and Communication," occupies the right half of the mural's main wall. At the bottom of the panel, an audience watches five films representing stages in the development of this medium: Charlie Chaplin in a silent black-and-white film; Al Jolson in *The Jazz Singer*, the first "talkie"; a newsreel documentary; a musical romance in color; and a modern, wide-screen film featuring space exploration. Dominating the panel's middle area is a huge Saturn booster rocket, used in the Apollo missions from 1968 to 1972. Overlapping the bottom section of the rocket is an airliner, and in front of that, a biplane. The

combination of these three images represents technological progress. By pointing these three upward toward a giant brain, the collective intelligence of humankind that appears at the top of the panel, the artist states that technology holds the key to the future. (Before designing the mural, Granizo read my essay on the idea of a "world brain,"¹ as well as other essays describing ISI's interests and endeavors; he is a thorough researcher.)

A modern city of skyscrapers, bridges, and other structures fills the background of the middle of the panel. In the foreground, animals in a zoo represent one deleterious effect of humanity's advances: the displacement of animals from their native habitats. This is the artist's personal plea for greater awareness of some of the costs of our achievements. "As humanity explores its universe, brains are augmented by technology" is Granizo's summary of the entire panel.

Portraits of Pioneers

Adding portraits of influential figures in the history of science, technology, communication, and information science around the triptych was a cooperative venture for the artist and me—not in execution, of course, but in selection. We discussed who might find wall space in our "gallery." With the help of ISI's Calvin Lee, I supplied a list and Granizo supplied one, too, which accounts for the somewhat eclectic character of the group. Table 1 records those we selected. We intended to provide a grouping of the great minds, each portrait standing for the importance of individual human achievement.

As you might expect, many of the well-known discoverers in science are depicted: Copernicus, Curie, Darwin, Einstein, Faraday, Galilei, and Kepler.

More contemporary figures are here as well: Harold Clayton Urey, Joshua Lederberg, and Norbert Wiener, among others. Bell, Daguerre, da Vinci, Edison, Franklin, Gutenberg, Marconi, Morse, Napier, and the Wright brothers represent the creative energy of inventors. Charles Babbage, the father of the computer, Chester F. Carlson, the developer of xerography, and Herman Hollerith, the inventor of the computer punchcard, are also included. Aristotle, Bach, Jefferson, Michelangelo, Picasso, and Shakespeare represent the arts and humanities, while Sigmund Freud, Margaret Mead, and Robert K. Merton represent the social sciences.

The group of information scientists, documentalists, librarians, and science historians is naturally fairly large. I have written about many of those depicted (references supplied in Table 1): John Shaw Billings, Henry Evelyn Bliss, Samuel Clement Bradford, Estelle Brodman, Watson Davis, Robert L. Hayne, Sanford V. Larkey, Samuel Lazerow, Chauncey D. Leake, Derek John de Solla Price, Shiyali Ramamrita Ranganathan, Frank Bradway Rogers, and Ralph Robert Shaw. Space does not permit me to review the accomplishments of each of these pioneers nor those of others in the "gallery" whom I have not yet written about but hope to feature in future *CC* essays: Verner Warren Clapp, Melvil Dewey, Saul Herner, Hans Peter Luhn, John William Mauchly, Paul-Marie-Ghislain Otlet, Sir Anthony Panizzi, James Whitney Perry, Claude Elwood Shannon, Frank Shepard, Jesse Hauk Shera, Mortimer Taube, Donald John Urquhart. Of course, most readers will recognize the name Dewey. His decimal classification system, a supreme contribution to the organization of library holdings, served as the basis for the Universal Decimal Classification system developed under the leadership of Otlet and Henri La Fontaine.

Artistic Roots

The wide-ranging and lively "Cathedral of Man" is an appropriate expression of an artist possessing diverse cultural experiences and a zest for life. Guillermo ("Bill") Wagner Granizo, son of an American father and a Nicaraguan mother, was born on March 11, 1923. Bill spent his childhood in Central America, an experience that left an imprint on his visual memory. His family returned to San Francisco in 1934. After entering military service in 1943, Bill participated in the invasion of Normandy and was severely wounded. Hospitalization over a four-year period, 1944 to 1948, provided him with time and opportunity to explore color, shape, and line in painting and other media.

When fully recovered, he enrolled at the San Francisco College of Art. After graduating in 1949, he joined television station KRON in San Francisco, where he served as art director until 1959. San Francisco sculptor Benny Bufano encouraged him to develop his artistic ability by working in mosaic. From 1962 on, Granizo received many commissions for his mosaic murals, executed in broken tile and stone. An example of his work from this period can be seen at the Steinhart Aquarium of the California Academy of Sciences in San Francisco.

Granizo traveled to Mexico in 1972 to produce film documentaries on the work of Latin American artists Francisco Zuñiga, Rufino Tamayo, José Luis Cuevas, David Alfaro Siqueiros, and Leonardo Nierman. These artists befriended Granizo and gave him encouragement and inspiration. After this, Granizo, successful as a businessman and producer of films, charted a new course for his life by devoting himself entirely to working in glazed ceramic tiles, which he discovered while exploring traditional Mexican art. Although in 1975 he began producing handwoven tapestries, ceramic murals represent the ma-

Table 1: Individuals included in Granizo's mural "Cathedral of Man." A reference to the volume and pages of *Essays of an Information Scientist* and the year the essay was published in *Current Contents*[®] is provided for those who are extensively discussed.

| Name | Birth and Death Dates | Profession |
|---|-----------------------|---|
| Anthony, Susan Brownell | 1820-1906 | suffragist |
| Aristotle | 384-322 BC | philosopher |
| Babbage, Charles | 1792-1871 | mathematician; devised basic principles of modern computer |
| Bach, Johann Sebastian | 1685-1750 | organist; composer |
| Bell, Alexander Graham | 1847-1922 | inventor |
| Bernal, John Desmond | 1901-1971 | physicist |
| 5:511-23, 1982 | | |
| Billings, John Shaw | 1838-1913 | physician; librarian |
| 7:5-11, 1984 | | |
| Bliss, Henry Evelyn | 1870-1955 | created Bliss Classification system; documentalist; librarian |
| 1:95, 1970; 2:250-3, 1975 | | |
| Bradford, Samuel Clement | 1878-1948 | documentalist; librarian |
| 1:222-3, 247-8, 1971; 2:300-3, 1975; 4:476-83, 1980; 6:27-9, 1983 | | |
| Brodman, Estelle | 1914- | medical historian; librarian |
| 6:197-203, 1983 | | |
| Carlson, Chester F. | 1906-1968 | physicist; developer of xerography |
| Carver, George Washington | c. 1864-1943 | botanist; agricultural chemist |
| Clapp, Verner Warren | 1901-1972 | librarian |
| Copernicus, Nicolaus | 1473-1543 | cosmologist; astronomer |
| Curie, Marie | 1867-1934 | chemist; physicist |
| Daguerre, Louis-Jacques-Mandé | 1789-1851 | inventor of the daguerreotype |
| Darwin, Charles Robert | 1809-1882 | naturalist |
| Davis, Watson | 1896-1967 | science journalist; documentalist |
| 4:167-72, 1979 | | |
| Descartes, René du Perron | 1596-1650 | philosopher; mathematician |
| Dewey, Melvil | 1851-1931 | librarian; educator; classificationist |
| Edison, Thomas Alva | 1847-1931 | inventor |
| Einstein, Albert | 1879-1955 | theoretical physicist |
| 5:91-5, 1981 | | |
| Elizabeth I | 1533-1603 | English sovereign, 1558-1603 |
| Faraday, Michael | 1791-1867 | chemist; physicist |
| Franklin, Benjamin | 1706-1790 | scientist; printer; author; inventor; diplomat |
| 5:703-10, 1982 | | |
| Freud, Sigmund | 1856-1939 | psychoanalyst |
| Gallei, Galileo | 1564-1642 | mathematician; physicist; astronomer |
| Garfield, Eugene | 1925- | information scientist |
| Gutenberg, Johannes | c. 1390-1468 | inventor of printing with movable type |
| Hayne, Robert L. | Unknown-1977 | information scientist |
| 3:213-4, 1977 | | |
| Herner, Saul | 1923- | information scientist |
| Herschel, Caroline Lucretia | 1750-1848 | astronomer |
| Hollerith, Herman | 1860-1929 | inventor; statistician |
| Jefferson, Thomas | 1743-1826 | political theorist; inventor; 3rd US president, 1801-9 |
| Jullan, Percy L. | 1899-197? | chemist |
| Kepler, Johannes | 1571-1630 | mathematician; physicist; astronomer |
| Larkey, Sanford V. | Unknown- | librarian |
| 7:5-11, 1984 | | |
| Lazerow, Samuel | 1912-1981 | librarian; management scientist |
| 1:374-5, 1972; 5:246, 1981; 7:74-9, 1984 | | |
| Leake, Chauncey D. | 1896-1978 | pharmacologist; educator; historian |
| 1:102-3, 1970; 3:411-21, 1978 | | |
| Lederberg, Joshua | 1925- | geneticist |
| 1:81-2, 1970 | | |
| Leonardo da Vinci | 1452-1519 | artist; military engineer; inventor; anatomist |
| Luhn, Hans Peter | 1896-1964 | information scientist; inventor |
| Marconi, Marchese Guglielmo | 1874-1937 | inventor; electrical engineer |
| Mauchly, John William | 1907-1980 | physicist; computer and information scientist |
| Mead, Margaret | 1901-1978 | anthropologist |

| Name | Birth and Death Dates | Profession |
|--|-----------------------|---|
| Merton, Robert K. 3:176-8, 1977; 6:312-8, 319-29, 1983 | 1910- | sociologist; historian |
| Michelangelo | 1475-1564 | sculptor; painter; architect; poet |
| Morse, Samuel Finley Breese | 1791-1872 | inventor; artist |
| Napier, John | 1550-1617 | mathematician |
| Otlet, Paul-Marie-Ghislain | 1868-1944 | lawyer; bibliographer; documentalist |
| Panizzi, Sir Anthony | 1797-1879 | librarian of the British Museum, 1837-1866 |
| Perry, James Whitney | 1907-1971 | chemist; information scientist |
| Picasso, Pablo | 1881-1973 | painter; sculptor |
| Price, Derek John de Solla 4:618-33, 1980; 6:645, 1983; 7:213-7, 1984 | 1922-1983 | historian of science; scientometrician |
| Ranganathan, Shiyall Ramamrita 7:37-44, 45-9, 1984 | 1892-1972 | classificationist; librarian |
| Rogers, Frank Bradway 7:5-11, 1984 | 1914- | physician; librarian |
| Sacajawea | c. 1786-1812 | American Indian guide |
| Sanger, Margaret Higgins | 1883-1966 | social reformer |
| Shakespeare, William | 1564-1616 | dramatist; poet |
| Shannon, Claude Elwood | 1916- | applied mathematician |
| Shaw, Ralph Robert 3:504-10, 1978 | 1907-1972 | library administrator; researcher; educator; inventor |
| Shepard, Frank | 1848-1900 | inventor of <i>Shepard's Citations</i> |
| Shera, Jesse Hauk | 1903-1982 | educator; philosopher; library theoretician |
| Taube, Mortimer | 1910-1965 | documentalist; philosopher |
| Urey, Harold Clayton 4:333-7, 1979 | 1893-1981 | chemist |
| Urquhart, Donald John | 1909- | library and information scientist |
| Watt, James | 1736-1819 | instrument maker; inventor of improved steam engine |
| Webster, Noah | 1758-1843 | lexicographer |
| Wiener, Norbert | 1894-1964 | mathematician; cyberneticist |
| Wright, Orville | 1871-1948 | inventor |
| Wright, Wilbur | 1867-1912 | inventor |

jority of his creative output since 1973. Some of the murals are as much as 100 feet long and are installed in many public places, including the San Francisco International Airport, the Monterey Convention Center, and the California State University at Los Angeles, where his "Olympic Fantasy" was commissioned for the 1984 summer games.

In an interview published in *Harcourts Quarterly*, Granizo explained the appeal of ceramic tiles: "I find a great satisfaction in the fact that my works have a permanence. Paintings on tile will not deteriorate over time, and the colors don't change in any way." He also described how he works with the tiles. "I never use sketches, but rather create the painting on the tile as I work. I work with 12 tiles at a time, 3 across and 4 up, moving in a

horizontal direction for continuity. It is impossible to visualize the completed painting in symmetry, color, or form."³ After drawing on the tiles and painting them with glazes, he fires them for 24 to 36 hours. All tiles are fired together to ensure color uniformity.

Geometric Abstraction

Granizo's Latin American cultural heritage influenced more than the selection of ceramic tile as his most favored medium. It also deeply affected his style: the heavy lines and frequently skewed perspective of his figures; the bold colors of his palette; the complex, "crowded" scenes filled with pieces of information, some sober, some humorous.

Eduardo Carillo, professor of art, University of California, Santa Cruz, has applied the term geometric abstraction to Granizo's style. "Arrangement of colors in triangles, circles, and rectangles... dominates his work," says Carillo. "These are arranged flatly, with little concern for deep space. In flattening out the picture plane, he can include more narrative and symbolic information."⁴ Carillo adds that in this aspect Granizo has much in common with the pre-Columbian mural painters of Teotihuacán, as well as the muralists of the Mexican social art movement, especially Diego Rivera.

Bill was in Philadelphia recently and mentioned that as a boy he met Rivera, who was at that time working on a mural in San Francisco. Bill's father, seeing Rivera atop a scaffold, called the artist down and said, "My boy shows an interest in painting. What advice can you give him?" "Never let anyone interrupt when you paint," replied Rivera with obvious annoyance. "Then," said Bill, "back up

the scaffold he went. That was my meeting with Diego Rivera."

Bill's love of life and brimming good humor are clearly evident in all his murals. His murals are celebrations. Looking at them makes you happy. It's the same whenever I see or talk to the artist, which can't be too often.

Later this year, I'll be telling you about two other murals by Bill, "Tall Things" and "Carousel," that enliven the children's play area at the ISI Caring Center for Children and Parents. We'll also discuss Lark Lucas's ceramic-tile mural "Woman of the Earth," located on the building's second-floor landing, as well as two others by her at our Caring Center. Finally, I'll discuss recent additions to ISI's unique collection of Huichol art.⁵⁻⁷

* * * * *

My thanks to C.J. Fiscus and David A. Pendlebury for their help in the preparation of this essay.

© 1986 ISI

REFERENCES

1. Garfield E. Towards the world brain. *Essays of an information scientist*. Philadelphia: ISI Press, 1977. Vol. 1. p. 8-9.
2. Fine art enhances ISI's new building: a ceramic mural by Guillermo Wagner Granizo and a sgraffito mural by Joseph Slawinski. *Ibid.*, 1983. Vol. 5. p. 15-9. (Reprinted from: *Current Contents* (5):5-9, 2 February 1981.)
3. Granizo G W. An interview with the artist. *Harcourts Quart.* 1(2):8, 1980.
4. Carillo E. Personal communication. 26 February 1986.
5. Garfield E. The psychedelic art of the Huichol Indians. *Op. cit.*, 1981. Vol. 4. p. 348-54.
6. Huichol mythology and culture. Part 1. World's largest yarn painting is latest in series of ISI-commissioned artworks. *Op. cit.*, 1983. Vol. 5. p. 164-70.
7. Huichol mythology and culture. Part 2. Can the Huichols absorb modern technology and retain their traditions? *Op. cit.*, p. 171-7.