# deconstruction: soudan mural

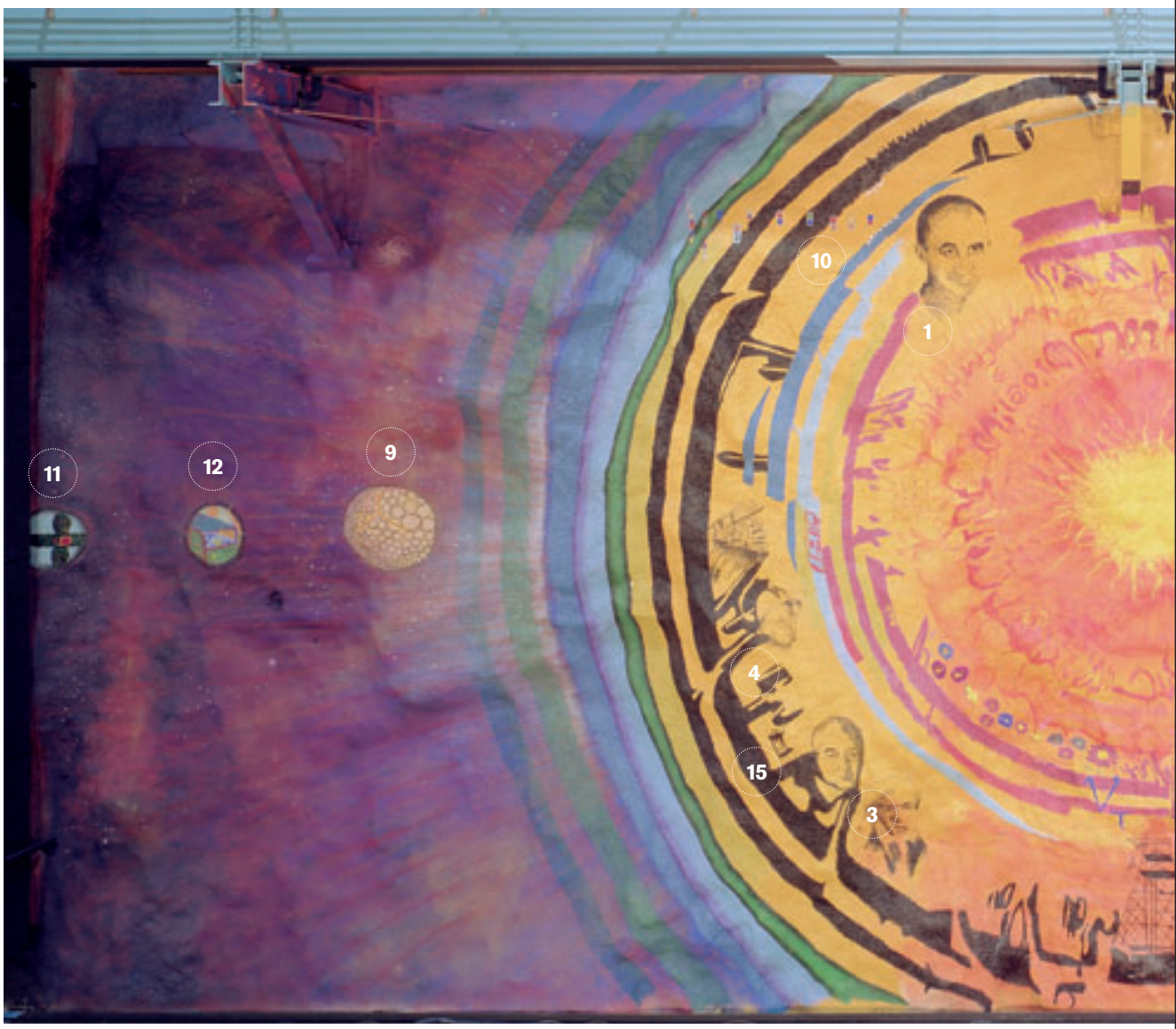


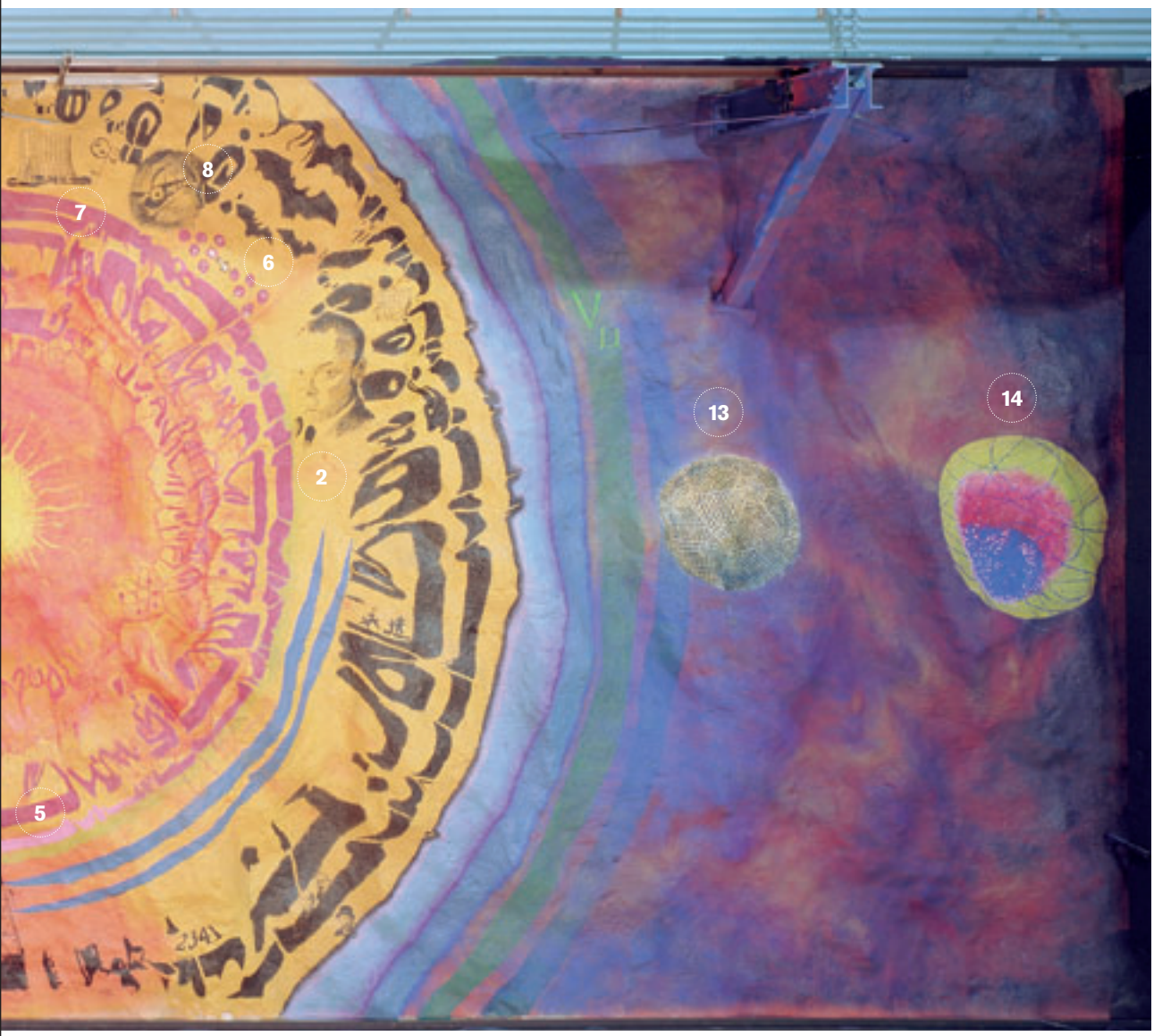

Photo: Fred Ullrich, Fermilab

The mural is next to the 6000-ton MINOS detector.

**This mural** in the Soudan Underground Laboratory, located in Minnesota half a mile underground, was designed by artist Joseph Giannetti. Its theme is matter and energy, and—more specifically—neutrino physics. The mural is in the same cavern as the MINOS experiment, which in March began to record neutrinos sent to the mine straight through the Earth from Fermilab in Illinois—no tunnel needed.

"When I started to create this image, I was feeling something about energy, something about universal language, something that was abstract and yet so clear," says Giannetti. He views the image as a graphic representation of energy as it changes from one form to another. "Accepting that all things are in motion—you, me, the world, the universe—from the subatomic level to the universal level, there is then only one constant: change. If one person sees this mural, and it changes the way he or she looks at the world, if it makes a change in their life for the better, I would consider this painting to be a raving success."

The mural, 59 feet wide and 25 feet tall, highlights the history of neutrino physics, particle symbols and interactions, the connection of the mine to Fermilab, and the contributions of neutrino experiments at other mines. The background of the mural was inspired by an image of the Carina Nebula.




1. Physicist Enrico Fermi, originator of the name "neutrino" ("little neutral one")
2. Austrian theorist Wolfgang Pauli, originator of the concept of the neutrino
3. Fred Reines and Clyde Cowan, the first scientists to experimentally identify neutrinos
4. Ray Davis, the first person to observe neutrinos from the sun using tanks with dry-cleaning fluid in South Dakota's Homestake gold mine
5. The headframe located at the top of the Soudan mine shaft
6. Bats at the Soudan lab (the face of the artist is hidden in the bat at the bottom)
7. Wilson Hall at Fermi National Accelerator Laboratory, Batavia, Illinois
8. The Linear Accelerator at Fermilab
9. Neutrino interaction detected in the historic Soudan 2 experiment (sited in a cavern adjacent to MINOS)
10. Representation of a neutrino interaction causing tracks in the scintillator strips of the MINOS detector
11. Rings of light created by neutrino interactions in Japan's Super-Kamiokande detector
12. The MACRO experiment at the Gran Sasso laboratory in Italy
13. Fish-eye image of the interior of the Sudbury Neutrino Observatory (SNO) in Ontario, Canada
14. Light produced by a cosmic-ray muon in the SNO detector
15. Minnesota Department of Natural Resources, which offers tours of the mine.

*Mural artists: Joseph Giannetti, Leila Giannetti, Mick Pulsifer. Funded by a grant from the University of Minnesota.*