Collecting

Puzzling Perspectives

BY NANCY HOYT BELCHER

Man, himself an infinitely enigmatic creature, has been amusing and amazing himself with the creation and solution of puzzles since the dawn of civilization. From secret locks devised 4,000 years ago by fiendishly clever Egyptians and “dribble jugs” made by practical-joking Greeks and Phoenicians to the contemporary Rubik’s Cube, we’ve long been making puzzles to outwit, try the patience, and test the logic of those who attempt to unravel them.

With insight, dexterity, intelligence (and, sometimes, a little bit of luck), puzzles provide us with hours of mind-expanding entertainment. Or mind-boggling frustration.

Now, in the first show of its kind, nearly 800 puzzles from around the world have been brought together in an exhibit entitled Puzzles Old and New: Headcrackers, Patience Provers, and Other Tactile Teasers. Organized by the Los Angeles Craft and Folk Art Museum, the show features many rare and perplexing puzzles, some dating back 100 years, others more recent, including dozens of variations of the Rubik’s Cube.

All are mechanical puzzles — those made of solid pieces that must be manipulated to obtain the solution — and have been classified into ten categories: put-together, take-apart, interlocking, disentanglement, sequential movement, puzzle vessels, impossible objects, dexterity, and vanishing and folding puzzles.

The sequential movement Popular 15 Puzzle was a favorite in the U.S. in the late 19th Century.

Curator Sharon K. Emanuelli, with the aid of consultants, organized the colorful exhibit to illustrate, through graphics and text references, the historical and social evolution of puzzles, as well as their aesthetic value. The show is scheduled to tour selected cities in the United States, Canada, and Japan through 1988. It will open July 26 at the Hudson River Museum, Yonkers, New York, where it will remain through September 27, 1987.

About 80 percent of the puzzles in the show belong to Jerry Slocum, a 55-year-old engineer from Beverly Hills, California, who became fascinated with them as a child, when his parents brought him an interlocking wood puzzle from the 1939 San Francisco Exposition.

Slocum, a puzzle expert, historian, and researcher, has one of the world’s largest collections of mechanical puzzles — more than 10,000 and counting. He finally had to build a two-story “museum” in his backyard to house his collection, correspondence, literature, catalogs, and library of 2,000 puzzle books.

He also is coauthor, with Dutch puzzle designer Jack Botermans, of the beautifully illustrated book, Puzzles Old & New, which accompanies the exhibition.

Emanuelli, who is exhibitions curator at the Hudson River Museum, became interested in how puzzles serve as models for creative problem-solving, not only for the people who work them, but for the people who devise them.

“Puzzles can illustrate the creative elements that are part of mathematics and science, as well as art and design, in a way that relates to everyday living. One becomes involved in them physically.

The history, variety, and challenge of the puzzle art are the focus of an intriguing new exhibition.
Top, Tangrams, a dissection puzzle of seven simple geometric pieces, are a popular way to teach geography, arithmetic, and geometry. Above, these keychain puzzles were all created between 1940 and 1983. Left, “Puzzle Parties” were the rage at the turn of the century; players worked wire puzzles in a race to see who could disassemble and assemble them the fastest.
mentally, and, sometimes, emotionally. The creative kind of problem-solving associated with these objects is important to the experience of being human,” says Emanuelli.

Slocum believes that puzzles have always been recreational in nature, a leisure-time activity in which one is in competition with an object, rather than a person.

The oldest known existing puzzles — although they weren’t known as puzzles then — are trick vessels dating from the ancient Greeks and Phoenicians. Many of them used a siphon principle, a secret hole at the bottom that went through a hollow like a straw. The secret was to cover all the holes but that one to be able to drink without spilling. The prankster host probably used them to embarrass or mystify their guests.

Throughout history, puzzles have reflected the times, depicting historical and patriotic events, cultural and racial prejudice, family life, the arts, social styles, and political problems.

Puzzles increased in importance and number after the Industrial Revolution, as societies gained more leisure time and mass production lowered the cost of making them, then peaked at the turn of the century.

“At that time, people bought objects for their leisure time and for recreation,” Slocum says. “I think games and puzzles were far more popular in the home during that period of time.” Families sat together around a table with an elaborate box called “Puzzle Parties” and worked wire puzzles in a race to see who could take them apart and put them back together the fastest.

“Then, in the 1920s, there seemed to be a vogue for puzzle competitions, where you gave everybody the same puzzles, and they tried to do the most of them in a given period of time,” Slocum says. Both world wars produced puzzles designed to inspire patriotism, such as the sliding blocks Comment Les Allises Enteront à Berlin? (How Do the Allies Enter Berlin?)

“Then, later, as radio and television came along, obviously not many people spent their evenings doing puzzles,” Slocum adds, “and they became less important in our society.”

Educators, taking advantage of chil-
Erno Rubik initially invented his popular cube to provide his architecture students with hands-on experience in three-dimensional objects.

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dren's natural curiosity, have utilized puzzles for teaching. The first jigsaw puzzle was made about 1760, when maps were glued to wood and cut apart to teach geography.

Tangrams (a dissection puzzle of seven simple geometric pieces that can be rearranged to form dozens of different pictures) are a popular way to teach geography, metrics, arithmetic, and geometry.

In the early 20th Century, Maria Montessori used puzzles in Italian nursery schools. Erno Rubik initially invented his popular cube to provide his architecture students with hands-on experience in three-dimensional objects.

Slocum believes that there are three puzzles in particular that were popular worldwide during the past 100 years. All are well represented in the exhibit.

"Rubik's Cube, of course, is the modern example," he notes. "Pigs in Clover was the example of the 1880s. And about the same time, or maybe a little earlier, it was Sam Loyd's 14-15 sliding blocks."

Pigs in Clover, a simple dexterity puzzle, obsessed those who attempted to manipulate a group of clay balls to collect in the "pen" in the center of a maze. "It was popular," Slocum says, "probably because it was the first of its type and because it was manufactured to be pretty cheap."

Sam Loyd, who created several thousand puzzles and wrote a puzzle column for the Brooklyn Daily Eagle, was the undisputed puzzle king of the United States for nearly half a century. In the 1870s, Loyd "drove the entire world crazy" (his words) when he offered a $1,000 prize to anyone who could solve his 14-15 puzzle, a hand-held, sequential movement, sliding-block puzzle.

"This was when $1,000 was a lot of money," Slocum says. "Loyd had taken the Popular 15 Puzzle (sliding 15 numbered blocks around until they were in order with one empty space left over in the lower right-hand corner) and reversed the 14 and 15 pieces, then offered the cash prize to anyone who could return all the pieces in the correct order."

People wouldn't (or couldn't) put it down. A Baltimore newspaper editor left for lunch one day and wasn't seen again until midnight, when he was found pushing pieces of pie around on his plate in an attempt to figure out the solution. A clergyman was said to have stood under a lamppost through a cold winter's night trying to work the puzzle.

What the devious Loyd neglected to mention was that it is mathematically impossible to solve his 14-15 puzzle.
Chinese rings probably date back more than 1,700 years, when they were known as "Delaying Guess Instruments."

The more recent Rubikmania, which peaked in the early 1980s, spawned its own industry—from bestseller books to a hit record. It was even honored on a postage stamp.

Rubik credits Loyd's 14-15 sliding-block puzzle as the inspiration for the cube that he patented in Hungary in 1976. So does a lesser-known Massachusetts inventor by the name of Larry Nichols, who had patented his own six-sided, six-colored cube puzzle in the United States four years earlier.

(Nichols won a copyright infringement suit in 1984 against the American manufacturer who had sold millions of Rubik's Cube. There is no dispute that Rubik also invented his own cube independently of Nichols'.)

Slocum has his own favorites in the exhibition—the ivory tangram and Chinese rings—puzzles that are also art objects. "They are both beautiful and fun to do," he says.

One of the crowd pleasers in the exhibit is an impossible object item—a Coca-Cola bottle pierced by an arrow, carved from a single piece of wood.

Tangrams come in all sizes. Slocum's favorite is a tangram small enough to hold in one's hand, delicately carved in ivory with dragons, horsemen, and birds of paradise. Another example is the "hands-on" coffee table-size tangram. Visitors can be found arranging (and endlessly rearranging) the pieces on the floor, trying to form one of the dozens of configurations displayed on an adjacent wall.

Chinese rings—a combination disentanglement and sequential-movement puzzle—probably date back more than 1,700 years, when they were referred to as "Delaying Guess Instruments." The object is to remove a number of interlocking rings (usually nine to 11) from a double-barrel rod. It requires a complex, although logical, sequence of moves, and is so difficult that the puzzle was used effectively as a kind of combination lock.

Even if you know the correct sequence, it can take hours to remove the rings. And if the rings were increased, say, to 25, it would take two years to unlock the puzzle, according to Slocum. And it's been estimated that it would take 55 billion years to remove 60 rings.

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Impossible object puzzles are not designed to come apart; the puzzle is to figure out how they are made.

Another favorite of Slocum’s is the Niagara Puzzle, a dexterity-type made during World War I by a British firm. They were sent to prisoners of war in Germany; they also concealed a hacksaw blade, a small compass, and a map hidden in the back.

Did anyone escape using the items hidden in the puzzle? Slocum says he has not been able to find the answer to that. “I’m sure they did mail them, and I’m sure they were delivered,” he says, “but I don’t know if they were used.”

One of the joys of this lively exhibit is experiencing the success of personally solving a few puzzles. Assorted, oversized hands-on puzzles are scattered about to test one’s wits. Besides the tangram coffee tables, visitors can manipulate disentanglement nails, play peg solitaire (supposedly invented by Napoleon Bonaparte), disassemble a life-size interlocking wood terrier (the easy part) and try to put the pooh back together again (the not-so-easy part), along with five other tactile teasers.

One of the crowd-pleasers in the exhibit is an impossible object—a Coca-Cola bottle pierced by an arrow, carved from a single piece of wood. The arrow, impossibly, appears to have been shot through two tiny holes drilled into either side of the bottle. Both the arrowhead and the feathered end are clearly too large to fit into the holes.

Impossible object puzzles are not designed to come apart; the puzzle is to discern how they are made. Visitors stand in front of the arrow-pierced bottle looking perplexed; no one can figure it out. (No clues are offered, other than a statement that no glue or adhesive has been used on either the arrow or the bottle.)

“It’s so enigmatic,” Emanuelli says. “People just die to know; it’s one thing that people really get agitated about.”

This reaction, a personal involvement with the items on display, is what Emanuelli had hoped to see when she developed the show.

So, she was delighted when Craft and Folk Art Museum board member Edward Tuttle told her after viewing the show, “You can become very involved in it, and what you go away with finally is a sense of man’s playful intelligence.”

“That is exactly what I was hoping for, really,” Emanuelli says. “I think that’s what I was trying to get across.”

Puzzles Old and New is funded in part by grants from Citicorp/Citibank, the California Arts Council, and the California Council for the Humanities. Following the Hudson River Museum engagement, the exhibit can be seen at the MIT Museum, Massachusetts Institute of Technology, Cambridge, from October 22, 1987 through January 2, 1988, and the Ontario Science Center, Toronto, January 25 through March 6, 1988. It will travel to Japan during the spring of 1988, and further negotiations are underway to take it to Europe in 1989.

Writer Nancy Hoyt Belcher is based in South Pasadena, California.