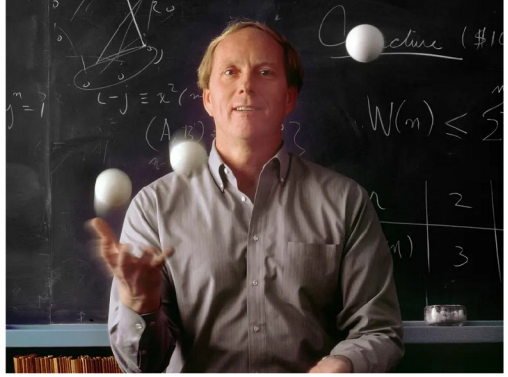
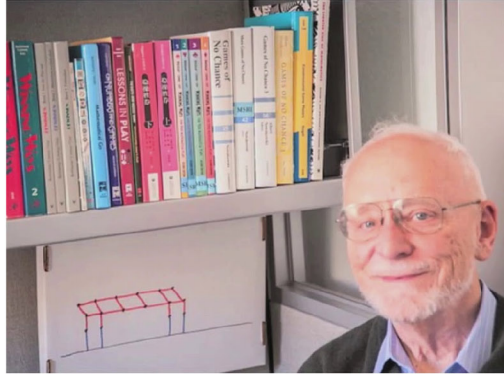
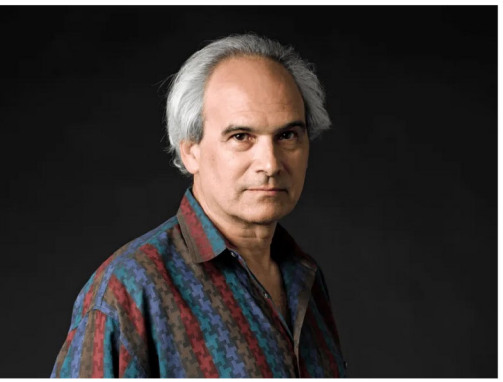
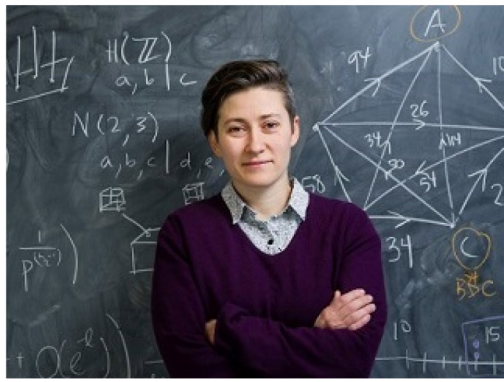


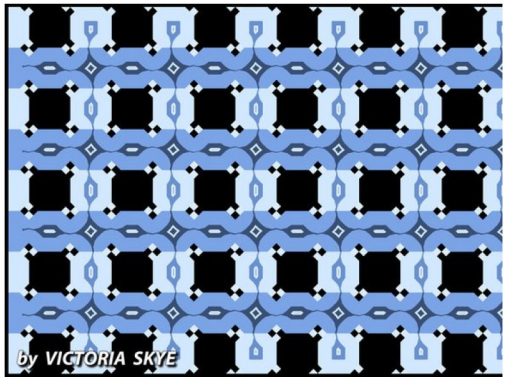


# G4G Calendar 2021

Gathering 4 Gardner™








**Lewis Carroll** (1832-1898) was born 27 January in Daresbury, Cheshire, England. His real name was Charles Dodgson, and he had a career teaching math at the University of Oxford. He was also a lover of wordplay and whimsy, and is best known for the books *Alice's Adventures in Wonderland* and *Through the Looking-Glass*. Martin Gardner's bestselling book was *The Annotated Alice* (1960). It launched a genre, with Isaac Asimov and others soon issuing volumes in the same spirit, and its success spurred Martin to publish more annotated books himself.

**Karl Schaffer** was born 18 January in Worcester, Massachusetts, and grew up in New England and Birmingham, Alabama. He has long taught math at De Anza College in Cupertino, California, and is also a creative *dancer and choreographer. His very physical and* educational work integrates the worlds of mathematics and dance in surprising ways. One of his creations is the show *The Daughters of Hypatia*, which celebrates women mathematicians throughout history.

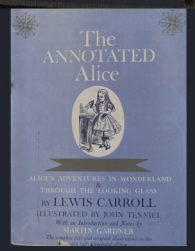
**Tanya Khovanova** was born 25 January in Moscow, Russia. Tanya is a mathematician with experience in both industry and academia. Her main area of research is recreational math. Tanya works in several programs at MIT that help young children, starting from the 7th grade, to do original math research. She is also a math puzzle collector and regular recreational math blogger.

**Rik van Grol** was born 4 January in The Hague, The Netherlands. An applied physicist by training, he has long been working at a small consultancy on traffic modeling, making both short-term and long-term predictions of traffic conditions. He is a collector, solver, analyzer, designer and maker of mechanical puzzles. He co-authored the book *A Compendium of Cube-Assembly Puzzles using Polycube Shapes*. He is the chief editor of the mechanical puzzle magazine *Cubism For Fun*.

**Sam Loyd** (1841-1911) was born 30 January in Philadelphia, and grew up in NYC. Martin Gardner called him "American's greatest puzzler" and published two collections of *Mathematics Puzzles of Sam Loyd* (1959 & 1960). Loyd was a master of publicity, sometimes passing off other people's puzzles as his own, and was also a fine chess player and chess composer.

**Klaus Peters** (1937-2014) was born 19 January in Wuppertal, Germany. He trained as a mathematician, and ended up changing the publishing industry in that subject, primarily via his long tenure as an editor at Springer. Later, he and his wife Alice (born 14 January in New York) established and ran AK Peters for 22 years. They specialized in both recreational math and computer graphics, and published six books of papers arising from G4G presentations. They were also instrumental in starting *The Mathematical Intelligencer*.

"The first edition of Dad's *The Annotated Alice* was published in 1960 by Clarkson N. Potter, Inc.. Along with subsequent editions / sequels, this is his most successful publication. It's currently in a fourth iteration." [Jim Gardner]




Martin had 8 unit cubes. A third of their 48 faces were red, and the rest were blue. Martin was observed building a 2x2x2 cube with the unit cubes so that only 8 of the unit cubes' 24 visible faces were blue. Prove that he could have also assembled the unit cubes into a 2x2x2 cube whose 6 larger faces were entirely blue. [adapted from a Tanya Khovanova blog crediting a 2017 Moscow Olympiad question]

December 2020

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 29 | 30 | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | 1 | 2 |

# January 2021

February

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 31 | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 1 | 2 | 3 | 4 | 5 | 6 |

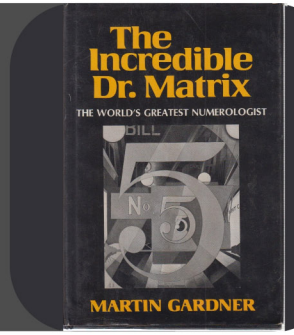
| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 27 | 28 | 29 | 30 | 31 | 1<br>Jamy Ian Swiss | 2<br>Isaac Asimov (1920-1992) |
| 3 | 4<br>Rik van Grol | 5<br>R V Heath (1883-1960) | 6 | 7 | 8 | 9 |
| 10<br>Howard Eves (1911-2004)<br>Don Knuth | 11<br>William James (1842-1910) | 12 | 13 | 14<br>Alice Peters | 15 | 16 |
| 17 | 18<br>Karl Shaffer | 19<br>Klaus Peters (1937-2014)<br>Carl Hoff | 20<br>Bill Ritchie<br>Lucas Garron | 21<br>Virtual Celebration of Mind | 22<br>Jaap Scherphuis | 23 |
| 24 | 25<br>Bob Hummer<br>Tanya Khovanova | 26 | 27<br>Lewis Carroll (1832-1898) | 28<br>Jerry Andrus (1918-2007) | 29 | 30<br>Sam Loyd (1841-1911)<br>Matt Baker |
| 31<br>Persi Diaconis | 1 | 2 | 3 | 4 | 5 | 6 |


**Erik Demaine** was born 28 February in Halifax, Nova Scotia. He was home schooled by his father, Marty, and he joined the MIT faculty at the age of 20. His interests include computational origami, linkages, algorithms, and complexity. With Marty, he helped edit two books arising from G4G conferences. The pair also creates art using paper, glass, and other materials. Erik recently served as President of G4G.

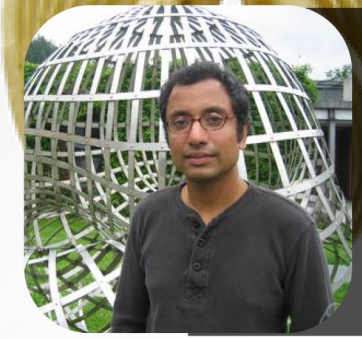
**Marjorie Rice** (1923-2017) was born 16 February in St Petersburg, Florida. While living in San Diego as a full-time homemaker, she devoured Martin Gardner's *Scientific American* column. His 1975 piece on polygonal tilings inspired her to discover four new types of pentagon tilers and their tessellations. Martin had geometer Doris Schattschneider validate her first discovery and a fruitful correspondence ensued, leading to the others. It was a remarkable contribution, especially from an amateur mathematician.

**Miquel Duran** was born 16 February in Maià del Moncal, Girona, in Catalonia, Spain. He trained as a quantum chemist, and has long been a researcher at the University of Girona. His interests in recreational math and magic have inspired him to develop science communication techniques based on the scientific aspects of magic. He also promotes Open Access Science.

**Irving Joshua Matrix** (1908-?) was born on the 52nd day of the year, 21 February, in Kagoshima, on the Japanese island of Kyushu. He was a scholar and conjurer who excelled at numerology and sleight of word. Martin Gardner often wrote of Dr. IJ Matrix's discoveries and adventures in *Scientific American*, first collected in book form as *The Numerology of Dr Matrix* (1967). Reports of his death in 1980 turned out to be unfounded.




**Laura Taalman** was born 14 February in Scotland, CT. She is a mathematician at James Madison University. She co-authored the book *Taking Sudoku Seriously: The Mathematics Behind the World's Most Popular Pencil Puzzle* (with Jason Rosenhouse). She is also a computational designer who uses 3D design software and technical materials to create elegant realizations of a great variety of idealized mathematical objects.



**Ravi Vakil** was born 22 February in Etobicoke, Ontario, Canada. He is a mathematician at Stanford University, where he has been active in Putman training and Math Circles. His book *A Mathematical Mosaic: Patterns and Problem Solving* contains many gems, such as new divisibility tests for 7 and other numbers. For over a decade he coedited the "Mathematical Entertainments" column in the *Mathematical Intelligencer*.

"My dad and I wanted to understand how curved creases worked—their mathematics was a mystery at the time—so we experimented with what we could build with our four hands, taking turns placing folded pieces of paper into the sculpture. The resulting curved crease sculpture is a collaboration between father and son and, in some sense, between art and math." [Erik Demaine]

Convert the letter M to the letter G in four sliding moves. A move is sliding one coin at a time in such a way that at the end of the move the coin is stopped by at least two other coins, except for the cases when these three coins make a straight line. [Courtesy of Serhiy Grabarchuk Snr]

January

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 27 | 28 | 29 | 30 | 31 | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 1 | 2 | 3 | 4 | 5 | 6 |

# February 2021

March

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 28 | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | 1 | 2 | 3 |

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 31 | 1 | 2 | 3<br>Louis Kauffman<br>Bruce Torrence | 4<br>Serhiy Grabarchuk Snr | 5 | 6 |
| 7<br>Donald Coxeter (1907-2003) | 8 | 9 | 10 | 11<br>Gary Antonick | 12 | 13 |
| 14<br>Teller<br>Laura Taalman | 15<br>Douglas Hofstadter | 16<br>Stewart Judah (1893-1966)<br>Marjorie Rice (1923-2017)<br>Miquel Duran | 17 | 18 | 19 | 20 |
| 21<br>I J Matrix (1908-?)<br>Hannah Fry<br>Virtual Celebration of Mind | 22<br>Ted Annemann (1907-1942)<br>Ravi Vakil | 23<br>Harlan Tarbell (1890–1960) | 24 | 25 | 26<br>Ákos Császár (1924-2017)<br>Burkard Polster | 27 |
| 28<br>Simon Norton (1952-2019)<br>Erik Demaine | 1 | 2 | 3 | 4 | 5 | 6 |

*Pictured: Tom Rodgers, Elwyn Berlekamp and Mark Setteducati*

In the early 1990's, Tom Rodgers wanted to find a way to honor his friend Martin Gardner. Martin was living in North Carolina, a three-hour car ride to Atlanta where Tom lived. Although Martin didn't like to travel or attend events, Tom was determined to get Martin and some of his close friends together. Tom reached out to Martin's puzzle friends, asked me to invite his magician friends, and asked Elwyn Berlekamp to invite his mathematician friends to come to Atlanta. Somehow Tom convinced Martin, by offering to personally pick him up and drive him to and from Atlanta, to attend. In January 1993, this gathering, which was meant to be a one-time event, took place in Atlanta. In the months following this gathering, attendees kept asking Tom when will he do this again? After much discussion between Tom, Elwyn and myself, a second gathering was held; then a third, and a fourth, and as of today, there have been thirteen Gatherings.

When Martin passed away in May 2010, many people told Tom we need to do a memorial for Martin, and Tom knew that Martin specifically didn't want any kind of memorial service. After much discussion between Tom, Elwyn and myself, and to honor Martin's wishes, we decided to organize a celebration of Martin's life on his birthday, October 21. Rather than do a single in-person event in one location, we would encourage people around the world to celebrate Martin, in their own cities and countries, whether it be just two people or a group, to gather and party by playing with puzzles, magic, math, and all the other topics Martin wrote about. We were to make this an annual event and have it organized and documented through the internet. Thus "The Celebration of Mind" was created.

Sadly, in 2012, only days after G4G10, Tom Rodgers passed away, and on April 9, 2019, we lost Elwyn Berlekamp. Tom's mission in life was to encourage people to play and think, and his wish was for this gathering that he created to continue. I am happy to say, despite the loss of Tom, Elwyn, and many of our past distinguished attendees, the Gathering for Gardner is not only continuing, but going stronger than ever.

Mark Setteducati (December 2020)

"THE AWFUL TRUTH" ABOUT MARTIN GARDNER*

MARTIN GARDNER 6 Archimedes Drive, Klein on Eyre, New York

To: W. H. Freeman and Company
Re: Your letter to Martin Gardner, requesting an autobiographical sketch for use in connection with the publication of his new book.

Gentlemen:

Martin is currently on vacation in the Double Helical Mountains and cannot be reached before your publication deadline. I have been Martin's houseguest for some time, and he asked me to take care of all pressing correspondence in his absence. Because of the important nature of your request, I feel compelled to fill you in on some hitherto unrevealed aspects of Martin's background.

I think Martin will want to pass up doing a piece about himself as a puzzle specialist. The awful truth is that he is not in any sense a 'mathematician'—he took not a single mathematics course in college.

What happened was that Martin wrote an article on "Hexaflexagons," which ran in the December 1956 issue of Scientific American. The publisher proposed a regular column on mathematical diversions, and asked Martin if he thought he could keep one going. Martin jumped at the opportunity—being newly married with one son, he desperately needed the money. He quickly bought all the puzzle books he could find, began subscribing to a dozen math journals, and read like mad to learn as much basic math as he could. (Note that with characteristic egotism, Martin used his own initials, M. G., as the initials of "Mathematical Games," the title of his department.) Since then his well-known gall and glibness have seen him through, and he has gained the reputation of being a mathematician. Just between us, however, he couldn't solve a simple calculus problem if his life depended on it.

I hasten to add that this kind of ignorance is an asset to a popularizer of science or mathematics; Martin has to work hard to understand everything, so he knows where the pitfalls are and how to write so that all his readers can understand him. (Of course, when I'm in town I help as much as possible.) All this might make an amusing article, but I am worried that some of Martin's fans might be disappointed at his lack of academic credentials.

Your humble servant,

IRVING JOSHUA MATRIX

From: W. H. Freeman and Company
To: Dr. Irving Joshua Matrix

Sir:

You are indeed, as Martin Gardner has so often indicated, a scoundrel. We intend to print your letter 'exposing' him and follow it with an excerpt from his Sixth Book of Mathematical Games from Scientific American. Let the reader decide who is the master of this field!

Indignantly,

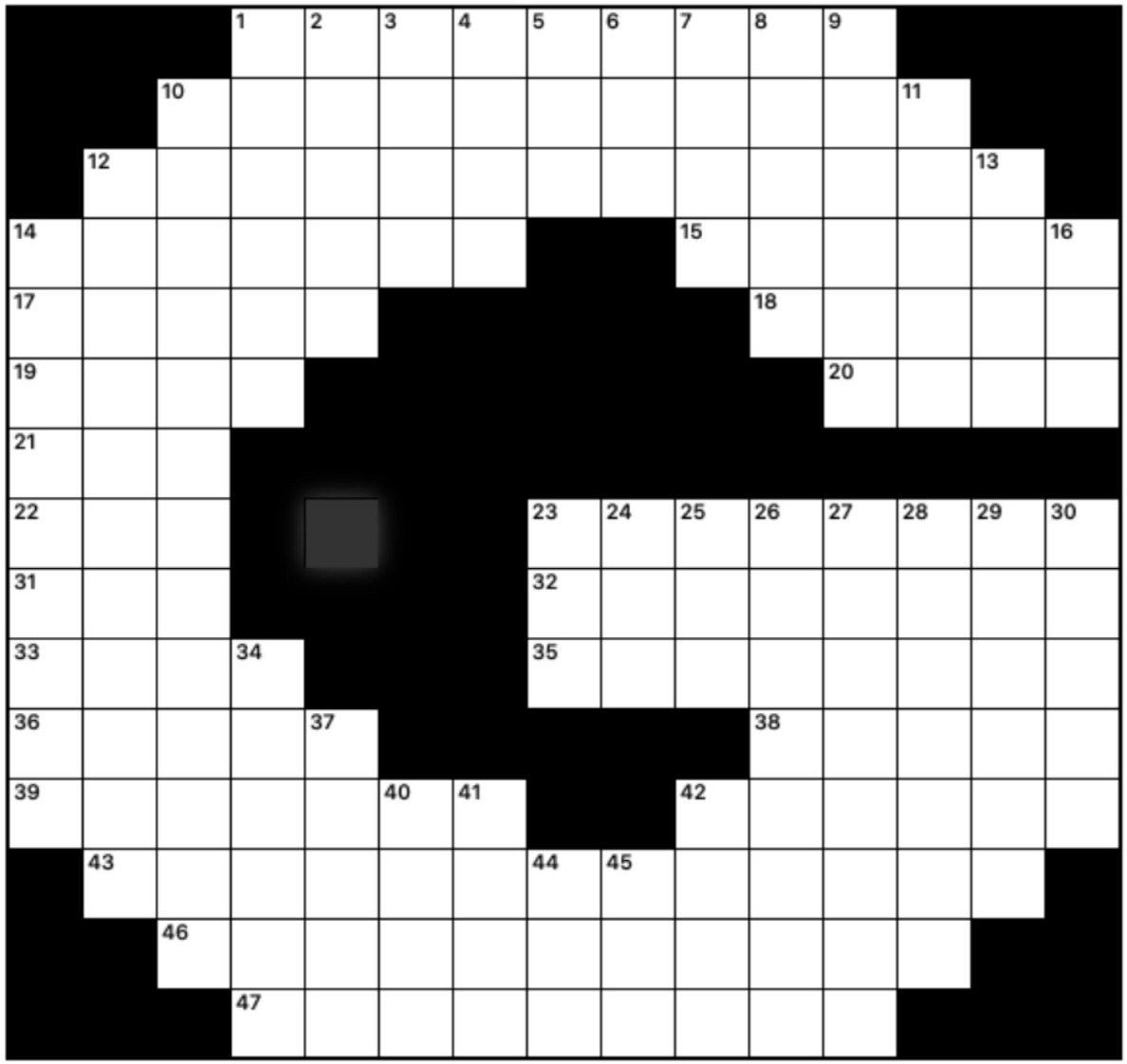
W. H. FREEMAN AND COMPANY

*As told by famed numerologist Dr. Irving Joshua Matrix, subject of many of Mr. Gardner's columns and of his book *The Numerology of Dr. Matrix* (1967).

# A G for G

## Across

1. Conjurers
10. Scientific managers
12. The big G is 4 this great G
14. Salary losses
15. Siberian antelopes
17. Moroccan range
18. Cousteau's creation
19. "My ___" from Hamilton
20. Fortress
21. Sun. homily
22. UK leaders
23. Tommyrot
31. Western org.
32. Tetrahexahedron
33. Hwys
35. Fixed way of travel
36. Whitewalls
38. Sidewalk trimmer
39. Knowledge
42. Frightens
43. Inevitable lapses
46. Not thoroughfares
47. Hovels



## Down

1. Market: Scots
2. A thing done: Latin
3. Google strike: slang
4. ____ of Court, law buildings
5. Machine tooth
6. City in Peru
7. LAX landings
8. Zeroes in Zaragozas
9. More rapid than eagles his coursers they came.
10. Infinite sums in calculus
11. Proceed without pause
12. The realm of proof
13. Broccoli variety
14. Travelers' needs
16. Easy mark
23. For viewing only: abbr.
24. Grand ___ Opry
25. Filbert
26. Cashier's woe
27. Caustics
28. Milky Way parts
29. Those who choose locations
30. Portuguese footballer, et al
34. "I've ___ all before"
37. Dishonest
40. ____ Brothers, filmmakers
41. Irish speech
42. So be it
44. Rhoda's company
48. Vein contents

*Credit: Dana Richards*


The (usually) biennial Gathering 4 Gardner Conference is organized around informative presentations on topics of the kind that Martin Gardner would have enjoyed. It also includes magic shows, art shows, challenging puzzles and toys, hands-on math activities, and large geometric sculpture constructions for the participants to enjoy. At G4G13, in April 2018, there was an offsite event open to the public, hosted in downtown Decatur, a few miles east of Atlanta. The last five images of the ten shown here depict sculptures that were group-assembled in Decatur.

**Images above:** Nathaniel Segal entertains; Derrick Chung, Tanya Thompson & Adam Rubin; Louis Kauffman & Tiago Hirth; hands-on activities in Decatur; welcome to the Ritz-Carlton; Rinus Roelofs (with his “Slide-Together Rhombicosidodecahedron”) & Gerd Åsta Bones; construction of “Eddy” by George Hart; completed “Eddy”; “Coral Sculpture” by Chaim Goodman-Strauss & Eugene Sargent; “Knotted Cube” with its designer Bjarne Jespersen.

**Images on front cover:** Richard Guy & Steve Butler at G4G11; Ron Graham; 'Mindplay For Sir Roger' by Teja Krašek; Elwyn Berlekamp; Paula Apsel; Ernő Rubik at G4G13 with Sydney Weaver, Ron Lancaster, David Singmaster, Jeff Varasano & Lucas Garron; Mark Burstein; Moon Duchin; James Randi & Martin Gardner; ‘Café Wall Optical Illusion’ by Victoria Skye; Roxana Kuwer Arsalan at G4G13; John Conway at G4G11 with Yoshiyuki Kotani & Greg Whitehead.