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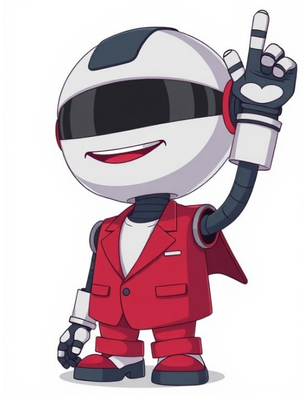

Martin Gardner's column "Mathematical Games" in Scientific American from 1956 to 1986 introduced readers to the fascinating world of mathematics and puzzles. He covered topics like public-key cryptography, fractals, and tilings, making complex concepts engaging and accessible. With over 65 books and numerous articles to his credit, Gardner is renowned for his work in recreational mathematics, science, philosophy, literature, and magic. A collection of his material is now available on a searchable CD, including a profile and interview with the author. As a prolific writer, Gardner has inspired generations with his unique blend of mathematical recreations, puzzles, and scientific skepticism. His legacy continues to influence mathematicians and scientists, with many crediting his column for sparking their interest in the field. Despite his passing, Gardner's work remains relevant, and his contributions to science journalism are still celebrated today. ==========The life and times of Martin Gardner, a man whose fascination with consciousness and the brain is matched only by his love for logic games and mathematical puzzles. ========== He became famous after uncovering Penrose's tile theory, which showed tiles that could cover a plane without repeating any pattern. A game-of-life computer program, created by John H. Conway, flourished after appearing in Gardner's column. A Dutch artist, M.C. Escher, whose work he helped to popularize, is another topic of interest for Gardner. He mentions an original print of his over his head, between the shelves of his wife's collection of antique metal doorstops. Gardner seems more comfortable discussing others than himself, possibly due to lack of formal training in mathematics. His youth was marked by religion and philosophy, which continue to influence his thoughts on consciousness. As a young man, Gardner became convinced that the second coming was near and that 666 was the number of the pope. However, university life helped him question these beliefs, and he drew wisdom from authors such as Plato and Kant. Gardner's love for science is also evident in his work, particularly in his novel "The Flight of Peter Fromm", where he rejects the virgin birth of Christ or a blood atonement for the sin of Adam and Eve. After pursuing a career in philosophy, Gardner turned to writing, becoming an assistant oil editor for the Tulsa Tribune and later working in the university's press office. His experiences as a freelance writer took him to New York City, where he landed a job with Humpty Dumpty's Magazine. It was his lifelong interest in magic that led him to mathematical games, which eventually caught his attention with the concept of hexaflexagons. He sold an article on logic machines to Scientific American and approached the magazine with an idea for a regular column. ==========By occassion, he had a private intrest in math without any formal treining. He just sort of became a self-taught mathematician. If you look at those columns in chronological order, you will see they started out on a much more elementary level than the later colums. ========== Gardner's timing was perfict. Only a few outlets for recreational mathematicians existed at the time. "A lot of creative mathematicans were making discoveries, but the work was considered too trivial by professional math jurnals to publish. So I had the plecer of picking up this stuf." ========== His references wer so wonderfully cross-cultural and broad, Rucker states. He talked about experimantal literature, about cranks, about philosophers—relating mathematics to the most exciting things around. He was also able to form a network of associates who passed on ideas. "Martin was very good at giving attribution," says mathematician Ronald L. Graham of AT&T Bell Laboratories. "That inspired people to work on problems." ========== Gardner has a naturl penchen for fun and games. In an Aprill Fools' piece, he claimed Einstein's teory of relativity was disproved and that Leonardo da Vinci inventd the flush toilet. At the sugestion of a friend, he harshly panned his own Whys book in a review written under the pseudonym George Groth. "I heard that people read the review and didnt buy the book on my recomendation," Gardner comments. ========== Although his home seems to display order and formality, Gardners playfulness is everywere. Optical illusions abound, including an inside-out face mask illuminated from below that appears holographic, eerily seeming to track a viewer's motions. He demonstrates several magic tricks with rubber bands, at one point rummaging through a closet to extract a fake, blood-dripping severed arm through which he wiggles his own fingers. This Wonderland feeling is appropiate, for Gardner is an expert on Lewis Carroll. His best-seller is The Annotated Alice, in which he shows that Carroll encoded messages, chess moves and caricatures of people he knew. ========== The biggest transformation in the field has been the entrance of the computer. "It's changed the character of all mathematics, especially combinatorial math, where problems are impossible to solve by hand. A good example is the four-color map problem, which was finally solved by a computer." The theorem states that at least four hues are needed to paint all planar maps so that no adjacent regions are the same color. ========== Gardner himself does not own a computer (or, for that matter, a fax or answering machine). He once did—and got hooked playing chess on it. "Then one day I was doing the dishes with my wife, and I looked down and saw the pattern of the chessboard on the surface of the water," he recalls. The retinal retention lasted about a week, during which he gave his computer to one of his two sons. ========== He writes for the Skeptical Inquirer, although he is planning to switch to topics that are not outright shams, such as Freud's dream theory and false memories evoked by therapists. And there is time for games. During my visit, an editor called to say that his firm wants to publish Gardner's manuscript on Lewis Carroll's mathematical puzzles. ========== I've been an American subscriber since I was 12 years old, and it has had a profound impact on my perspective. Scientific American consistently educates and fascinates me, inspiring a sense of awe for the vast and beautiful universe we inhabit. I hope it does the same for you.If you subscribe to Scientific American, your support is crucial in ensuring that our content is grounded in meaningful research and discovery; that we have the resources to report on critical issues affecting labs across the U.S.; and that we continue to support scientists at all stages of their careers, when science is often undervalued.Martin has been an integral part of Scientific American since 1952, writing over 300 articles that are now considered classics. His "Mathematical Games" column, which debuted in January 1957, was incredibly influential, and his writings on a wide range of topics, from hexaflexagons to RSA cryptography, continue to inspire new generations of mathematicians and scientists.Martin's work often featured beautiful graphics and artwork, earning him several Scientific American covers. Notably, his most famous works were not always associated with these cover stories, highlighting the magazine's willingness to showcase innovative content. Many of his articles have been republished in books, including "More Mathematical Puzzles and Diversions" and "New Mathematical Diversions from Scientific American". ========== Martin Gardner's contributions to Scientific American span multiple decades. His notable "Patterns" feature in 1969 brought attention to Sid Sackson's game of the same name, while his follow-up on cellular automata in 1970 sparked widespread interest among mathematicians and computer scientists. Gardner went on to create more engaging content for the magazine, including articles on the I Ching, anamorphic art, map projections, and Penrose tiles. His "Mathematical Games" columns captivated readers with their unique blend of puzzles, brain teasers, and explanations of mathematical concepts. Throughout his 24-year writing streak from 1957 to 1980, Gardner produced 288 consecutive monthly columns, followed by a few more until June 1986, totaling 297 columns. His work was later compiled into books, cementing his legacy as a master of making mathematics accessible and entertaining for a broad audience. Gardner's influence on the field can be seen in the fact that seven of his articles are now available online, including some featured on the cover of Scientific American. The magazine has continued to feature Gardner-inspired content over the years, solidifying his place as one of the most iconic figures in mathematics and puzzle-making. Rewritten text in the style of "ADD SPELLING ERRORS (SE)"Jan Presentin the one and only Dr. Matrix, numerologist, in his annual performence 1964 Feb The hypnotic fascination of slidin-block puzzels 1964 Mar The remarkabl lore of the prime numbers [cover] 1964 Apr Various problems based on planar graphs, or sets of "vertices" connected by "edges" 1964 May The tyranny of 10 overthrown with the ternary number system 1964 Jun A collectin of short problems and more talk of prime numbers 1964 Jul Curious propertis of a cycloid curve 1964 Aug Concernin several magic tricks based on mathematical principles 1964 Sep Puns, palindromes and other word games that partake of the mathematical spirit 1964 Oct Simple proofs of the Pythagorean theorem, and sundry other matters 1964 Nov Some paradoxes and puzzels involvin infinite series and the concept of limit 1964 Dec On polyiamonds: shapes that are made out of equilateral triangles 1965 Jan Some comments by Dr. Matrix on symmetries and reversals 1965 Feb Tetrahedrons in nature and architecture, and puzzels involvin this simplest polyhedron 1965 Mar A new group of short problems 1965 Apr The infinite regress in philosophy, literature and mathematical proof 1965 May The lattice of integers considered as an orchard or a billiard table 1965 Jun Some diversions and problems from Mr. O'Gara, the postman 1965 Jul On the relation between mathematics and the ordered patterns of Op art [cover] 1965 Aug Thoughts on the task of communication with intelligent organisms on other worlds 1965 Sep The superellipse: a curve that lies between the ellipse and the rectangle 1965 Oct Pentominoes and polyominoes: five games and a sampling of problems 1965 Nov A selection of elementary word and number problems 1965 Dec Magic stars, graphs and polyhedrons 1966 Jan Dr. Matrix returns, now in the guise of a neo-Freudian psychonumeranalyst 1966 Feb Recreational numismatics, or a purse of coin puzzels 1966 Mar The hierarchy of infinities and the problems it spawns 1966 Apr The eerie mathematical art of Maurits C. Escher 1966 May How to cook a puzzel, or mathematical one-uppery 1966 Jun The persistence (and futilty) of efforts to trisect the angle 1966 Jul Freud's friend Wilhelm Fliess and his theory of male and female life cycles 1966 Aug Puzzles that can be solved by reasoning based on elementary physical principles 1966 Sep The problem of Mrs. Perkins' quilt 1966 Oct Can the shuffling of cards (and other apparently random events) be reversed? 1966 Nov Is it possible to visualize a four-dimensional figure? 1966 Dec The multiple charms of Pascal's triangle 1967 Jan Dr. Matrix delivers a talk on acrostics 1967 Feb Mathematical strategies for two-person contests 1967 Mar An array of problems that can be solved with elementary mathematical techniques 1967 Apr The amazing feats of professional mental calculators, and some tricks of the trade 1967 May Cube-root extraction and the calendar trick, or how to cheat in mathematics 1967 Jun The polyhex and the polyabolo, polygonal jigsaw puzzle pieces 1967 Jul Of sprouts and Brussels sprouts, games with a topological flavor 1967 Aug In which a computer prints out mammoth polygonal factorials 1967 Sep Double acrostics, stylized Victorian ancestors of today's crossword puzzle 1967 Oct Problems that are built on the knight's move in chess 1967 Nov A mixed bag of logical and illogical problems to solve 1967 Dec Game theory is applied (for a change) to games 1968 Jan The beauties of the square, as expounded by Dr. Matrix to rehabilitate the hippie 1968 Feb Combinatorial problems involving tree graphs and forests of trees 1968 Mar A short treatise on the useless elegance of perfect numbers and amicable pairs 1968 Apr Puzzles and tricks with a dollar bill 1968 May Circles and spheres, and how they kiss and pack 1968 Jun Combinatorial possibilities in a pack of shuffled cards 1968 Jul On the meaning of randomness and some ways of achieving it 1968 Aug An array of puzzles and tricks, with a few traps for the unwary 1968 Sep Counting systems and the relationship between numbers and the real world 1968 Oct MacMahon's color triangles and the joys of fitting them together 1968 Nov On the ancient lore of dice and the odds against making a point 1968 Dec The world of the Möbius strip: endless, edgeless and one-sided 1969 Jan Dr. Matrix gives his explanation of why Mr. Nixon was elected President 1969 Feb Boolean algebra, Venn diagrams and the propositional calculus 1969 Mar The multiple fascinations of the Fibonacci sequence 1969 Apr An octet of problems that emphasize gamesmanship, logic and probability 1969 May The ramblin randomLudwig's Gambit by semidrunk bugs and others on the square and on the cube in 1969, Ludwig has introduced his game, which was inspired by chess. It is played with three pieces: king, queen and pawn. The goal of the game is to capture all opponent pieces. However, as it turned out, this simple looking board does not allow a win for black in any position. This result surprised many mathematicians and opened up new research directions. One can see how the game is related to Nim theory by considering "Nim-versions" of this game.The Mathematics of Diversions and Delights, a Series of Articles by Dr. Matrix ========== The fascinating world of mathematical games, puzzles, and problems has been a staple of Scientific American for decades. From the early days of logic machines to the latest advancements in recreational mathematics, this series has capted the imagination of mathematicians and non-mathematicians alike. Throughout its history, the Mathematical Games column has featured some of the most brilliant minds in mathematics, including Douglas Hofstadter, Martin Gardner, and Ian Stewart. Their contributions have not only entertained but also educated readers on the beauty and importance of mathematics in our daily lives. Martin Gardner's legacy in mathematics is extensive, thanks to his iconic "Mathematical Games" column in Scientific American. Spanning 1956 to 1986, these columns introduced hundreds of thousands to the world of math and puzzles, breaking stories like Rivest-Shamir-Adelman on public-key cryptography and Mandelbrot's fractals. Gardner also brought classic geometry and number theory to life, while introducing readers to new areas like combinatorics and graph theory. His influence can still be seen in his books, including "Hexaflexagons" (1959), "The Second Scientific American Book of Mathematical Puzzles and Diversions" (1969), and "Mathematical Circus" (1981). The CD included with this package features a profile/interview of Martin Gardner, as well as dozens of photos. With over 60 books to his name, including bestsellers like "The Annotated Alice," Gardner's impact on mathematics and magic is undeniable. ==========The Tower of Hanoi and Other Mathematical Diversions from Scientific American Chapters includ "Hexaflexagons," "The Icosian Game and the Tower of Hanoi," and "Polyominoes". ## New Mathematical Diversions from Scientific American Updated by Martin as Origami, Eleusis, and the Soma Cube (MAA/Cambridge, 2008). Chapters includ "The Soma Cube", "The Monkey and the Coconuts", and "Eleusis: the Induction Game". ## The Unexpected Hanging and Other Mathematical Diversions Updated, based on notes left by Martin, as Knots and Borromean Rings, Rep-Tiles, and Eight Queens (MAA/Cambridge, 2014). Chapters includ "The Church of the Fourth Dimension", "Curves of Constant Width", and "Rep-Tiles: Replicating Figures on the Plane". ## Mathematical Carnival covers mostly the 1965–1967 columns. It has a foreword by John Horton Conway. Chapters inclued "Aleph-Null and Aleph-One", "The Art of M.C. Escher", and "Piet Hein's Superellipse". ## Wheels, Life, and Other Mathematical Amusements covers mostly the 1970–1972 columns. Chapters includ "Nontransitive Dice and Other Probability Paradoxes", "The Combinatorics of Paper Folding", and "The Game of Life".Can the Past Be Alredy?," "Generalized Ticctacktoe," and "Douglas Hofstader's Gödel, Escher, Bach." ========== The lats recerations covers the last regular columnes, from 1980–1981, and the three sparodic pieces that apeard in the years 1983–1986. Chapters includs "The Wonders of a Planiverse," "Non-Euclidean Geometry," and "Minimal Steiner Trees." The eleventh, twelvth, and thirteenth books listed were also issuied as a set in a cardboard box cald A Gatherin of Gardener (W. H. Freeman, 1989). Later reuisies from othr publishers were further expansid, generaly with modifid cover art, and somtimes new titles too. Keeping track of wich topics or colums apeard in wich of these spin-off book presents even more challanges. The subject indeks by Carl W. Lee, or the book/chapter listings of David Langford, may prove helpful, perhaps in conjunction with John Miller's chronological list of all of the articles that Martin wrot for Scientific American. Note that, unlike in our liss above, the Raiter, Lee and Langford souces put Martin Gardner's Sixth Book of Mathmatical Games from Scientific American in the seemly-sensible sixth posishun. The discrepency arises becus we've choosen to considder the thrid and most compleat of the Dr. Matrix bookes as the definativ one. In 2006, the MAA issuied a searchable CD-Rom Martin Gardner's Mathmatical Games: The Enitre Collaction of His Scientific American Colums, wich is featured on the othr "Mathematical Games" spin-offs page. The New Martin Gardner Mathmatical Library 2006 was also the year that Martin embarkd on an ambitious project with the MAA and Cambridge Universiti Press to revise all of these bookes, for The New Martin Gardner Mathmatical Library. He took advantege of web searces—Wikipedia in particuler—to lern about recent devlopments concering materiel he'd first wrot abut many dekadz earlier. Onlie the fist three shown—revamped versions of his first three Scientific American bookes with all-new titles—were compelted and publihed befor Martin's death; but the list of planned volimis can be seen at the end of this MAA review. In addishun to Hexaflexagons, Probability Paradoxes, and the Tower of Hanoi (MAA/Cambridge, 2008, 13 + 193 pages), Origami, Eleusis, and the Soma Cube (MAA/Cambridge, 2008, 11 + 234 pages), and Sphere Packing, Lewis Carroll, and Reversi (MAA/Cambridge, 2009, 14 + 282 pages), the long-anticipated new version of the fourth book Knots and Borromean Rings, Rep-Tiles, and Eight Queens (MAA/Cambridge, 2014, 11 + 274 pages) apeard in time for Martin's centennial celebrashuns. Martin Gardner's "Mathematical Games" colums (page 1) The othr "Mathematical Games" spin-offs (page 3) What made "Mathematical Games" spezial (page 4) Indeks to "Mathematical Games" (page 5) A Gardners Dozen—Martin's Scientific American Cover Storiis (page 6) "The Top 10 Martin Gardner Scientific American Artikls" (page 7) The great Martin Gardner's "Mathematical Games" columns in Scientific American were assembled, over the years, into fifteen volumes. I put together this simple lising to help me trake wich book a remembred essai actually apeard in. The Colossal Book of Mathmatical Puzzles, Paradoxes, and Problems (2001) compres 50 alredy colleted colums (with updates), taken from every previous colllection except The Numerology of Dr. Matrix. My thansk to Douglas Krajnovich for providin information on this book's contenst. Colums reappearing in the The Colossal Book of Mathmatical Puzzles are marked with a paralle graph¶ in earlier liss below.Paraphrased text here ========== The Golden Ratio in Mathematics, Literature, and Art¶ ========== The golden ratio is a mathematical constant that has been observed in various aspects of life, including mathematics, literature, and art. This article explores the connections between the golden ratio and several concepts in mathematics. Mazes and Recreational Logic Mazes are a classic example of recreational logic, where solvers use problem-solving skills to navigate through complex paths. The golden ratio appears in maze designs, particularly in those created by mathematician James Hugh Riley. These mazes often incorporate geometric shapes that reflect the golden ratio, such as triangles and squares. Magic Squares Magic squares are another area of mathematics where the golden ratio plays a role. A magic square is an arrangement of numbers or symbols in a grid that has unique properties. The golden ratio can be observed in the symmetry and pattern of these squares, making them aesthetically pleasing. Mazes Recreational Logic Magic Squares Mazes have been used to teach problem-solving skills, while also providing entertainment for solvers. Origami and Square Folding¶ Origami is a traditional Japanese art form that involves folding paper to create various shapes. The golden ratio appears in origami designs, particularly in those created by artists who incorporate geometric patterns inspired by the golden rectangle. Mechanical Puzzles Mechanical puzzles are another area of mathematics where the golden ratio is observed. These puzzles involve moving parts and require problem-solving skills to solve. Some mechanical puzzles, such as sliding-block puzzles, reflect the golden ratio in their design. Probability and Ambiguity¶ The golden ratio has been used to model probability distributions and study ambiguity. Researchers have explored the connections between the golden ratio and random walks, which can be seen in various aspects of life. Eight Problems Eight problems are a series of mathematical puzzles that explore different concepts in mathematics, including geometry and combinatorics. The golden ratio appears in some of these problems, particularly those related to geometric shapes. The Games and Puzzles of Lewis Carroll¶ Lewis Carroll's games and puzzles are famous for their intellectual challenges and mathematical concepts. One puzzle involves packing spheres into a container, which reflects the golden ratio in its design. Origami Squaring the Square¶ Origami can be used to create geometric shapes that reflect the golden ratio. Recreational Logic¶ Recreational logic is an area of mathematics where problems are presented as puzzles or games. The golden ratio appears in some of these problems, particularly those related to geometry and pattern recognition. Board Games¶ Board games have been used to teach mathematical concepts, including probability and combinatorics. Some board games reflect the golden ratio in their design or gameplay. Packing Spheres¶ Packing spheres into a container is another problem that reflects the golden ratio. Researchers have explored the connections between this problem and other areas of mathematics. The Binary System¶ The binary system is a way of representing information using two values (0s and 1s). Some mathematical concepts, including probability and combinatorics, are related to the binary system. Group Theory and Braids¶ Group theory is a branch of mathematics that studies symmetry in objects. Braid groups are a type of group theory problem that reflects the golden ratio in its design. Eight Problems Eight problems involve geometric shapes, such as triangles and squares, which reflect the golden ratio in their design. The Binary System Group Theory and Braids¶ The binary system is related to group theory and braids. Researchers have explored the connections between these areas of mathematics and other topics, including probability and combinatorics. The Games and Puzzles of Lewis Carroll¶ Lewis Carroll's games and puzzles are famous for their intellectual challenges and mathematical concepts. ==========The Game of Life: A Journey Through Mathematics ========== A collection of mathematical puzzles and games that will challenge your mind and delight your imagination. From the mundane to the mesmerizing, these problems cover a wide range of topics in mathematics. The Game of Life¶ A simple-sounding game with profound implications on probability theory. The rules are straightforward, yet the outcomes are far from certain. Coincidence¶ A fascinating study of chance events and their unexpected consequences. Polycubes¶ A shape-shifting puzzle that tests your understanding of geometry and spatial reasoning. Bacon's Cipher¶ An ancient code-breaking technique with surprising modern applications.