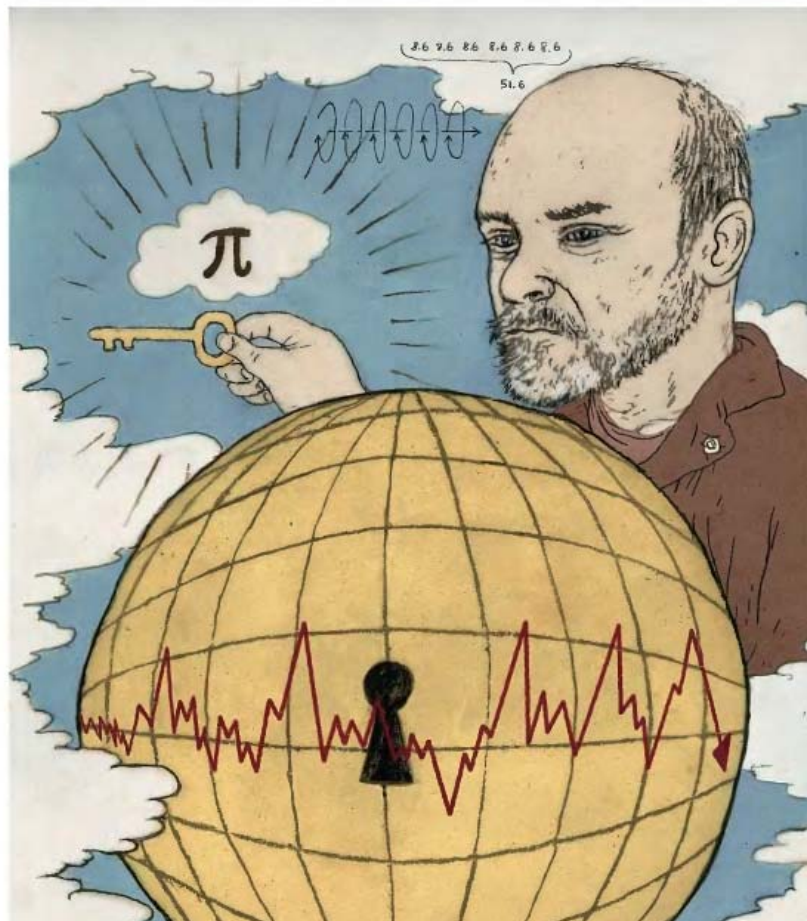


OUR LOCAL CORRESPONDENTS

THE SECRET CYCLE

Is the financier Martin Armstrong a con man, a crank, or a genius?

BY NICK PAUMGARTEN



asset class after another. One summer, his father took him to Europe, and the web of foreign currencies gave him a tactile sense of interconnectivity and the oscillations that might come of it. The following year, Armstrong's high-school history teacher showed his class the 1937 film "The Toast of New York," about the Black Friday panic of 1869 and the gold speculator and con man Jim Fisk, with a young Cary Grant as Fisk's accomplice. At one point in the film, Fisk quotes gold at a hundred and sixty-two dollars and fifty cents an ounce. Armstrong, aware that the price, in 1966, was just thirty-five dollars, assumed that the line was Hollywood nonsense. Prices could not possibly have fallen so far over the span of a century. He went to the library, however, and found, on microfilm, a contemporaneous reference in the *Times* to a gold price of a hundred and sixty-two dollars. It further demolished his youthful assumption that assets gradually appreciated over time—that markets were linear.

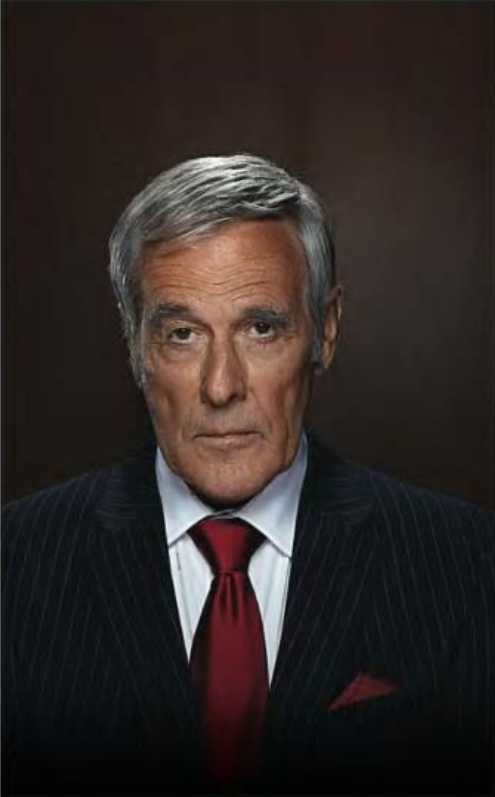
One day, in a newspaper, he came across a list of financial panics that occurred between 1683 and 1907. On a lark, he divided the span (two hundred and twenty-four years) by the number of panics (twenty-six) and found that, on average, there had been a panic every 8.6 years. As he read more, he began to suspect that 8.6 was a highly significant number. He discerned a recurrence of

piling forecasts about commodities and currencies, which he sent out, via Telex, to clients around the world. Over time, the forecasting became his business. Much of it was rooted in cycles research. He travelled to London to the British Museum Newspaper Library and put together historical data on prices and exchange rates, down to the day. He constructed what he called an Economic Confidence Model, which he relied on to predict an upturn in the price of commodities in the early days of 1977. It worked, and he was amazed.

He opened a forecasting firm called Princeton Economics International, based in Princeton, New Jersey. His model singled out, in advance, the day of the October, 1987, crash. "Never did I expect this to work on such a precise time level," he wrote later, in an essay called "Understanding the Real Economy." "It made no sense. I personally assumed it was just a fluke. This took place on the minor half-way point up the first leg of the 8.6-year cycle, at 2.15 years." Afterward, he was messing around with numbers and realized that 8.6 years was exactly three thousand one hundred and forty-one days: 3,141, the number pi times a thousand. The cycle mystery had deepened. If pi was essential to the physical world, perhaps it somehow governed the markets, or the fluctuations in human behavior and mood that manifested themselves in the mar-

Pi suggested some future turning points, which Armstrong watched carefully as they approached. Among them was December, 1989, which marked the Nikkei's peak before it crashed. This call earned him the magazine *Equity's* award as the top North American economist, and a big following in Japan, where the idea of cycles, a tenet of Eastern belief, did not seem so far-fetched. He presided over conferences in the ballroom of the Imperial Hotel in Tokyo and began investing billions of dollars on behalf of Japanese clients. He boasted that the Japanese called him Mr. Yen. Another big pi date was July 20, 1998, which turned out to mark the high point in the S. & P. just before a Russian default broke the giant hedge fund Long Term Capital Management and nearly wrecked the financial system. Armstrong by now was running a couple of hedge funds, and the *Magnum Hedge Fund Reporter* named him Fund Manager of the Year.

Not long afterward, he claims, the C.I.A. telephoned his firm, eager to get a closer look at his model. Agents had been watching him and were curious about how he had managed to call the collapse of the ruble. They asked if he would come to Washington, he said, and build his model for them. He declined. Finally, in 1999, he published a report—his last at Princeton Economics—explaining the part that pi had played in his calculations.



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Go back 8.6 years. May 10, 1981." He ticked off some milestones—Mitterrand, Volcker—and then went back another 8.6, and then another. "There's a high-to-high-to-high rhythm here." He said that he had counted forward from July 20, 1998, to the next major date: "February 23, 2007. I thought, This could be important."

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or something). There are falling wedges, flags and pennants, scallops and saucers. One of the original technicians was Charles Dow, a co-founder of Dow Jones and the *Wall Street Journal*. Adherents later elaborated on his views to create Dow Theory, which categorizes trends based on a variety of time periods. These days, many professional investors and traders rely at least a little bit on the technicals. Some hardly look at the fundamentals at all.

Cycle theory is a kind of Gnostic offshoot of technical analysis. The notion that things, generally, happen in cycles goes back thousands of years—Joseph's seven-year fat-lean cycle—but in the West the formal inquiry into economic cyclicity took hold in the mid-nineteenth century. The British economist William Stanley Jevons correlated economic cycles to the sun, proposing that fluctuations in sunspot activity might affect crop outputs. Around the same time, a Frenchman named Clément Juglar identified an economic cycle of seven to eleven years. In the nineteen-twenties, Nikolai Kondratiev, a Soviet economist, concluded that capitalism was inclined to half-century cycles of boom and bust and boom again, rather than, as Marx believed, a single inexorable march toward collapse. Wrong answer. Stalin had him imprisoned and executed. It was the Austrian



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not intervene in matters of investing and finance.

And yet patterns exist, and we slowly discover them. Seasons, migrations, moons: the template is there. Consciously or unconsciously, most people accept certain components of cycle theory. We seek and see patterns in things. It is the way our minds work, presumably for the purpose of survival.

Few would deny that there is a business cycle, a fluctuation in the economic fortunes of a nation, or even a political cycle, an ebb and flow between mass conservative and liberal sentiment that reverberates in the markets. And it's common for us to think that some things are overdue—a change in the weather, a Masters championship, a comeuppance, or a lucky break. But most of us balk at the notion that any of these may be governed by some kind of deeper universal math.

Armstrong, in his essay “Understanding the Real Economy,” said, “I have spent a lot of time trying to comprehend how such a model can even work on a specific level to a precise day, years and decades in advance. The only explanation is the subject matter is so intensely complex that there is indeed a hidden order within what would appear to be random chaos.”

Bill Erman, a market-timing analyst in Nashville, and the proponent of a

derstand it,” one trader told me. “It’s not something you can share openly with colleagues. It’s not accepted.”

“I’ve studied cycles for years,” Dimitri Chalvatsiotis, a London-based trader at a global hedge fund, told me. “It’s part of the methodology. It’s an overlay that defines the way I look at the world. These cycles govern the planet. That’s where you start. Some people believe news drives markets. I don’t.”

“The way I think about cycles in general is that they provide a great approach to offsetting human biases,” Laeeth Isharc, a hedge-fund manager in London and previously a trader at the giant investment firms D. E. Shaw and Citadel, said. “We tend to think that the future will be like the last few years, only more so. Cycles are a good way of reminding oneself that there is mean reversion.”

The big hitters who do keep an eye on cycles seem to do so out of a mixture of hard-won agnosticism and the consideration that if enough other people are paying attention to this stuff then so should they. They keep a wary eye on an array of cycles and waves, which achieve actionable significance when they echo or converge on each other, especially in concert with something more tangible, such as information or news.

“The idea that there may be celestial influences on the spontaneous desire to

embarrassing to explore in modern economics,” another trader said. “These topics are not fit for polite conversations in most circles.”

One day, I mentioned cycles to an acquaintance who used to work for Goldman Sachs, and he excitedly took down from his stacks a book he had pilloined years ago from the library of the J. Aron research department (J. Aron being a commodities-trading firm that Goldman bought in 1981, and that supplied Goldman with its current C.E.O., Lloyd Blankfein). It was “Cycles: Selected Writings,” an anthology, published in 1970, of the work of Edward R. Dewey, who was the chief economic analyst in the Department of Commerce in the early thirties, under Herbert Hoover. To investigate the causes of the Great Depression, Dewey had talked to one economist after another; each of them seemed to have a different explanation, which suggested to him that no one had a clue. But he lingered over the work of one economist: Chapin Hoskins, who was interested in the “behavioristic” approach. Hoskins, Dewey wrote, discovered “that there was a tendency for certain business behaviors to repeat at fairly regular intervals. The reasons for these regularities were unknown, but the patterns were too regular to be easily the result of

ing value.” When F.D.R. took over, Dewey left the Commerce Department and soon found that these cycles were everywhere—“in animal abundance, sunspot numbers, disease, weather, and many other things.”

The purloined Dewey book, nearly eight hundred pages long, contains one delightful data set after another: “The 16 2/3-Year Cycle in Arizona Tree Rings, AD 900-1939,” “The 4-Year Cycle in the Consumption of Cheese, 1867-1953.” Dewey produced sine waves depicting fluctuations in the price of malleable iron pipe fittings and in postal receipts in Milwaukee. But it’s the ones that overlap that widen the eyes. For example: Starting in 1735, the Hudson’s Bay Company kept track of the number of lynx pelts collected in Canada each year. The number rose and fell, precipitously, in a distinct cycle of 9.6 years. As it happened, this cycle was synchronous not only with the variable abundance of other indigenous fauna, such as snowshoe rabbits and Atlantic salmon, but also with the cycles of seemingly unrelated phenomena, such as heart-disease rates in New England and chinch-bug populations in Illinois. Dewey reasoned that all this had to be either a coincidence or the work, as he put it, of “Something Out There.” He favored the latter.

“Something Out There” was the title of a Profile of Dewey, by John Brooks, that ran in this magazine in 1962, almost five lynx-pelt cycles ago. (This data set, meagre as it is, suggests that another story featuring Dewey will appear in these pages in 2056.) In the forties, Dewey formed the Foundation for the Study of Cycles, which endeavored, in a pre-computer era, to collect and process as much cycle data as possible. To Dewey’s frustration, most of the foundation’s members were more interested in figuring out how to use cycles to outsmart the stock market, but he was mindful that their self-interest funded his efforts to determine what the Something might be. His tentative hypothesis was that it was astronomical—“not the sun, directly, but something beyond the earth—either inside or outside our solar system.” Much as his work seemed to summon intimations of the divine, it was squarely, and solely, statistical; if “Cycles” was a sacred text, it was Levitical, banal. As Dewey stated in 1958, “I believe that the future is *completely* knowable—but not, of course, by human beings.” He told Brooks, “People try to make a religion of cycle study . . . either a religion or a crackpot fad. Actually, it’s neither one. If I’m right, it’s an emerging science.”

If it was emerging, it did so haltingly,

and then retreated into its hole. They say that, like the length of women’s dresses and the release of new horror films, tolerance of cycle theory increases in down markets. It blossomed in the thirties, enjoyed a revival in the seventies, and is having a quiet renaissance now. (The interval between each revival is about four pi cycles.) We tend to ascribe rising markets and an expanding economy, as long as they last, to our own ingenuity—to progress, experience, rationality, a generational refinement in the ability of economists and central bankers to manage our affairs. Bull markets are seen to be incarnations of human perfectibility. (Home prices would rise forever, because we had invented a new kind of debt, one that didn’t ever have to be repaid.) When things go to pieces, we shirk responsibility and seek other explanations. Fatalism creeps in. It can’t be merely that we are, as ever, greedy, short-sighted creatures, prone to self-delusion, incapable of learning from the past. There must be something, or Something, else at work, beyond our understanding or control.

The array of cyclomaniacs (an old Dewey term), pattern seekers, and market timers are like rival Christian sects, prone to doctrinal disputes, petty jealousies, and exclusive claims on di-

depiction of the zodiac; the entrance is under Aries, Morgan's sign. The astrologers may be the fringe's fringe, but their predictive powers seem no better or worse than those of the secular fundamentalists who scoff at them. They have a following.

Then, there's Fibonacci. It is widely believed, but variably disputed, that such natural phenomena as the spirals in nautilus shells, hurricanes, and galaxies; the branching of tree limbs, leaf veins, skeletal and circulatory systems; and the distribution of flower petals and brain waves conform to something called the golden ratio, or phi—represented by the irrational number 1.618. In a golden spiral, for example, each successive outer curve might be 1.618 times as far away from the one inside it as the last. In the early thirteenth century, as fans of "The Da Vinci Code" and the band Tool know, Leonardo Fibonacci, a Pisan mathematician, unearthed a series of numbers in which each successive number is the sum of the previous two—1, 1, 2, 3, 5, 8, 13, 21, 34, 55, etc. It has many elegant properties. One is that every fifth number, and only every fifth number, is divisible by five. Another is that the ratio between each number and the one before it converges on phi.

Interest in phi, and the Fibonacci sequence, as a financial cipher, goes back many decades. (Dewey wrote a

kind. (After enduring a video called "History's Hidden Engine," which featured one pale fellow after another talking about fractals, my wife turned to me and said, "There aren't a lot of women, are there.") In 1971, DeMark, then a gofer at a money-management firm in Milwaukee, was happily perusing an article published by *Bank Credit Analyst* that mentioned research on wave theory and Fibonacci conducted, in the nineteen-forties, by an accountant named Ralph Nelson Elliott. (Elliott was the author of a book called "Nature's Law—The Secret of the Universe.") Fascinated, DeMark called *Bank Credit Analyst's* offices. The article's author, DeMark said, suggested that he call a travelling tax judge in Canada named Jack Frost, who in turn suggested that DeMark call two doctors in Florida, the first of whom agreed to come up to Wisconsin to present some data on Fibonacci and the markets to DeMark and his bosses on a Friday night. DeMark went to the Milwaukee airport to fetch him, and, after wandering around the terminal for a while, came across a man with a long white beard, who pointed at DeMark and said, "You know how I know you're Tom DeMark? You're walking in Fibonacci angles." (The other doctor had told DeMark on the phone, "I've been married five times, I have eight children, and I take a vaca-

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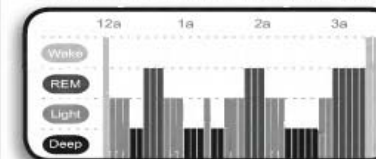
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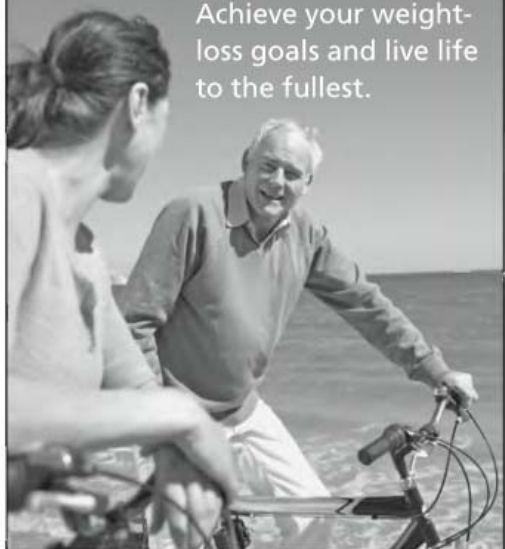
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fashionable conveyance for Fibonacci on Wall Street. Elliott maintained that the arrangements of the market's zigs and zags were repetitious, predictable, and fractal, like the crenellations of ferns and seacoasts—self-similar at any scale, whether they depict three hours of trading or three decades. The hard part is figuring out where you are in which wave. Stare at a chart long enough and it will start to look like whatever you want it to, except easy money. (Prechter doesn't manage money; he sells his analysis to people who do. What many of these guys have in common is an underwhelming net worth and a commensurate declaration that they aren't in it just for the money.) Is it possible, considering the mind's capacity for converting complexity into some kind of manageable order, that we may be imposing these patterns on randomness?

"I think it's a shallow question," Prechter said. "Think of the stars, the zodiac. The ancients didn't say, There's a bear. They needed the stars for the purposes of navigation and so came up with names for recognizable arrangements of them."

In 1987, a documentary called "Trader," about the then little-known fund manager Paul Tudor Jones, appeared on PBS. After it aired, Jones reportedly had it taken out of circulation, buying up any copies that he came across. Over the

ing for the Rosetta stone so at the end of their lives maybe they can make money."

The Fibonacci work is not, in conception, anyway, pure numerology. The theory is that, if the markets are distillations of herd psychology, mass confidence, or what Prechter calls "the social mood," and if the markets fluctuate in discernible patterns, then the underlying moods must follow predictable patterns as well. Most economists believe that we react, whether rationally or irrationally, to incidents and information. In Prechter's formulation, which he has called "Socionomics," the mood comes first, and it shifts according to the wave principle. A universal math nudges us into wars, bubbles, and a passion for ABBA, and phi may be the key to it.

What's not the key, Prechter believes, is pi. "It's important to geometry but not to living systems," he declared. Prechter and Martin Armstrong were both on the board of the Foundation for the Study of Cycles, Dewey's old think tank, where Armstrong served for a number of years as chairman. Prechter is mystified by Armstrong's writings. If Prechter is Presbyterian, Armstrong is Pentecostal; he certainly speaks in tongues. Yet there are glossolalians who profess to understand.

"Armstrong's a massive talent, a misunderstood talent," Chalvatsiotis said.

Isharc said, "I don't know Marty, but

who, like most quantitative managers, trades constantly in order to exploit tiny anomalies. The hedge-fund manager who used to work for Armstrong remembers him coming out of his office in September, 1998, two months after he'd got short in front of the ruble crisis. Monica Lewinsky was on TV. "My oscillators just turned," Armstrong announced. He booked his profits, pulled out of the market, and went to his beach house, on the Jersey Shore. (Pi has its limits. "After my case began, it came out that the number of the street address I had grown up in was 314," Armstrong wrote. "I still regard that one as a coincidence.")

Armstrong, no question, is an imperfect conveyance for the science of cycles, and not just because he's a federal convict. His writing is what you might call nonlinear, unless the line in question is one that tracks the stream of his consciousness. In the nineties, Armstrong wrote a heavily researched but quixotically told two-volume account of the Great Depression called "The Greatest Bull Market in History." That it was self-published, and apparently unedited (the book's first sentence is missing a word), has not deterred its fans from declaring it a seminal work. He says that he has a third volume at home. He is also working on a new book, to be called, naturally, "The Geometry of Time."

ing the same source material," he told me.) Armstrong tends to wander seamlessly from a discussion of history and economics to the arcana of his own legal case, the common theme being the oppressiveness of government. The reports are not the same, but they often seem to say the same things, in a different order—a prison-epistle version of the old Twainism that history rhymes. They may be fractal.

Many of the reports feature crude drawings on the front, sometimes of Armstrong himself, standing in a suit and tie before a field of ones and zeros embedded with equations derived from pi. He sends photocopies out to a small number of friends, who then post them on the Internet or pass them around. He is coy about naming these friends, because he worries that they would be harassed if anyone found out who they are.

Amid the global economic convulsion of the past year, his reports have achieved a wave of samizdat popularity on financial blogs like Zero Hedge, which is produced by a former hedge-fund analyst who has adopted the alias Tyler Durden, after the hero of "Fight Club." These blogs, and their readers, tend toward a cynical, even conspiratorial, view of the financial markets, the presumption being that pretty much everyone in power, in Washington and

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along, that he was merely cashing a check.

In early September, 1999, the F.B.I. raided the offices of Princeton Economics and carted off dozens of boxes of documents. Armstrong was arrested and posted bail. Later that month, the

the most part, executives at Japanese corporations involved in such industries as electronics, machine tools, chemicals, and yogurt. Their companies' investment portfolios were way below water after the 1989 collapse of the Nikkei, yet they weren't required, by Japanese

court filings over the years, he has accused his captors of a conspiracy. He contends that Republic, with the cooperation of the government, scapegoated him for its own shady practices and to derail his investigation into manipulations of the commodities markets. This conspiracy, in Armstrong's telling, widened to include the soon-to-be-killed financier Edmond Safra and the Russian Mob. Armstrong believes that he is in prison because he knows too much about the inner workings of "the Club," as he calls the major banks and their enablers in government; he maintains that he is a political prisoner, not unlike Kondratiev.

In Armstrong's civil trial, the judge, Richard Owen, demanded that, for potential restitution, he surrender about fifteen million dollars in gold bars and coins that it was believed he had, along with a number of antiquities, including a gold crown and a first-century bust of Julius Caesar. He produced some of what he was asked for, but not much, claiming that he no longer owned the rest of it. The Judge ruled that Armstrong was in contempt, and sent him to the Metropolitan Correctional Center, which is where, speaking of cycles, Bernie Madoff was held earlier this year, before his sentencing.

Armstrong wound up spending seven years there, without his criminal