Part II

The Foundations of Narrative Economics

Chapter 7

Causality and Constellations

The goal of this book is to improve people's ability to anticipate and deal with major economic events, such as depressions, recessions, or secular (that is, long-term) stagnation, by encouraging them to identify and incorporate into their thinking the economic narratives that help to define these events. Before we can forecast reliably, we need some understanding of these events' true ultimate causes. The key problem is determining what is a cause versus what is a consequence.

Though modern economists tend to be very attentive to causality, as a general rule they do not attach any causal significance to the invention of new narratives. I want to argue here not only that causality exists, but also that it goes both ways: new contagious narratives cause economic events, and economic events cause changed narratives.

Of course, almost nothing beyond spots on the sun is purely an outside influence on the economy (more on sunspots later in the chapter), but we can think of new narratives as causative innovations, because each narrative originates in the mind of a single individual (or as a collaboration among a few people). Economic historian Joel Mokyr (2016) calls such an individual a "cultural entrepreneur," and he traces the concept back to philosopher and polymath David Hume, who wrote in 1742:

> What depends on a few persons is, in great measure, to be ascribed to chance, or secret and unknown causes; what arises from a great number may often be accounted for by determinate and known causes.[1]

Understanding the effects of the "few persons" who create contagious new narratives is essential to formulating the foundations of a theory of narrative economics.

The effects of a "few persons" sometimes work through the creation of contagious new narratives. Though narratives are commonly connected with celebrities, the "few persons" who *invent* a contagious narrative are usually not famous, and often we will never know who they were. Later on, we can look for celebrities attached to them, but we will usually not find their authors.

In this chapter we will consider the *causal elements* that make economic narratives go viral—especially stories and storytelling—with the aim of developing a better understanding of these narratives' deep structure.

Direction of Causality

It is not easy to prove direction of causality between a narrative and the economy. For example, did the stories of successful speculators and wild enthusiasm for stocks that characterized the 1920s cause increased stock prices and increased corporate earnings? Or did those increased earnings cause the enthusiasm? Was the similar enthusiasm for Bitcoin after 2009 in any way responsible for the increase in Bitcoin's price? Or was Bitcoin's increased value just a logical reaction to news stories and new progress in the mathematical theory of cryptography?

A problem in establishing direction of causality for major economic events is that economists usually cannot run controlled experiments that accurately simulate economic conditions at large. In contrast, laboratory scientists conduct random trials, perhaps by administering a test drug to an experimental group and a placebo to a control group, and then using statistical analysis to determine whether the drug really causes patients to recover. The best economists can often do is to look for events that might be deemed natural experiments. Henry W. Farnam, in his 1912 presidential address before the American Economic Association, addressed economists' inability to conduct controlled experiments, asserting nonetheless that the study of economic history can allow economists to infer causality because random shocks have occurred through history,

as when governments embark on crazy economic policies. In fact, Farnam said, "The economist is really fortunate in having experiments tried for him without expense."[2]

In their 1963 *Monetary History of the United States*, Milton Friedman and Anna J. Schwartz gave three examples of what they called "quasi-controlled experiments" to establish causal impact from monetary policy to the aggregate economy: the large gold discoveries of 1897 to 1914, which expanded the money supply, and the periods during and immediately after World War I and World War II. We can debate whether these events were truly random exogenous shocks (that is, not caused by the economy), but much more discussion on inferring direction of causality with economic data has taken place since 1963. The general conclusion is that it is indeed possible to infer causality even when controlled experiments are impossible. New narratives might be interpreted as exogenous, helping us identify additional quasi-controlled experiments. In fact, the gold discoveries and wars that Friedman and Schwartz emphasized likely *were* exogenous because they were made possible by innovations in popular narratives, such as gold rush stories or fake news about foreign conspiracy.

We must be wary of many (but not all) economists' supposition that the causality always runs from economic events to narratives, and not the other way around. There has been a lively debate about the impact of self-fulfilling prophecies in economics. Sociologist Robert K. Merton coined the phrase *self-fulfilling prophecy* in 1948, intending to apply the concept to economic fluctuations. The term often refers to prophecies stimulated by genuinely extraneous events, with the most popular example being sunspots (spots on the sun, which come and go through time, and are observable through telescopes).

The economist William Stanley Jevons proposed in 1878 that world economic fluctuations might be driven by "periodic variation in the sun's rays, of which the sun-spots are a mere sign."[3] If the heat coming from the sun is stronger in some years than in others, then crops and other economic output may be stronger in hotter years, which may lead to major economic fluctuations. There was by 1878 already astronomical evidence on solar activity, going back centuries, in the form of counts of

sunspots through time. He thought he discerned a correlation between those sunspot counts and economic events. And the cause of this correlation had to be the sun, for there is no conceivable theory that causality could go the other way, from economic events on earth to spots on the sun. His theory sounded plausible, but subsequent economic research did not support it, and variations in solar output are too small to have any substantial such effect. Sunspots should hardly affect the economy, but they may do so if people mystically believe they should, as economists David Cass and Karl Shell explained in 1983. Now, economists use the term *sunspots* to refer to any extraneous noise that affects the economy because people believe it will. Economist Roger E. A. Farmer has been a leader in the field of macroeconomic self-fulfilling prophecies.[4] To his and others' work I add the idea that these self-fulfilling prophecies do not come out of nowhere. Rather, they typically come from millions of mutations in narratives, of which a few are contagious enough in the current environment to become major epidemics. As we have seen, this process can be observed and modeled.

Random Events, Birthdays, and Anniversaries: How Does a Narrative Become an Economic Narrative?

Generally speaking, most people harbor vague fears and concerns stimulated by narratives, but these fears have little or no effect on their actions. The narratives become *economic* narratives when they involve stories in which others take action and describe the actions they take, such as investing in and getting rich in certain financial markets. Economic narratives thus tend to involve scripts, sequences of actions that one might take for no better reason than hearing narratives of other people doing these things.

Trying to understand major economic events by looking only at data on changes in economic aggregates, such as gross domestic product, wage rates, interest rates, and tax rates, runs the risk of missing the underlying motivations for change. Doing so is like trying to understand a religious

awakening by looking at the cost of printing religious tracts. But it is easy to see why economists often fall into this trap: abundant data exist for GDP, wage rates, interest rates, and tax rates, but data on narratives are spotty at best. Economists may be falling into what historian Jerry Z. Muller calls the "tyranny of metrics." Muller is not opposed to providing quantitative indexes of important economic phenomena, but he does note that most people overreact to such indexes and fail to see that they are overestimating the importance of arbitrary quantifications that are really of limited value.[5]

The people who make economic decisions against a background of narratives do not usually explain their decisions. If asked to explain, they might be at a loss for words or try to talk like economists. How, for example, can someone explain the ultimate reasons why he or she hesitated to spend during a recession? Hesitation is *not* taking action, and might be caused just by absence of any identifiable thought to take action, amidst a large number of other thoughts.

Contagious stories are largely creative and innovative, not simply a logical reaction to economic events. For example, major stock market corrections take place over many days, during which the public has plenty of time to read the sometimes creative and sensationalistic writing of the various news media, whose job is to attract attention. Over that time period, stock market participants take part in countless conversations that reinterpret the news in efforts not only to inform but also to amuse.

The process is in many ways a random event, like the mutation in a microbe such as a bacterium or virus. A celebrity, for example, may offhandedly voice a colorful phrase. That is what happened on October 15, 1929, two weeks before the 1929 crash, when the famous Professor Irving Fisher of Yale, in a speech before the Purchasing Agents Association of New York, said that the US stock market had reached a "permanently high plateau." The newspapers picked up that new, colorful phrase over the next couple of days.[6] That spectacularly ill-timed and ironic phrase became an epidemic, probably affecting the duration of the market debacle, and it is still widely remembered today. In fact, those three words are more famous today than the title of any of the books that Fisher spent years writing. They are in the same league with other colorful phrases

such as *irrational exuberance* and *Laffer curve*. These words and their effects came from outside the economy, and they are therefore exogenous.

Also, anniversaries of past events can resurrect economic narratives. Even though a narrative of years past—such as the 1987 stock market crash—has lost its contagion, it may still exist in the dim recesses of memory, for older people at least. But it has the potential to become contagious again, if it is tweaked (and probably renamed) and reattached to a human-interest story. For example, the news media tend to remind the public about the 1987 crash on major anniversaries, and they will predictably continue to do so until there is a bigger one-day crash. At that point, 1987 will no longer be the record-holder, at which time it won't be of any interest at all.

By 2013, the Bitcoin narrative was beginning to fade. It was an old story, and the price of a Bitcoin dropped from over US $1000 at its 2013 peak to just over $200. But a proliferation of new inventions—or mutations—kept the idea alive. Notable among these inventions was the initial coin offering (ICO), which allowed new cryptocurrencies to be developed with distinctively different stories. These currencies were backed, in effect, as shares of corporations. The ICO brought a flood of new narratives, each tied to a particular coin identified with some line of business. It brought back into public esteem the old sport of picking stocks, which had become somewhat tarnished as a fool's errand. There was something new to talk about. In 2017 alone, there were over nine hundred initial coin offerings for crowdfunded business startups that wanted to raise money for some new venture. Almost half of them failed within a year, but new ICOs kept coming.[7]

Of course, economists are aware of the narratives associated with events, but mostly they work on the assumption that the narratives are nothing more than a bit of silliness that follows the discovery of changing real news about deep economic forces. The presumption is often that these deep economic forces are caused exclusively by scientific advances in production, discovery or unexpected exhaustion of natural resources, demographic changes, or economic research that provides new information on how government policymakers can adopt better rules of action.

But this mode of thinking misses what may be the essential elements that cause change in the economy. As we saw in part I, the economic narratives surrounding these events work in predictable ways: they are contagious, they suggest scripts for people to follow, they repeat their messages, and they thrive on human interest. In doing so, they affect society and the course of economic activity in highly consequential ways.

Controlled Experiments from Outside Economics Show Direction of Causality

While we may sometimes be able to infer direction of causality by studying economic history, we need also to recognize that controlled experiments outside of economics have shown narratives' effects on human behavior.

In the field of marketing, Jennifer Edson Escalas notes, *self-referencing* occurs when the viewer of an advertisement relates a product to his or her personal experiences. But not all self-referencing is equally effective in changing buyer behavior. Using controlled experiments, Escalas has compared analytical self-referencing (an explanation of why *you* need the product) to narrative self-referencing and narrative transportation (which presents a story that causes an individual to imagine himself or herself to be another person, using the word *I* rather than *you*). Escalas found that the narrative transportation is more effective, especially when the analytical case for the product is weak.[8]

In journalism, Marcel Machill and his coauthors, noting evidence that viewers of television news retain little of the news they hear, presented an actual TV news report on the dangers of air pollution to a control group. They also presented a variation of the report to the experimental group in the form of a story with a protagonist, a baker with health problems caused by air pollution, in an unfair struggle against antagonists who benefited from the polluting activities. The experimental presentation of the news was retained better.[9]

In education, Scott W. McQuiggan and his coauthors have found motivational benefits of narrative-centered learning. Each eighth-grade

student in the experimental group played a virtual-reality computer game in the role of a young Alyx, whose father, in the fictitious story, is the head of a team of research scientists on Crystal Island. A mysterious grave disease has afflicted some of the scientists, including Alyx's father. Alyx is determined to find out why. Playing involves interacting in dialogues with other simulated people. In the process, the student learns about microbiology, about bacteria, viruses, fungi, and parasites. The study documents an advantage in learning relative to the control group with regard to "self-efficacy, presence, interest, and perception of control."[10]

In health interventions, Michael D. Slater and his coauthors studied how to persuade people to eat more fruits and vegetables. They concluded from experiments that didactic presentations of evidence on nutrition were not effective. Audience response was stronger to narrative messages when the audience identified with persons portrayed in the message. In health interventions, these results underscore the need for carefully pretesting the story and choosing the right persons to convey the message.[11]

In philanthropy, Keith Weber and his coauthors (2006) asked subjects to read a message involving organ donation before asking them to sign an organ donor card. The content of the message (narrative versus statistics) was manipulated. Results indicated that narrative messages were more effective than statistical messages.

In law, Brad E. Bell and Elizabeth F. Loftus (1985) conducted a controlled experiment in which subjects took on the role of jury members. The goal was to determine the jury members' response to vivid prosecutions and nonvivid prosecutions. For example, the vivid prosecution included the irrelevant line that the accused, at the time of the crime, accidentally "knocked over a bowl of guacamole dip onto the white shag carpet." That irrelevant but vivid mental image helped obtain a conviction from the experimental jury.

In sum: economics can learn from other social sciences, including psychology (especially social psychology), sociology, anthropology (especially cultural or historical anthropology), and history (especially cultural and intellectual history or *histoire des mentalités*). Because controlled experiments about whole economies are not readily available to

economists, it is all the more important that we specify and understand the building blocks of economic narratives. Stories are one key building block.

The Importance of Stories in Driving Human Activity

Emotion matters in the structure of narratives, economic and otherwise, and it reveals itself in *stories*. The historical novel and historical movie stand outside of mainstream history, but they excel in helping us understand feelings in history and appreciate some of the narratives that drive history. The historical novelist or filmmaker, who constructs dialogue based on imagination and the intuition that research has afforded, looks more like an inventor than a scholar.

In his 2013 presidential address before the American Historical Association, historian William Cronon compared scholarly research in history with the historical novel:

> Historians choose not to represent aspects of the past about which our documents are silent, but some of these—stream-of-consciousness and informal conversation most obviously—are so fundamental to so much of life that it is a little hard to say which depiction of the past is more distorting: a history that says nothing about them, or a fiction that in the absence of authoritative evidence tries to represent them as responsibly as possible.[12]

There is thus a basic question about the primary *metaphor* that we use to understand an economic crisis. Dominating the discussion in popular media is the "economy-as-sick-or-healthy-person" metaphor. The economy is described as healthy at some times, as sick at others, as if it needs a doctor who will administer the right kind of medicine (fiscal or monetary policy). In keeping with the sickness/health metaphor, the popular media often report on a thermometer called "confidence," measured by confidence indexes or the stock market.

The significance of human-interest stories brings to mind the work of psychologist Robert Sternberg. In his book *Love Is a Story* (1998), he

describes healthy, loving relationships between two individuals as made possible by a narrative of their relationship. As in loving relationships, the progress of an economy is not one-dimensional. Rather, the story of the economy has dimensions beyond the public's perception of its health. The story has moral dimensions as well, involving attitudes of loyalty versus opportunism, of trust versus distrust, of cutting to the head of the line versus waiting politely. In addition, the story has dimensions of affect, of security versus insecurity, of inner direction versus public direction. The array of stories circulating at any point of time conveys all of these dimensions.

Flashbulb Memory

In addition to having a story-like structure, our memories tend to focus on a few salient, random images. Certain poignant narratives produce such strong emotional reactions that people remember them years later. The narrative may have been transmitted to them only briefly and succinctly, among many other communications that are quickly forgotten. Why can such brief exposures to a narrative cause changes in economic behavior long afterward?

When asked to describe their confidence or current motivations, people can sometimes remember and talk about a sudden change in their mental stance, suggesting a discrete and identifiable causal stimulus. In the extreme form, the establishment of a long-term memory may be so sudden as to be considered a *flashbulb memory*.[13] The experience of a flashbulb memory is similar to the effect of an underexposed movie, filmed in darkness, illuminated for only an instant when a camera flashbulb went off. That flashbulb image may tell quite a story, suggesting an event with a reason, with surroundings and ambience. With many of our memories, we remember points in time, and we have some idea of context, but we cannot move away from the focused, flashbulb memory.

Psychologists have studied how the brain chooses which memories to give flashbulb status, analogous to choosing which photos to put in a family album. It turns out that flashbulb memories are connected not

only to the emotions attached to the remembered event but also to social psychological factors. Memories that involve a shared identity with others, or that are rehearsed with others, are more likely to achieve flashbulb status.[14] Thus flashbulb memories are selected in a way that gives them a better chance to be involved in the formation of contagious narratives.

For example, the narrative describing the first shots of the US Civil War near Fort Sumter in 1861 was vividly remembered decades later. Thirty-five years after the event, a former US first sergeant described in great detail just what he was doing when, for the first time in his life, he was told he must lead his men on a mission that might get them killed:

> I was on duty as first sergeant of a company of 100 recruits, well instructed as infantry, on Governor's Island in the New York harbor. We had just about got through with our holiday celebrations, which in antebellum days, were made to last about ten days in the army: and hearty celebrations they used to be. On Saturday, the 5th of January, I was engaged in having the quarters cleaned for the orthodox Sunday-morning inspection, and contemplated having a quiet day, and winding it up with a little more holiday celebration in the evening, when I was summoned to the adjutant's office, where the sergeant-major told me to have my company paraded at 2 p.m. in marching order, for inspection. No use asking questions.[15]

The Japanese attack on the US base in Pearl Harbor in December 1941, which marked the beginning of US involvement in World War II, is similarly described by powerful narratives that explain the commitment to fight the war. Forty years later, people still remembered when they first heard the Pearl Harbor news:

> UniHi classmate John Holmes still remembers precisely where he was and what he was doing:
>
> "In those days they sold newspapers on street corners. I was a paperboy selling the *Examiner* at the corner of Pico and Prosser. I sold the paper that reported Pearl Harbor had been bombed.

"But I didn't realize what it meant, that it would change my life. I was too immature."

Joe Arnold was working, too, at a gas station at Glendon and Londbrook in Westwood. "It had a big tower. It was foggy that day, and I climbed up to the top of that tower to see if I could see anything. I don't know what I expected to see. . . ."

Barbara Ryan Dunham's memory is typical of that of many Americans.

"We were at the breakfast table," she said. "We had come home from church, and we had the radio on. . . . Nobody could believe it at first."[16]

Flashbulb memory is one aspect of the human tendency to become motivated by seemingly random details of stories, even brief stories that are little more than anecdotes. In the above examples, the stories involved what happened just before or just after the shocking news, in the form of a sequence of mostly meaningless events. In comparison, if we were to ask people to recount such trivial details about another random day decades ago, they would have no memory at all, precisely because the day was not connected with a famous or infamous event.

A famous flashbulb memory event in recent US history is the September 11, 2001, terrorist attack that resulted in the destruction of the World Trade Center in New York City and severe damage to the Pentagon in Washington, DC. Many people in the United States today can remember a story about what they were doing when they heard about the attack. The vividness of these memories is testimony to the attack's causal impact on their economic actions.

At that time, according to the National Bureau of Economic Research (NBER), the US economy had been in a recession since March 2001, following the 2000 peak in the world's stock markets and the subsequent financial crisis and major decline. Right after the September 11, 2001, attacks, in which terrorists crashed commandeered airplanes into symbolically important national targets, there were widespread fears that the recession in the US economy would be prolonged because people would choose to stay at home owing to their fear of another such attack.[17]

Coming a year after the popping of the 2000 stock market bubble, amidst numerous signs of recession, the terrorist attacks were the "perfect storm" for the "economy to hit the wall."[18]

But the attacks appear to have had just the opposite effect. In November 2001, the recession ended and the US economy almost immediately recovered, making that recession one of the shortest in US history. How might we explain the nation's quick recovery? After the attacks, a narrative took hold that involved a plea from national leaders asking the nation's people to do symbolic things to uphold national confidence. Two weeks after the attack, US president George W. Bush gave a talk to airline workers and to the nation as a whole:

> And we must stand against terror by going back to work. Everybody here who showed up for work, at this important industry, is making a clear statement that terrorism will not stand, that the evildoers will not be able to terrorize America and our work force and our people. (Applause.) . . . When they struck, they wanted to create an atmosphere of fear. And one of the great goals of this nation's war is to restore public confidence in the airline industry. It's to tell the traveling public: Get on board. Do your business around the country. Fly and enjoy America's great destination spots. Get down to Disney World in Florida. Take your families and enjoy life, the way we want it to be enjoyed.[19]

President Bush also lavished praise on Americans: "This is a determined nation, and we're a strong nation. We're a nation based upon fabulous values." Like a good sports coach, he was encouraging team spirit, both among the airline workers and among the citizenry as a whole. His narrative suggested a script for strong, courageous, inspired behavior. That narrative was expressly designed to encourage the ideas that we all are watched by others and that we all must set an example of courage. During the economic recovery, however, most economists did not recognize the flashbulb quality of the September 2001 attacks, which encouraged a contagious constellation of narratives and may have profoundly affected US businesses and the US economy.[20]

The Ubiquity of Fake News

In attempting to be vivid, storytellers often resort to fiction or fake news, thereby providing amplified tales. The history of narratives shows that "fake news" is not new. In fact, people have always liked amusing stories, and they spread stories that they suspect are not true, as for example in urban legends. In fact, people often spread titillating stories without making any clear moral decision whether they are spreading falsehoods or not.

Fake news often makes an impression on people because the brain processes that implement reality monitoring are imperfect. According to psychologists and neuroscientists, source monitoring is a difficult process for the brain, which judges sources by their linkages to other memories.[21] Thus, over time, the brain may forget that it once deemed stories unreliable. Also, adeptness in source monitoring differs across individuals, and temporal diencephalic and frontal lobe damage in the brain may contribute to extreme defects in source monitoring.[22]

As an example, let's look at fake wrestling matches, where wrestlers appear to break the rules and almost kill each other. People seem to derive pleasure from watching a match that others would say is obviously fake and trying to pretend that it is real. A word for this strange phenomenon, *kayfabe*, appeared in print starting in the 1970s.

The fake wrestling match does not proceed as a by-the-rules high school or college wrestling match would. Instead, it includes a number of outrageous story elements. One of the combatants may be flamboyantly evil and/or ugly in his near nakedness, while the other is clean-cut, handsome, and honorable. The bad guy acts cowardly, hides behind the ropes, and slips in an illegal strike in plain view of the audience when the referee briefly looks away. He tortures the opponent when he is down, and he climbs up high on the ropes and pretends to jump onto his opponent's abdomen.

The fakery is often so obvious that any observer would see through at least some of it. Spectators sometimes even shout, "Fake!" during a match when the acting is not up to their standards. And yet the match is presented and largely accepted as if it were true. Spectators seem to

want it to be possibly true, at least some of the time, and they may pretend it *is* true to stimulate their imaginations. However, as literary theorist Roland Barthes notes, spectators at these matches rarely bet on the outcome as they do in other sports: "That would make no sense . . . wrestling sustains its originality by all the excesses which make it a spectacle and not a sport."[23] In other words, at some level, many people enjoy believing the story and do not care about its factuality.

Fake fighting matches have a long history in many countries, indicating an enduring story. A ProQuest News & Newspapers search for *fake wrestling* shows the phrase dating back to 1890, with a reporter noting that "there have been a lot of fake wrestling matches lately."[24] Even in ancient Rome, in the minutes preceding the real gladiatorial combats that sometimes resulted in death, there was fake combat, *prolusio*, that whetted the audience's appetite for the real thing to follow.[25] *Prolusio* probably resembled modern fake wrestling matches, and in some ways it may even have been more interesting to watch, in that the actors were experienced and skilled in manipulating audiences, and some were celebrities.

Much has improved since ancient Romans released lions to maul and kill criminals, runaway slaves, and Christians in the Colosseum. We have established news media with reputations for honesty. The twenty-first century has seen the birth of fact-checking websites, including AP Fact Check, factcheck.org, politifact.com, snopes.com, USAfacts.org, and wikitribune.com. All of these sites have built their reputation by debunking fake news rather than by reporting all sides of a controversy without taking sides, which was once common in the mainstream news media. Unfortunately, most people do not read these fact-checking websites. In addition, their credibility has recently been compromised by fake news designed to harm their reputations, leading some members of the general public to give up the hope of ever finding the real truth.

What conclusions can we draw? Given its presence over the centuries and millennia, fake news seems to be part of the normal human condition. Fake performances, fake stories, and fake heroes are ubiquitous. The fakery is so creative that we cannot view the performances as caused by fundamental economic forces. Instead, the opposite is true: the fakery, in the form of fake narratives, affects economic outcomes.

Evidence on Causation from Constellations of Narratives

In studying narratives from archival data, we may miss the constellation of narratives behind any single aspect of cultural change because we may be able to view only some of the superficial narratives. From our vantage point many decades later, it is like standing on the earth on a partly cloudy night and trying to discern the constellations in the sky above. We certainly will not see some of the stars. In addition, narratives typically come and go over a period of years, but economic fluctuations are often sudden, as in a financial panic that unfolds over a matter of days. But the seeds of that panic may well have been planted over months or years.

Ultimately, the mass of people whose consumption and investment decisions cause economic fluctuations are not very well informed. Most of them do not view or read the news carefully, and they rarely get the facts in any discernible order. And yet their decisions drive aggregate economic activity. It must be the case, then, that attention-getting narratives drive those decisions, often with an assist from celebrities or trusted figures.

Once we recognize that newly mutated stories within narrative constellations can cause current economic events, we have made substantial progress. But it is not easy to achieve a secure understanding of how narratives affect the economy. We need to step back first and consider some basic principles, some alluded to in previous chapters, to guide our thinking, which brings us to the next chapter.

Chapter 8

Seven Propositions of Narrative Economics

So far, we've seen that popular narratives gone viral have economic consequences. Ultimately, we want economists to model this relationship to help anticipate economic events. First, though, we want to offer some basic propositions about economic narratives that we can use to understand historically important narratives and to identify new narratives as they develop.

Before we begin, let's review a few key features of economic narratives. As the Bitcoin narrative illustrates, an economic narrative reminds people of facts they might have forgotten, offers an explanation about how things work in the economy, and affects how people think about the justification or purpose of economic actions. The narrative may imply something about the way the world works—in the Bitcoin narrative, the notion that computers are taking over, that we are entering a new cosmopolitan era freed from the perennial problems of local government incompetence and corruption—and how we can use that information to our advantage. Or the narrative may suggest that performing a specific economic action is a useful learning experience that will yield possible benefits in the future. Sometimes, performing the economic action is a way of involving ourselves in the narrative itself. By taking part in the narrative, we can say that we are a part of history. For example, by purchasing Bitcoin, we joined the international capitalist elite.

Proposition 1: Epidemics Can Be Fast or Slow, Big or Small

Economic narrative epidemics come in many different sizes and time frames. There is no standard course for a narrative epidemic, and rapid growth of a fast epidemic does not mean it will have long-run significance. In the appendix to this book we review models from medical epidemiology that show that contagion and recovery parameters can be chosen for the models that imply fast big epidemics, fast small epidemics, slow big epidemics, and slow small epidemics.

Because a narrative can come and go over many decades, it may last longer than any data series on which economists rely to measure the narrative's impact. We must therefore not rush to judgment on the impact of a narrative. For example, if we assume that a viral economic narrative is exactly like a meme that goes viral on Facebook or Twitter over a period of days, then we will miss the possibility that a historic long boom is the result of an epidemic that has occurred over a much longer time frame.

Another example: if we do not appreciate that some epidemics are fast and some are slow, we are likely to overrely on best seller status to judge a work's importance. Best seller lists tend to reflect sales over short intervals of time. The *New York Times* list of best-selling books, for example, reports on the books that sold the most copies in just the current week. (From earlier chapters, we understand why the news media emphasize a short time interval: they have to keep coming up with news stories.) The short time frame explains why the Bible and the Koran are never on the best seller lists. If we look at the *New York Times* best seller lists from decades past, hardly any of the books will be familiar. Most were flash-in-the-pan short-term epidemics.

The contagion rate also varies greatly from one narrative epidemic to another. One example of a narrative epidemic with very high contagion might be that of a national emergency, like the start of a war. With such narratives, people feel that the story is so important that they have license to interrupt any other conversation with the news, or to speak with people with whom they do not normally communicate. An example of a successful narrative with a very low contagion rate might be a patriotic

story illustrating a country's national greatness, a story that is brought up only at appropriate times at home, in the classroom, or at events sponsored by civic organizations. Such a narrative can develop (slowly) into a huge epidemic if the forgetting rate is low enough.

Narratives also differ in their recovery rate or forgetting rate. Narratives with high recovery rates often are isolated, not part of a constellation. Narratives with low recovery rates include those with constant reminders. For example, when we see homeless people and beggars on the streets, we remember narratives about massive unemployment during a depression. Longer-term narratives are more likely to have an impact on one's view of the world or one's sense of the meaning of life.

As the mathematical model in the appendix shows, a high contagion parameter and a low recovery rate mean that almost the whole population eventually hears the narrative, sometimes very quickly. But the same narrative can reach most of the population rather slowly if the contagion parameter is low but the recovery rate is even lower. The following example is illustrative.

I conducted a questionnaire survey in the United States right after the October 19, 1987, stock market crash, which was the biggest one-day drop in US history. I asked a random sample of US high-income individuals exactly when they first heard about the crash. Of the respondents, 97% said they heard of it on the day of the drop. The average answer was 1:56 p.m. Eastern Time / 10:56 a.m. Pacific Time.[1] Most of the respondents did not hear about this drop via the morning newspapers or the evening television news. They heard it by direct word of mouth as the event was happening.

Proposition 2: Important Economic Narratives May Comprise a Very Small Percentage of Popular Talk

In trying to judge the importance of economic narrative epidemics, we should not base our conclusions on the assumption that the most economically important narratives are those that are constantly talked about.

Very significant epidemics may generate very little talk. In addition, because people are always talking, some kind of narrative is always spreading. In studying economic narratives, we must not be distracted by the small talk that is not useful in explaining economic changes.

In 1932, near the height of the Great Depression, Franklin Roosevelt challenged incumbent Herbert Hoover in the US presidential election. Writing for the *New York Times*, Pulitzer Prize–winning journalist Arthur Krock tried to summarize what ordinary people were saying about the economic situation. He listened to people talking, "avoiding prompting as much as possible":[2]

> By train, motor car, airplane and on foot I have wandered 10,000 miles. I have talked with, observed and listened to many hundreds of people on trains, in restaurants, on the streets, in speakeasies, in hotel lobbies, in clubs and in their own houses.

He visited twenty US cities over the course of a month and wrote down casual conversations he'd had, or overheard, word for word, that seemed to exemplify what people were saying. He was a little surprised that almost all of the talk was banal:

> Little did I hear of books or plays. Not one new joke was told by a drummer in my hearing. Not a word of personal enthusiasm for any candidate for office did I hear.

Krock's article stands as a warning not to be complacent about narratives that are contagious only in certain venues, and that are not talked about except at certain times. Economic theories are not the topic of casual conversations, even though the news media discuss economic ideas frequently, and people must be thinking about them.

Krock found that people wanted to talk incessantly about the effects and terrors of the Great Depression. For example, he records the words he heard in 1932 from a taxi driver:

> A Taxi Driver in Cleveland—Did you come in from the East? How are things there? If you want to know how they are here, watch the garbage cans behind the all-night restaurants about 3 o'clock mornings.

> See the guys who are getting their meals that way. They aren't all bums by a long shot. . . . Do they think East that Roosevelt can make things better? Anyhow they can't be worse. I used to make a good living before Hoover came in. Not on this taxi. I was firing on the Central but they took my job away; no business. This is a good burg, but it is flat now. When do you suppose it will come back?

This quote suggests a contagious narrative about good people made so desperate by the Great Depression that they are reduced to eating garbage. The idea conjures a mental image and an emotion of disgust. The taxi driver also asks a question for which there was no clear answer: When will prosperity return? He wants to know whether the country is stuck in a long-term depression because his economic decisions (for example, how much to spend) depend on the answer. The desperation narrative of people eating garbage may suggest a long haul, which leads the taxi driver to ask the urgent question "When do you suppose it will come back?" The driver wanted some enlightenment about the future from the apparently knowledgeable Krock, but he probably did not expect a quantitative answer. Rather, he probably hoped Krock would provide some kind of narrative offering clues as to the future.[3]

In judging the impact of economic narratives on human economic behavior, we will find it helpful to recall that conversations rarely touch on important economic decisions, such as how much to save for retirement. Should you save 5% of your income? 10%? more? Try to remember any conversation on this topic, and likely you won't dredge up a single one. And yet people have to make decisions about how much to save, and they must base this decision on *something*. Maybe that decision during the Great Depression was influenced by the narratives of depression hardship, like those men eating from garbage cans at 3 a.m. Maybe, too, the decision was based on the impressions of worried experts, whom nobody really knew, suggesting that there might be a reason to fear a long-lived economic downturn with serious human consequences. On their own, any individual, vague narratives might not have determined behavior, but a constellation of such narratives may have.

Proposition 3: Narrative Constellations Have More Impact Than Any One Narrative

Narratives that occur together in a constellation may have different origins, but in our imaginations they seem grouped together in terms of some basic idea, and they reinforce one another's contagion. Alternative terms for *narrative constellations* include *grand narrative*, *master narrative*, and *metanarrative*, but I prefer not to use them because they suggest more organization or intellectual quality than is warranted when simple story contagion spreads narratives across a broad public.

Sometimes narratives within a constellation are stripped of identifying names or places, and the narrative takes the form of "They say that . . ." without stating who "they" are. In using the pronoun *they*, the teller of the "They say that" narrative conveys that there is a constellation of narratives featuring or told by seemingly authoritative persons. The borders of such narrative constellations may be redrawn from time to time, with a particular narrative borrowing contagion from other currently contagious narratives.

As we've seen, cryptocurrencies are backed by a constellation of related narratives, with a few main stars and thousands or millions of smaller stars. As of 2018, nearly two thousand cryptocurrencies competed with the original Bitcoin. Each of these cryptocurrencies is a story of entrepreneurship, of eager developers with an idea. But the largest constellation of cryptocurrency stories focuses on Bitcoin-related stories. In one narrative, the popular singer Lily Allen turned down an offer in 2009 to do one performance and be paid in Bitcoin. This narrative has a memorable punch line: Allen is kicking herself in regret today, for if she'd accepted the offer and held on to her Bitcoin, she would have been a billionaire by 2017.[4] Stories like this one help sustain the growth of the Bitcoin narrative and Bitcoin prices by invoking people's feelings of regret for not discovering the investment themselves. Like so many other narratives, this story focuses on a celebrity who starts a narrative or keeps it going.

It is difficult to define the exact parameters of narrative constellations. Often we can find only superficial examples of some of their stories.

Most narratives are never written down and are lost forever. Moreover, the narratives sit in the background and are rarely expressed when decisions are made. For example, if you are discussing with your spouse whether to buy a new car this year or wait until times look more secure, you may be unlikely to tell to your spouse one of the stories that makes you feel secure or insecure. Thus it becomes difficult to establish a connection between the narratives and the action. The final link between a verbal narrative and economic action may ultimately be nonverbal.

Proposition 4: The Economic Impact of Narratives May Change Through Time

An economic narrative's impact on behavior depends on details of the narrative's current mutation and other related narratives. When we rely on digitized data on words or phrases that are flags for narratives, we must resist the temptation to assume that all the narratives with these flags have the same meaning through time. We have to read the narratives in terms of their implication for action, in the context in which they were spoken, at least. In the future, some information-processing innovation might make this undertaking less dependent on human judgment.

Let's look again at the October 19, 1987, stock market crash, the biggest one-day crash in percentage terms in history. The topic still comes up regularly, often on major anniversaries of that event. We might believe that memories of that crash make stock markets vulnerable to another crash, because fear of a crash may cause people to react to the apparent beginnings of a drop in stock prices. But the narrative of the 1987 crash need not have any such effect if people do not think current circumstances are similar. In 1987, there was much discussion of a new computerized trading program called *portfolio insurance*. Along with other factors, narratives about portfolio insurance led to a predisposition to consider selling that was peculiar to that time.[5]

Other disturbing stock market events were surrounded by narratives that had nothing to do with portfolio insurance. After Austria-Hungary declared war on Serbia on July 28, 1914, touching off World War I, stock prices began to fall precipitously. Reacting to the panic, the New York

Stock Exchange and all the major European stock exchanges closed their doors. Even though the United States was not involved in the war, the New York Stock Exchange did not reopen until December 12. In his 2014 book about this closing, *When Washington Shut Down Wall Street,* William Silber details a number of stories and rumors that contributed to the market's severe reaction. Notably, panicky European investors scrambled to get their investments out of the United States while they could. During this "European gold rush," massive amounts of gold were shipped from the United States to Europe despite increasing danger to transatlantic shipping. There was much talk about the Panic of 1907 as proof that US markets were unstable, along with fears that another panic might occur. In addition, there was a baseless rumor that the assassination of Archduke Franz Ferdinand, which triggered World War I, was part of a conspiracy involving the Russians, who were hoarding gold in preparation for a great war.

In contrast, the beginning of World War II in 1939 did not close the US stock market. After the United Kingdom declared war on Germany on September 3, 1939, marking the beginning of World War II, the Standard & Poor's Composite Index gained 9.6% in one trading day. Newspapers expressed general surprise at such a positive market reaction and were mostly at a loss to explain why the market did not repeat its 1914 experience. Apparently the very different response had something to do with a narrative that World War I had, ultimately, proven very profitable for some investors who'd held on to their stock market investments and profited from selling armaments or supplies to Europe.[6] The human stories of World War I and World War II might be very similar, but there was a huge difference in the narratives describing successful investors around the start of each war.

We must pay attention to the names that people attach to their narratives. Seemingly minor changes in the name of a narrative can matter a lot, especially if the new name attaches to a different constellation of narratives. In linguistics, synonyms never have exactly the same meaning. If pressed, people can state complex thoughts about the slightly different connotations of synonyms. In neurolinguistics, synonyms have different connections in the neural network. Some of

those connections can matter a lot in terms of the economic ideas they support.

Proposition 5: Truth Is Not Enough to Stop False Narratives

Suddenly prominent economic narratives sometimes appear mysteriously and for no apparent reason. One such narrative occurred after the 2007–9 world financial crisis, when near-zero interest rates were interpreted as a harbinger of a "lost decade," as they had been for Japan in the 1990s. The Japanese "lost decades" story is just one example, just one observation and hence of no statistical significance, but it was contagious enough around the world to rekindle Great Depression narratives, and it launched serious fears about "secular stagnation."

Indeed, such narratives and fears can have serious effects on the economy and our lives. For example, according to political scientist Stephen Van Evera (1984), World War I started at least partly because a false narrative, which he calls "the Cult of the Offensive," went viral. This narrative was a theory that the country that moves first to attack another country will generally have the advantage. The idea was supported by some historical narratives and illustrated by simplistic psychological, mathematical, and bandwagon arguments. Ultimately, Van Evera argues, this theory led to instability: everyone wanted to attack first. Germany thought it had a "window of opportunity" to successfully pursue a "preventive war" against Russia. But the narrative was wrong. It had economic consequences—a huge arms race—and resulted in a war that was disastrous for both the offense and the defense. Norman Angell called the narrative "The Great Illusion" in a 1911 book with that title. Angell's ideas were convincing to many (and he later won the Nobel Peace Prize for his work), but they did not go viral fast enough to prevent the war. The illusion won out even after it had been decisively disproven, because the proof did not spread as fast as the illusion did.

By analogy, we see that economic activities are not always based on up-to-date information. Sometimes they are based on whatever narratives are going viral at a particular time. While general knowledge steadily

advances in many respects, we do not necessarily see a steady progression in the knowledge that often importantly affects economic behavior. The narratives that surround and define Bitcoin provide an example. There are brilliant computer scientists who are fascinated by cryptocurrencies but who won't say whether the captivating ideas that generate public excitement are ultimately right or wrong.

Fortunately, in matters of simple fact, unencumbered by any human interest or story quality, modern society stays generally on target, or at least willing to stand corrected if in error. For example, most people can name the various highways around their home correctly and will accept correction if an error is pointed out to them. They also routinely trust medical doctors to tell them the truth about things they know nothing about. Well, sort of, anyway. In a 2003 study, the World Health Organization concluded, "Poor adherence to treatment of chronic diseases is a worldwide problem of striking magnitude."[7] The WHO went on to report that only about 50% of patients in developed countries consistently follow doctor's orders for chronic illnesses, and even fewer do so in emerging countries. Adherence is probably even worse when it comes to following advice from more controversial economic pundits or financial planners. But where does advice end and speculation begin? And how do we distinguish informed speculation from confabulation or fiction? The slope is slippery. Ultimately, a story's contagion rate is unaffected by its underlying truth. A contagious story is one that quickly grabs the attention of and makes an impression on another person, whether that story is true or not.

A study by Soroush Vosoughi and his coauthors published in *Science* in 2018 used social media data to compare the contagion rates of true stories with the contagion rates of false stories.[8] The researchers chose the stories from among those that had been vetted by six fact-checking websites: snopes.com, politifact.com, factcheck.org, truthorfiction.com, hoax-slayer.com, and urbanlegends.about.com. They found 95–98% agreement across these sites as to a story's truth or falsity. They also looked at 126,000 rumors spread by three million people, and they found that false stories had six times the retweeting rate on Twitter as true stories. The researchers did not interpret that finding as specific to

Twitter, and the result may be specific to the time of the study, a time when mistrust of conventional media sources was higher than usual. Rather, these authors interpreted their results as confirming that people are "more likely to share novel information." In other words, contagion reflects the urge to titillate and surprise others. We can add another twist to that conclusion: a new story correcting a false story may not be as contagious as the false story, which means that the false narrative may have a major impact on economic activity long after it is corrected.

Proposition 6: Contagion of Economic Narratives Builds on Opportunities for Repetition

Contagion depends on the frequency of opportunities to slip a narrative into a conversation. It is usually impolite or rude to change the conversation subject, unless justified by some extraordinary circumstance. Novel ideas and concepts may increase opportunities for contagion. For example, the contagion rate of narratives about the stock market probably increased when, in the 1920s and 1930s, the public began paying attention to stock price indexes. The same thing happened with narrative epidemics about housing after the 1970s, when real estate agents and homebuyers began to recognize home price indexes. In both cases, news media writers, looking for new facts to justify writing an attention-grabbing story, found themselves revisiting these indexes frequently.

Consider another example, familiar to almost all of us: the song "Happy Birthday to You." It is probably not an important economic narrative. Some might say it is not even a real narrative because the words of the song do not tell a story. But there is a story attached to the song in practically everyone's consciousness. The story is a sequence of events, repeated with variations on birthdays. The story is this: Based on a long tradition that goes back generations, people have assembled to celebrate the birthday of a loved one. After someone announces that the ceremony is about to begin, a birthday cake is brought in with flaming little candles, one for each year of the person's life (unless he or she is too old, in

which case there will be commentary or jokes about the number of candles). The birthday person makes a wish and attempts to blow out all the candles with one breath in order to make the wish come true. Of course, almost no one believes that birthday wishes come true, but they repeat the ritual in deference to long tradition. Sometimes additional words are added to the song, such as "And many more to you," which may make for an awkward moment because the syllables do not match the melody. The ceremony ends with applause.

"Happy Birthday to You" is a good example of a contagious narrative because it has spread around the world in many translations, and it may be the best-known song of all time. It is contagious in part because of the constant reappearance of birthdays, not because it is anybody's favorite song. It is not particularly admired for its beauty or grace. It grew unplanned and uncontrolled. There is no history of a government edict requiring the song to be sung, or a marketing campaign promising lifelong popularity for those who sing it or have it sung to them. Digital counts show that the song grew in English like a disease epidemic in the 1920s and 1930s, faltered around World War II, when people had more important things on their minds, and then took off again.

Warner/Chappell Music had long claimed a 1935 copyright on the song, and it collected millions of dollars per year in royalties, but it lost the copyright in 2016 when it was shown that "Happy Birthday to You" had striking similarities to a published 1893 song, "Good Morning to All."[9] "Good Morning to All" was a virtual nonentity, even though it closely resembles "Happy Birthday to You," with the exact same melody and very similar words:

Good morning to you
Good morning to you
Good morning dear children
Good morning to all.

The happy birthday version is so similar that it might easily have come into being by accident in some kindergarten classroom when a teacher somewhere, somehow wanted to mark the occasion of a child's birthday. The mutation then went viral from that obscure beginning:

Happy birthday to you
Happy birthday to you
Happy birthday dear [name]
Happy birthday to you.

Let's consider why the seemingly minor mutation has done so much better than the original. The slight change in the lyrics served to make "Happy Birthday to You" part of a new and growing ritual and a symbol of caring, the birthday party, whose popularity began to grow around the 1890s. This association with other infectious narratives enhanced the song's contagion, and, because the ritual recurs from year to year, it reinforced memory and reduced the recovery rate that eventually extinguishes most epidemics. Also, the change in the words allows the singers to insert the birthday person's name, thus personalizing the song and adding more human interest.

Also consider why the authors of "Good Morning to All" did not realize that they could become millionaires if they just changed the song into "Happy Birthday to You" and copyrighted it. At some level, it may seem that they should have realized that the ritual of birthday parties was likely to persist and gain in popularity. They should have known that a song that ties into the birthday ritual—a song that is very short, easy to memorize, and sung frequently—should be a winner. And they should have realized that they could copyright the song and extract millions from commercial outlets.

Easier said than done, as what is obvious now was not so obvious then. There are so many other possible permutations of the song. There are sixteen words in "Good Morning to You." Suppose we decide to change half the words while keeping the total number constant. There are thus 16!/8! (= 518,918,400) ways to replace the words. Suppose there are one hundred words in the English language that are simple enough to replace eight of the sixteen words. That means there are 100^8 = ten quadrillion times 518,918,400 possible variants of the song. It would be impossible to think through all of these possibilities in advance and realize how to make a fortune by tweaking the song. So the invention of "Happy Birthday to You" out of "Good Morning to You" was likely just a random

event, unlikely ever to happen. But it did happen. It was unappreciated at first, but then a new contagion quietly started without mentioning the author of the change, who is hopelessly forgotten. It led then to a vast constellation of narratives involving the song infused into movies, TV shows, and social media, among other formats.

Proposition 7: Narratives Thrive on Attachment: Human Interest, Identity, and Patriotism

Usually economic narratives rely on human-interest stories for their contagion, because human beings are attracted to such stories. When an identified personality is associated with a narrative, a face we can picture in our minds, then our brains involve our models of people, voices, and faces with the story, lowering the likely rate of forgetting. But the human-interest stories themselves may not be enough to make a narrative contagious. A successful economic narrative is sometimes the invention of creative minds who sense what is contagious and what is not, and who put the elements together well enough to launch a contagious narrative. Those who aspire to create viral narratives must choose their celebrities carefully because the narratives work best when the intended audience personally recognizes and identifies with the celebrity.

For example, there is the George Washington and the cherry tree story, which has been popular for over two hundred years. It first appeared in print soon after Washington's death in 1799, in a new edition of a best-selling book, *The Life of George Washington with Curious Anecdotes, Equally Honourable to Himself and Exemplary to His Young Countrymen* by Mason Locke Weems. Based on the book's title, it is clear that Weems was interested in launching tellable narratives about Washington. Weems said he heard the cherry tree story from "an aged lady, who was a distant relative, and, when a girl spent much of her time in the family":[10]

> "When George," said she, "was about six years old, he was made the wealthy master of a *hatchet!* of which, like most little boys, he was immoderately fond; and was constantly going about chopping every thing that came in his way. One day, in the garden, where he often

> amused himself hacking his mother's pea-sticks, he unluckily tried the edge of his hatchet on the body of a beautiful young English cherry-tree, which he barked so terribly, that I don't believe the tree ever got the better of it . . . "George," said his father, "do you know who killed that beautiful little cherry tree yonder in the garden?" This was a *tough question*; and George staggered under it for a moment; but quickly recovered himself: and looking at his father, with the sweet face of youth brightened with the inexpressible charm of all-conquering truth, he bravely cried out, "I can't tell a lie, Pa; you know I can't tell a lie. I did cut it with my hatchet."[11]

This little story is widely remembered in the United States today as a moral lesson. A search on "I can't tell a lie" and "Washington" gets 188,000 Google hits, over a third as many as "I can't tell a lie" by itself. This Washington story is on its way to usurping a basic sentence. Why is it such a contagious story? It must be because it is about the first president of the United States, and it has patriotic appeal. In that context, it is a great narrative; about almost anyone else, it would be nothing. There isn't much to the story, just that as a child Washington didn't lie. "I can't tell a lie" and "Lincoln" gets 102,000 hits on Google, as the equally famous President Lincoln is introduced into the story and sometimes even substituted for Washington. The story, involving two legendary US figures, is part of a constellation of economic narratives about honesty. Those narratives seem to be part of a tradition of honesty, not unique to the United States but maybe stronger than in some other countries, that has likely helped propel the US economy by creating trust in business dealings and by limiting bribery and corruption.

Often, the basic human-interest element of an economic narrative is embodied in somewhat different stories going viral at about the same time. Different versions of the narrative substitute different celebrities who are appropriate for the target audience. For new narratives involving celebrities, there are already familiar narratives about the celebrities in memory, which can enhance contagion.[12] The constellation of narratives built around celebrities is self-reinforcing. In extreme cases, the celebrities attain superhuman status, and associated ideas begin to seem

natural and obvious. George Washington's picture is on every one-dollar bill and on every quarter-dollar coin in the United States.

Sometimes, everyday people coin apt or pithy quotes, but those quotes become contagious only after the story is altered to substitute the name of a famous person as the originator of the quote. For example, since the middle of the twentieth century the socialist slogan "From each according to his ability, to each according to his needs" has been attributed to Karl Marx. Actually, those words were emphasized by socialist philosopher Louis Blanc in 1851, when Marx was virtually unknown, and a variation of the phrase appears in the Bible.[13] Louis Blanc was more famous than Marx until after 1900, but today he is largely forgotten. Thus the quote became attributed to Marx in the mid-twentieth century, by unknown persons who started a mutated epidemic by attaching a new celebrity to it.

The website Wikiquotes tracks down the origins of famous quotes, and typically the famous person was quoting someone else, if he or she even said it at all. But, no matter: Wikiquotes notwithstanding, the story of the quote's true source will never go viral because it is not contagious. And contagion is the all-important element: if the narratives are not repeated in human communications, they will be gradually forgotten. Narratives involving celebrities can suddenly lose their contagion if some event discredits the celebrity, whether or not the ideas in the narrative are true or good.

As we've seen, the choice of celebrities has patriotic dimensions, as people have a preference for individuals in their own country or their own ethnic group. This preference helps to explain why the epidemic spread of narratives is often not seen or acknowledged. To acknowledge it typically requires admitting its foreign origin. Practically no one has an incentive to present an idea as coming from abroad, except in unusual circumstances. Thus we have the illusion that important ideas came spontaneously to a compatriot, and we see nothing of the idea's true world epidemic. Beyond celebrities, there are issues of party or regional or religious loyalty.

Patriotism does not mean just flag-waving assertions of loyalty. It is also the feeling that only in our own country does anything important,

good or bad, happen. For example, CBS News in the United States has a regular morning feature, "Your World in 90 Seconds," that purports to tell you very succinctly everything you need to know about today's news. But the name is inaccurate because the report doesn't cover the world. Virtually all of the news stories are from the United States (with the exception of tidbits about the British royal family and Vladimir Putin). Maybe the title *is* accurate for many of the Americans who think that the United States is the world, despite having only 5% of the world's population.

We have seen seven key propositions with respect to economic narratives:

1. *Epidemics can be fast or slow, big or small.* The timetable and magnitude of epidemics can vary widely.
2. *Important economic narratives may comprise a very small percentage of popular talk.* Narratives may be rarely heard and still economically important.
3. *Narrative constellations have more impact than any one narrative.* Constellations matter.
4. *The economic impact of narratives may change through time.* Changing details matter as narratives evolve over time.
5. *Truth is not enough to stop false narratives.* Truth matters, but only if it is in-your-face obvious.
6. *Contagion of economic narratives builds on opportunities for repetition.* Reinforcement matters.
7. *Economic narratives thrive on human interest, identity, and patriotism.* Human interest, identity, and patriotism matter.

In part III, we use these seven propositions as a framework to look at historically important economic narratives, to identify what we can learn from economic narratives and their consequences in the real world.