14 ⇸ Cascades

You have job interviews with two employers and are turned down in both of them. At the next one you are asked if you have had any prior interviews. You recount your unhappy recent history, and the employer concludes that the two prior rejections probably meant something. This helps him decide to pass on you. The process continues and accelerates from there; the next interviewer finds you have *three* rejections and has even more cause for concern than the previous one.[51] The process can work in reverse, too: a job candidate gets offers, and the offers create interest on the part of others. Or change the scene of the pattern: everyone wants to go to a particular university because it's hard to get in; from this they infer that it must be excellent—and the inference gets stronger the more times it is drawn, because now admission becomes more difficult still. Crowded restaurants may create the same pattern, and uncrowded restaurants the opposite one; likewise when people conclude that a movie probably is good because so many are going to see it—so they go see it themselves and strengthen the same perception by others. Or a street performer attracts a small gathering. The group gets larger as people with low curiosity thresholds come to see what's going on. Then the crowd really grows as people with normal thresholds see a mass of spectators converging on the sidewalk and can't resist investigating what the fuss is about. The same can happen with decisions about nearly anything. People are unsure whether a diet, a new medicine, a tonsillectomy, or a circumcision create enough health benefits to make them worthwhile; or they aren't sure how many children to have. They rely on what others seem to be thinking, and then others rely on what *they* seemed to think. And so on.

These all are possible examples of *information cascades*. Notice that all the parties to them may be rational. If you feel uncertain about something, it might make sense to defer to others who seem sure; maybe they know more than you do. And if the next player likewise has no firm basis for decision, it might be entirely reasonable for him to see the growing agreement, find it impressive, and go along. But whether reasonable or not, the result is that the belief gains empty momentum: there is growth in its

acceptance but not in its likelihood of being true, which hasn't changed and may be small. Since someone usually benefits from a cascade, naturally we find that entrepreneurs sometimes try to start them deliberately. Thus the authors of the business book who bought 50,000 copies in an attempt to get it onto the bestseller lists—where it then stayed.[52] Or the producers who hire audience members to applaud at a performance or go heckle its competitors.[53] And it has been suggested that this is why restaurants with long lines of customers don't deal with the problem by raising their prices a bit. The long lines create a cascade; everyone wants to eat there because everyone else wants to eat there. If the lines suddenly get shorter, that might start another cascade—in the wrong direction.[54]

Your vulnerability to a cascade depends on how much knowledge of your own you have and how ready you are to assume that if others think something is true, it probably is. People vary on these points; some are weak resisters and others are strong. But the point of a cascade—the feature that makes it insidious—is that it takes in the weaker and the stronger alike by enlisting them in order. A strong onlooker who isn't impressed by a consensus of two or three people comes back later to find a consensus of two or three hundred, and this time thinks there must be solid basis for it after all; he starts to doubt his own thinking. But the only development while he was gone was that others, more easily impressed than he was, signed on to the emerging opinion and so made it seem more dominant.

Cascades of this sort shed light on some legal problems. They may help explain bandwagons of illegality. When Napster and other computer programs became available for illegally downloading music, not everyone used them right away. Some were uncertain whether they would get in legal trouble for downloading and weren't sure whether it was ethical. But the greater the number of people who went ahead and did it, the more reassured the others were, until millions of people were emboldened to join by the sense of legal and moral security they drew from their numbers. Other possible examples include the problems of the 1980s with insider trading, the common practice of hiring household help without paying taxes on their wages, problems of looting when civil order breaks down after a natural disaster, and recreational drug use. People draw inferences from what they see others doing, and do the same; now even more people are doing it, and they create a still stronger impression on the rest.

Meanwhile the government and the victims of this sort of behavior have strategies of their own for countering cascades. Recall that ignorance and uncertainty are the best soil for a cascade; people rely on what

others think when they have no strong knowledge of their own, and the fragility of the consensus that results makes it easily disrupted by shocks. So the government put outs information about tobacco and other drug use that it hopes will cause people to resist what they hear others say and see them do, and perhaps start a cascade in the other direction. Companies that lose profits from music piracy try to disrupt the cascade by bringing highly visible lawsuits against selected downloaders. And then we have laws such as the Securities Acts of 1933 and 1934, which among other things require a company to disclose various sorts of information before offering stock to the public and to keep reporting periodically afterwards. The requirements help preempt the creation of the cascades known as stock market bubbles, where everyone rushes to buy a stock because everyone else seems so eager to have it. Those statutes were passed soon after the crash of 1929, which illustrated the fragility of a cascade and also its potential to reverse direction. The final point of all these efforts is the same: they are meant to send signals stronger than the ones people get by watching each other.

A different implication for law involves the hazards of sequential decision-making. When witnesses are asked what they saw, they say different things alone than if they first hear how others describe the events.[55] This is why the federal guidelines say that witnesses to crimes should be separated and shouldn't talk to each other.[56] We don't want their testimony to create a cascade. A similar problem arises when jurors vote on a case. Should they vote simultaneously or sequentially? A simultaneous vote has the advantage of avoiding cascades: we don't want the third juror swayed by what the first two did, then the fourth juror swayed by what the first three did, and so on. So the choice of procedure might matter; oddly, though, we leave it up to each jury to decide what to do. The same general question arises again when judges vote. In military courts-martial the officers deciding a case vote in reverse order of rank, so the officer with the highest rank goes last; it has been suggested that this reduces the risk that junior officers will defer to senior ones thought to have more experience or better judgment.[57] Alas, on the United States Supreme Court the Justices vote openly and one at a time, starting with the Chief Justice and then descending to the most junior member, who already knows how all the other Justices voted when his turn arrives.

The risk of cascades repeats on a larger scale in elections. Iowa votes first in presidential primaries; if it surprises everyone by picking John Kerry, onlookers in other states conclude that perhaps Kerry is better than they had thought. This helps him win in New Hampshire a week

later, and now even more people are convinced he is the right man. Then there are the public opinion polls that claim just to record public preferences but that are known to have effects on the preferences as well; they can contribute to cascades, as uncertain voters see that a candidate is doing well and conclude that maybe all those people supporting him are on to something.[58] His advantage in the polls increases, and the cycle is on its way. It is why partisan organizations sponsor polls, and why some countries, such as France, Italy, and Israel, ban them in the days or weeks before an election. They want independent judgments, not cascades.

Might a similar cascade arise when courts in different jurisdictions are presented with the same question? The first court to decide writes on a blank slate. The next finds the question difficult and gives a bit of weight to the precedent set by the first. The third court is reluctant to create a division of authority and goes along; the fourth court sees an increasingly monolithic body of case law and defers to it; etc. So the notion of cascades might be consistent with what courts do—but this doesn't necessarily mean a cascade is actually occurring. There is no way to prove that such agreement by courts reflects a cascade rather than independent agreement among them; courts say they value consistency with one another but say as well that they have a duty to render independent judgments. So whether "precedential" cascades occur is an interesting but unsettled question.[59] The same point holds for most of the examples we have considered. Cascades are a plausible and intriguing account of much human behavior, but their existence is hard to prove conclusively outside the laboratory.

There are other types of cascades besides the informational variety; let's consider two more briefly. An *availability cascade* is a variation on the theme just considered. It starts with the fact that when people try to decide how likely something is to be true, they often ask themselves how readily examples of it come to mind—how easily it is "available" in the mind's eye. (Psychologists call this the availability heuristic.) A problem with this way of assessing risks, apart from its inaccuracy, is that the sense of availability may cascade. The more that people talk about an example of some problem, the more everyone has it in mind and repeats it, and the more important the problem may come to seem, though its actual importance hasn't increased at all. It's another case of empty momentum. Political campaigns can be viewed as great contests by each side to

try to make its virtues, and the flaws of its rivals, as available as possible by putting them before voters in a form—television commercials—that is vivid and calculated to provoke impressions that will cascade.

A troubling result for law, it has been argued, is that availability cascades may cause people to clamor for regulation of hazards that they have heard a lot about and can imagine vividly, such as leaking toxic waste sites or Lyme Disease or plane crashes, but to be unmoved by other hazards that may be more serious but that don't come to mind as much—like cars running into moose.[60] The public sense of which risks are worth worrying about gets determined either arbitrarily or by entrepreneurs who make hazards "available" by marketing memorable examples of them. Those who want tort reform pick a case—the case where a woman won a huge judgment after spilling a cup of coffee on herself, perhaps—and talk about it all they can. Some of those within earshot bring it up at the office water cooler; eventually it ends up in the newspapers; and now the case comes to represent a problem that seems common and urgent. Again, the more people talk about it, the more people talk about it. Those who don't want tort reform counter with horrible cases of unredressed wrongdoing by doctors or corporations that they hope may likewise cascade in the public imagination.

The same account could be given of debates over abortion, affirmative action, economic analysis of law, the problem of "activist" judges, or any number of others. If one side succeeds in getting its favored vignette into circulation and causing its familiarity to cascade, it also will be more likely to persuade people of the importance of the problem or model the story represents. This also helps explain why it's politically so hard to take strong measures against disasters before they have happened at least once. Until they occur they aren't available enough to the public imagination to seem important; after they occur their availability cascades and there is an exaggerated rush to prevent the identical thing from happening again. Thus after the terrorist attacks on the World Trade Center, cutlery was banned from airplanes and invasive security measures were imposed at airports. There wasn't the political will to take drastic measures against the possibility of nuclear or other terrorist attacks of a type that hadn't yet happened and so weren't very available.[61]

In a *reputational cascade* the problem is different. It isn't that I'm trying to form an accurate belief and am tempted to rely on others; it's that I'm trying to get the others to like me. I do this by saying things I think they

will find agreeable. Then you arrive on the scene, and you, too, want to be liked. Now that I've joined the others you have even more reason than I did to conform; and once you join there will be still another person saying and not saying the same things, which raises the apparent cost to anyone who might be tempted to do otherwise. Soon it's remarkable how much general agreement there is and how rare and timid other opinions have become.

There can be little doubt that reputational cascades occur. They are a nearly complete account of most fads and especially of fashion in clothing. Not everyone cares about fashion, but those who care the most conform to it first, then bring in those who care a little less; together they bring in others, and the effect is the familiar herding pattern set in motion by the skilled and wealthy cascade makers known as designers. The question for us is how well the model accounts for the spread of ideas. It's clear enough that ideas often succeed for reasons separate from their truth, and that this sometimes happens because people modify what they say to protect their reputations. But the reputational cascade is a slightly more distinctive theory than this: the first group adopts ideas for whatever reason—self-interest or their perceived truth; the second adopts the ideas to preserve their reputation with the first; members of the third group, who perhaps weren't much concerned about their reputations at first, now see a larger consensus to worry about and a more serious danger of social penalties, so they, too, knuckle under. And now the pressure has become that much greater on group number four.

Again this vision isn't provably right. It may explain a little or a lot; possibly it is the key to understanding what a lot of people think about most things most of the time. It at least seems a compelling explanation of many cases where beliefs appear to be held in place by pressures of conformity that are resented by many of those laboring beneath them. The rise of political correctness from a small movement to a pervasive one in many universities is an apparent case of reputational cascades. Expressing certain views comes to be seen as hazardous to one's reputation. As a result they are said less and less. As a further result anyone who does say them stands out even more and incurs greater social penalties than before. The same dynamic can occur in academic departments or in any other communities. And sometimes the pattern can interact with information cascades, as when one group adopts a view for reputational reasons and then others go along because they assume the earlier group knows something they don't; or as when people come to believe that views they started to hold for the sake of conformity really are true.

Cascades aren't always bad. Sometimes an informational cascade is correct; this is one way to understand the widespread confidence that the earth is a sphere despite most people having little direct evidence on the point.[62] And reputational cascades have their upside, too: they help explain manners, many of which serve useful purposes. But the reputational cascade has an especially nasty potential because it so easily can come at the expense of truth. It creates incentives for people to deliberately suppress what they believe or know; Timur Kuran refers to this as "preference falsification" and suggests that it is the stuff totalitarian societies are made of and on which they depend.[63] This is the most important point to grasp about reputational cascades: their power to distort discourse and enforce a fake consensus.

Some of the more specific implications of reputational cascades overlap with points already seen; they, too, have implications for voting of various kinds. We saw, for example, that informational cascades are a reason to make votes simultaneous rather than sequential. The threat of reputational cascades cuts in favor of also making votes *secret*. Of course secrecy can destroy accountability, and that risk has to be traded off against the danger of reputational cascades. The balance between these worries explains why votes in general elections are secret, votes in a legislature aren't, and the secrecy of votes in intermediate settings—faculty meetings, say—may be a matter for negotiation.[64]

But the most interesting application of law to reputational cascades involves efforts to impose a stigma on bad behavior or remove it from good. Lawrence Lessig has argued that this is a subtle but frequent purpose of lawmaking and that it is one way to understand the passage of the Civil Rights Act of 1964, which forbade racial discrimination in various settings. Some Southern white businessmen wanted the law because it helped rid them of the stigma associated with serving or hiring blacks.[65] The stigma might be restated as a reputational cascade. Those who wanted segregation scared some others into complying with their preferences; that first wave of compliance reinforced the pressure and toppled some other resisters, until finally few whites wanted to stand out by integrating. The civil rights statute interrupted the cascade with a legal command. It also changed the way the reputational signals operated by allowing whites who wanted to integrate to say they were obeying the law, not their preferences.

Another case cited by Lessig involves dueling with pistols, which for a long time in the South, as well as elsewhere, was a customary way of revenging insults. All we can do is speculate, but the custom might have

been bound up in reputational cascades: even people who weren't sure dueling was a sensible way to resolve problems wouldn't want to say so because they would risk being called cowards, and their silence would then contribute to an apparent consensus that made it still harder for anyone else to resist. Against these pressures, laws to ban dueling often weren't successful. A little more effective, though, were laws that disqualified duelers from public office, because these provisions got to the heart of the matter, which was honor. They disrupted the cascade by allowing someone to avoid a duel on new grounds that were reputable: he wouldn't want to disqualify himself for public service for which he might be needed.

There are lots of other examples where a law addresses the power of reputational pressure in social life. Laws forbidding street gangs to loiter have been defended on the ground that loitering lets gangs openly flaunt their dominance and helps them impose reputational costs on those who won't join.[66] It might be a cascade; it might be a case where everyone in the neighborhood pays respect to the gang even though they privately hate them. Initially the gang cows one subset; the next is more easily subdued because the first is in the fold; finally it becomes too risky for anyone to dissent. In this case as in most others, the reputational point is only part of the law's story, and even then one can worry about reputational pressure without worrying about the particular problem of cascades. But where reputation is a worry, cascades probably should be as well; for cascades often are a means by which threats against reputation get turned into large and powerful mechanisms of social control.

SUGGESTIONS FOR FURTHER READING. Timur Kuran and Cass R. Sunstein, *Availability Cascades and Risk Regulation,* 51 Stan. L. Rev. 683 (1999); Abhijit V. Banerjee, *A Simple Model of Herd Behavior,* 107 Q.J. Econ. 797 (1992); Sushil Bikhchandani, David Hirshleifer, and Ivo Welch, *A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades,* 100 J. Pol. Econ. 992, 992–94 (1992); Lisa R. Anderson and Charles A. Holt, *Information Cascades in the Laboratory,* 87 Am. Econ. Rev. 847 (1997); David Hirshleifer, *The Blind Leading the Blind: Social Influence, Fads, and Information Cascades, in* The New Economics of Human Behavior (Mariano Tommasi and Kathryn Ierulli eds., 1995).