Many long-lived debates in public policy and management have been fought at the extreme hubs of mess and reliability: Market versus Hierarchy; Hierarchy versus Coordination; Coordination versus Regulation; Regulation versus Technology. We are told that, when it comes to high reliability of critical infrastructures, macro design should trump micro behavior (think: operator error); alternatively, micro behavior must drive macro design (think: self-organizing complex adaptive systems). If only we designed efficient energy markets, the grid would basically take care of itself; if only we had real-time metering in every household and business, the grid would basically take care of itself; if only we distributed multi-agent software to have the grid repair itself, the grid would basically take care of itself; if only we took shortcuts to reliability and got rid of all that mess in between, we’d be much better off. We might as well be talking about who’s more likely to be in a Christian heaven, Plato or Aristotle.

If we keep thinking like that, our critical services will shift from a mess that can be managed to crises that can’t. The societal challenges discussed above promise a grim enough picture for reliability management in a persistently messy political economy. Gerard Corrigan, the former head of the New York Federal Reserve and chair of the Basel Committee on Banking Regulation, warns that when it comes to a new financial regulatory regime, “the complexity quotient is now so great that the risk of the laws of unintended consequences taking over the process are very high. I wish that it were easier to get all the stuff out there and digest it but we have to be realistic” (2010).

We must be realistic, but in response to the reality that matters. Say you are on one of the upper floors of a skyscraper, looking out at the morning. That is Reality Number One: You are the observing subject looking on reality. After a moment, you realize that the spot in the distance is actually a plane headed toward you in the World Trade Center. That is Reality Number Two: You become the object of reality, in the grip of the real and no longer the observer. There is, however, Reality Number Three. In this example, it is the reality of the air traffic
controllers on 9/11. Neither the observer of the first reality nor the object of the second, these professionals achieved the unprecedented without incident that day. They were instructed to land all commercial and general aviation aircraft in the United States—some 4,500 aircraft—and they did so (National Commission on Terrorist Attacks upon the United States 2004, 29). Without overdrawing the analogy, so too do we demand that our professionals “land” those water, electricity, transportation, and telecommunications services—and many other critical ones—every day without major incident.

It is one thing to recommend protecting mess and reliability managers and operators who are already here and educating others to succeed them. It is a much different assignment to address what reliability-seeking professionals should be doing in a world that draws them more and more into those unchartered waters where their unique risk-appraisal skills are no longer effective. How can they stay professional in this changing world? The short answer is that they need to rethink policy, management, and professionalism.

Rethinking Policy

Much of contemporary policy wants to be magic. I mean more than the magic of macro and micro solutions, with their one-way alchemy to success. Policy as practiced also has much to do with the conjurer’s misdirection. The policy directs your attention to one area, while the real action happens elsewhere. You focus on the hand of the policymaker when the other hand of professionals ensures that rabbits and hats go together. Without this misdirection, how could policymakers make things happen the way they want the rest of us to believe?

We were told by policymakers that we had to get the politics right: How could we have the society we need without getting the right political arrangements in place? Then we were told we had to get the economics right: After all, you can’t repeal the business cycle; so get the right economic arrangements in place and the politics will follow. Now we’re told that we first have to get the science right: Dummy, it’s politics and economics that have gotten us into this mess and will keep us there, unless we start from what best science tells us. But the same misdirection is still going on: European and American farm corporations continue to get their subsidies—whether that’s because agriculture is politically important, food is economically important, or carbon sequestration mandates it from high.
Many public policy issues deserve better than sleights of hand. Policy messes have to be managed without the sorcery of sweeping them away. Subsidies are a mess, but subsidy policy is not a policy unless its messes can be managed. This is true even if the only time the rest of us may be aware of those managers is when their management is under threat. Yet it is unmanageability that increasingly grabs the professionals’ attention. Credit default swaps (CDs) grew to an unmanageable size off the balance sheets of banks, and part of the financial mess has been the recognition that not enough management capacity existed to manage those swaps well (Dizard 2008; see also Tett 2009e). “The [banking] industry let the growth and complexity in new instruments outstrip their economic and social utility as well as the operational capacity to manage them,” concludes the head of Goldman Sachs (quoted in Jenkins 2009). A sudden, inexplicable plunge in the stock market leads a government official to worry that “the market has outpaced the ability of the infrastructure to handle it” (quoted in M. Mackenzie and Sender 2010). From this perspective, why on earth would we believe policy creates management when the policy ensures that managers are not there at all or, if there, unable to realize the objectives posed by policy? You would expect that after 2008, the better management strategy for CDs would have been to focus policy on filling the gaps or shortfalls in the requisite management expertise. Instead, the focus has been primarily on the swaps themselves (see, for example, FCIC 2011), while at the same time the CDs sector has become more concentrated and interconnected (Noyer 2009), and thus more intractable to being managed well. In fact, “most of the big US banks got bigger after the financial crisis” rendering them now “too-big-to-fail than before,” according to the president of the Federal Reserve Bank of Dallas (quoted in Nasiripour 2012).

The important corollary has been raised at several junctures in this book: Arenas that contain no mess and reliability managers should be no-go areas for policy and policymakers. Why knowingly enter arenas that have no one there to manage the mess resulting from your entry? Another example is helpful: A recent permutation of the debate over the global carrying capacity has been the proposal that we should not produce carbon dioxide emissions that exceed an atmospheric threshold of 450 parts per million or lower (see, for example, McKibben 2007, 39). If adopted, the only thing such a design principle would ensure is all manner of unintended socioeconomic consequences across heterogeneous regions of the world, merely a scintilla of the costs of which would be borne by the proposal’s proponents. No cadre of managers
exists or is being trained that could competently carry out such a design principle. No one has the skills or training to modify it in light of regional differences, to determine the real patterns its implementation would cause across the globe, and to translate these patterns into context-sensitive case scenarios.

I repeat: There is no one—and certainly not those who insist the standard should instead be lowered to 350 parts per million (see Hansen et al. 2008; Revkin 2009). To adopt such a “policy” is to trick ourselves into believing it even qualifies as policy—that is, a course of action that can be managed with any kind of realism known to human beings (see Geuss 2008 on the importance of realism to what he terms “real politics”). To counter by saying that we have no choice but to manage to such a standard because “failure is not an option” is rubbish. It is precisely because failure is always “an option” that professionals manage as reliably as they can in order to prevent it. That in turn means they know the mess they are in, the practices that work to ameliorate it, and the specifics of how those better practices have to be modified—region by region, case by case. What should really scare us is that the total absence of such knowledge is the chief feature of history’s “desperate measures for desperate times.” (When you think about it, what better way, save nuclear war, to bring the governments of the world to their collective knees than geoengineering “solutions” like those that would engorge the skies with mirrors and the seas with iron, all because global climate change left humanity no choice—no alternative—but to be unreliable on unprecedented scales?)

Rethinking Management

Some general, and even systematical, idea of the perfection of policy and law, may no doubt be necessary for directing the views of the statesman. But to insist upon establishing, and upon establishing all at once, and in spite of all opposition, every thing which that idea may seem to require, must often be the highest degree of arrogance.—Adam Smith (1759)

Instead of operating on the assumption that reliability depends on macro designers getting it right from the start, wouldn’t it make for better management by bringing critical service professionals into the planning and operational process from the outset? This way, so the argument runs, you reduce the chances of management error later on, because those doing the planning and managing would work together
from the very beginning. “Apparently you can get to the top [in banking and finance] without ever having experienced all these things that the people below you do,” the vice chairman of the congressional commission on the financial crisis concluded (quoted in Politi, Guerrera, and Rappeport 2010).

It should go without saying that program designers have prevented big mistakes by consulting managers and operators ahead of time. A closer look at the mess and reliability space, though, should disabuse the reader of the view that this is the standpoint forward. We can no more expect designers to distill principles from the unique knowledge bases and better practices of the professionals in the middle (between the macro and the micro) than we can expect those professionals to apply principles in an unadulterated form (by bypassing the middle). We can no more expect each micro operator to be representative of any better practice than we can expect the professionals in the middle domain to satisfy every micro operator out there. Remember: The reasons we need reliable mess managers lie in the risks and hazards posed by design—and by reactive micro operations from the other side—to reliability management under messy conditions.

To believe that macro design changes in light of actual micro operations is misleading in the extreme. Yes, we know of cases where scenario formulation feeds back into macro design (for example, when the weight of legal interpretation leads to eventual change in the law) and where pattern recognition feeds back into micro operations (such as when overwhelming public opinion changes an individual’s belief). But if you want design to learn from practice, that design has to be centered on professionals in the middle. “Maybe it is time to bring more private sector bankers with a practical understanding of markets back into monetary policy,” writes John Plender, a Financial Times columnist. “Poachers turned gamekeepers might teach the academic central bankers a bit of common sense” (2010a). Operational redesign, not macro design, is the name of this search and hunt, as networked managers skilled in pattern recognition, scenario formulation, and their translation transform the original assumptions of policymakers and lawgivers into reliable services. Operational redesign, to be specific, is the addition, subtraction, and adjustment of practices and scenarios within the professionals’ repertoire. The implications for regulation are substantial. Of course, regulations, once published, need to be altered in light of emerging better practice; otherwise, they’d be a wheelbarrow without handles, hardly fit for their purpose.

That said, improved macro-design principles as principles are desir-
able for mess and reliability management, three of which I will touch on here (Roe and Schulman 2008). First—as a matter of principle—context and time matter: as we have seen in this book, system knowledge has to accommodate local knowledge in order to be able to manage. Second—again as a matter of principle—every design proposal must pass the “reliability matters” test. Would the proposal, when implemented, reduce the volatility that professional managers and their networks face? Does it increase the options they can use to respond to volatility? Does it increase their maneuverability in responding to different, often unpredictable or uncontrollable, performance conditions? To be clear, the role of mess and reliability professionals in such a test is to assess and operationally redesign the policy and management proposals of senior officials. In principle, the test of efficacy is not “Have we designed a system that can be managed?” but rather “Is this a system we can manage to redesign?”

Third—as a final matter of principle—any design that compels operators to work for an extended period of time in a task environment outside their domain of competence cannot be expected to produce or sustain a system of reliable services. It is true that a crisis by definition compels professionals to work beyond the limits of the known, and even of the knowable—but management professionalism alone cannot keep that kind of coping under way indefinitely.

What precisely is the point at which designers and managers can engage with each other more productively? Return for the moment to the mess and reliability space. When macro designers and middle professionals meet, those consultations should be around the only real contact point between the two hubs in that space: design principles modified in light of local conditions as contingency scenarios (for principles as interpretative concepts, see MacCormick 2007). The motivating question of such interactions centers on what one policy academic has called “implementation robustness” (Bardach 2005, 33–34): How can that macro design apply here in the face of these contingencies? The answer also includes an eye on modifying system-wide better practices for that local case at hand. Just as policy is not really policy unless it can be modified in light of its actual application (see Shackle 1969, 277), design should not be treated as design unless it is open to and can accommodate local contingency scenarios and better practices not originally planned for. Design that cannot be managed through operational redesigns is better thought of not as design but as surface pieties so void of content as to be outside any knowledge base for reliability with which humans are acquainted.
What do I mean by “contingency”? In 2006, Warren Buffett gave the Bill and Melinda Gates Foundation $31 billion. Buffett was the first to interest Bill Gates in setting up a foundation—through the chance suggestion that Gates read a piece of conventionalized policy analysis. “Mr. Gates credited Mr. Buffett for encouraging him, in the early 1990’s, to read a copy of the World Development Report, put out by the World Bank, that analyzed poverty levels around the world, thus sparking his interest in philanthropy,” according to a *New York Times* report (L. Thomas 2006; see also Leonhardt 2007). When one adds the Buffett contribution to the Gates Foundation’s already large endowment, that World Bank report may be the single most important item ever produced by the bank, and that occurred by happenstance. Contingency matters; it need only happen once for it to be possible again.

If, as suggested above, a few macro-design principles for management are possible, what about the task of managing for better micro operations at the individual level? After all, we start in the workplace not as full-blown professionals but as learners at the micro level. “Human nature no where exists in the abstract,” the Scottish philosopher Adam Ferguson tells us, “and human virtue is attached, in every particular instance, to the use of particular materials, or to the application of given materials to particular ends” (1792, 2:419). Just what kind of individual psychology can we bring to the workplace that would make us better mess and reliability professionals? What psychological orientations enable the creativity, flexibility, and networking that are very much part of mess and reliability management? The literature offers at least one suggestion: Excel in improvisation; make do with what comes to hand so as to avoid worse.

In a favorite passage of mine, the Austrian philosopher and social scientist Otto Neurath compared an individual’s experience in the world to that of sailors on the ocean:

Imagine sailors who, far out at sea, transform the shape of their vessel. . . . They make use of some drifting timber, besides the timber of the old structure, to modify the skeleton and the hull of their vessel. But they cannot put the ship in dock in order to start from scratch. During the work they stay on the old structure and deal with heavy gales and thundering waves. In transforming their ship they take care that dangerous leakages do not occur. A new ship grows out of the old one, step by step—and while they are still building, the sailors may already be thinking of a new structure, and they will not always agree with one another. The whole business will go on in a way we cannot even anticipate today. (1944, 47)
Today professionals are out at sea, where returning to port for repairs is not possible; we repair the ship with what is at hand, tacking and improvising where necessary, and sometimes we even come out with something better than we had before or would have achieved by other means.

In a contingent world, real-time improvising in the face of what people cannot fully anticipate becomes its own version of the professional as a resilient self. (Or, from the other side, having designs that work as planned is only one of the many contingencies we prepare for.) Operators and managers are improvisers skilled at bricolage. Their management world looks considerably less like Theodor Adorno’s totally administered society than the cluttered studios of the artists Edgar Degas and Francis Bacon, or those traffic jams in Lagos that street vendors capitalize on. It is a political economy, as we saw in chapter 1, in which clutter is used for differing ends depending on how the clutter has been sorted.

Adam Phillips helps us here. What he calls “the contingent self” is someone who makes use of the luck, accidents, and coincidences that come along (1994, 20) in the networks and domain of competence where he or she is working. Such improvising, particularly the just-on-time assembling of diverse options, is found in the real-time management of critical infrastructures and large sociotechnical systems. Professionals are eager to turn the mess of contingency into the management of reliability. This contingent self, to put it in different terms, looks in to the self and out to network relations. In much the same way, improvisation looks inward to one’s flexibility and outward to all that interaction that comes with repairing the ship at sea—the to-and-fro or, in the original economic sense, the tâtonnement of negotiating.

This contingent improvisation comes with a decided twist, however. Our professional networks are, in an important sense, like the infrastructures that support us: Both are ways to protect ourselves. We need their help because we lack options and they provide them. But we do not want a network of professionals just to help manage reliably; we want the network to help us decide what really needs to be reliable in the first place. In formal terms, the network stabilizes the dimensions of the mess and reliability space and performance modes, so that the managers involved can reconcile the patterns and scenarios reliably and maneuver across performance modes as conditions warrant. Being embedded in a network of reciprocating professionals reduces the costs of transactions in mess and reliability management—not just because other professionals are helping you to be reliable, but also
because they are deciding what you and they need to keep reliable. Team situational awareness is a classic example of this reciprocation (Garbis and Artman 2004). To put it realistically, the network produces us as professionals; we know ourselves in relation to what the others in the network come to know about and expect from us. In this way, it is the network that improvises the manager. The reliable mess manager is both improviser and improvisation.π

It is worth pausing for a moment to ask ourselves: Who is the opposite of an improviser and improvisation? Improvisers not only think they are in the midst of a mess, they know it. What they do not know is how to get out of it other than by managing the mess with others. Their opposites, then, would be those individuals who know we are in a mess, know it has to be cleaned up, know exactly how to do that, and know that they alone are the ones to do it. We call these individuals without networks paranoiacs.

They are often us. How many times have we heard or said something like “If implemented as planned . . .,” “Assuming proper ethics . . .,” or “Given the right prices . . . “—thereby only demonstrating that we ourselves are deluded by such weasel words? “If implemented as planned,” when we know that is exactly the assumption we cannot make. “Assuming proper ethics,” when we know it is unethical to leave it at that without specifying just what those ethics are, case by case. “Given the right prices,” when we know not only that markets in the real world often do not clear (supply and demand do not equate at a single price)—and even when they do, their “efficiencies” can undermine the very markets that produce those prices (more below). All these givens end up little more than the magical thinking of a primitive people. We could as well believe that the surest way to heat the house in winter is by striking a match under the porch thermometer.

“How is it . . . that we still remain barbarians?” asked the German polymath Friedrich Schiller at the end of the eighteenth century. It is because many of us continue to assume superior knowledge that we actually do not have. “The paranoiac is the person who has really noticed what a mess we are in and knows that the only sense he is going to get is the sense that he can make. . . . The modern paranoiac has realized that since God is dead someone has got to be god. Someone has to know what is going on, and there has to be a something that is going on,” writes Phillips (2006, 268). The paranoiac calls for automatic, binding, and unchangeable rules, hardwired into law as if that were enough to propel us ahead toward where we must arrive. Reality Number Three indicates otherwise: “Outside the paranoid map there
is the mess of contingency, and the contingency of mess” (267)—that
is, the world of chance, accident, and luck in which improvising profes-
sionals find themselves. It is this world that cultivates their sense of
realism, which teaches that little can ever be finished and that a lot
must be cobbled together with the competencies we have as a way of
managing things, now and as a way of moving ahead.

Rethinking Professionalism

In the film Dr. Strangelove (1964), a darkly humorous example of failed
management occurs when General “Buck” Turgidson warns President
Muffley that planes containing nuclear weapons are about to strike
inside Russia, due to an order given by a rogue general barely holding
on to his sanity. When Muffley hears this news, he explodes at Turgid-
son, saying, “When you instituted the human reliability tests, you
assured me there was no possibility of such a thing ever occurring!” In
response, Turgidson replies, “Well, I, uh, don’t think it’s quite fair to
condemn a whole program because of a single slip-up, sir.” Sadly, Presi-
dent Muffley is not the only one who has been shocked and awed by
expert promises of perfectible reliability. How can professionals sur-
vive in such a world and still claim professionalism? To put it formally,
how do you remain professional in a politics of higher volatility and
fewer options so as to avoid dumbing down, prolonged deskilling, and
the sheer idiocy of happy talk?

The worst thing that can be said about any professional is that he or
she is naïve or unaware of his or her own naïveté. The professional is
not indifferent to reality. It is unprofessional to operate in Reality
Numbers One and Two, when the demands are for Reality Number
Three. Working in the latter requires a professionalism that under-
stands that the policy world does not fail because pattern recognition
falls short of macro design. There is always a gap between design and
practice when it comes to hard issues requiring reliable management.
Effectiveness and professionalism are not measured by how close man-
agement can bring practice to design, but rather by how well pattern
and scenario are transformed into reliable service provision. You insist
as a matter of principle that less government and small public sectors
are better. I counter with evidence that large public sectors are not
inimical to increases in the growth of economic markets and labor
productivity (Kearney 2002; Lindert 2004; Wolf 2005). But I cannot
convert that empirical finding into a design principle, and you have not
shown how your principle need not be modified for the cases I am talking about.

The professionalism we have been discussing in this book is not without its limitations. Reliable mess managers run the risks of becoming complacent, misjudging the situation, backing themselves into a corner, and failing to secure compliance when it is needed most. Where mess and reliability professionals differ from the macro designer and street-level worker, who make comparable mistakes, is in the former’s value pluralism of having to accommodate competing macro principles in the midst of conflicting patterns and context-specific scenarios (see chapter 3). This value pluralism means that there is no stable resting point along a gradient of formal to informal professionalism: From this book’s perspective, macro design formalizes as a principle what professionals cannot help but treat more informally as localized contingency scenarios, while micro operations treat informally what professionals cannot help but treat more formally when they talk about emerging patterns and practices across cases. This can’t but be a messy business.

The middle domain of competence demands a skill base that serves as its own form of realism when it comes to managing the risks of operating there rather than elsewhere in the mess and reliability space. The skills isolate the essential differences between good and bad mess management. Think of bad and worse management as gravitating to the corners of the mess and reliability space outside the domain of competence, while good and better mess management resides very much within the domain. It cannot be said often enough that within that domain, mess and reliability managers grapple with all manner of consequences of macro design and micro behavior—intended and unintended, conscious and unconscious, systemwide and local—in ways and with others that tie them together, strongly and weakly, contingently or not, as professionals obligated by law, regulation, or mission to provide services reliably.

What does this actually mean for rethinking professionalism? Foremost, when confronted with a policy mess, we look for better practices that we can modify in light of our local contingency scenarios. Such practices, to repeat, have jumped a higher bar in the midst of politics, dollars, and jerks that we too face in our own case (assuming those are the politics that continue to preoccupy you). This search for better practices should be a no-brainer, but sadly it isn’t. To return one last time to the healthcare mess: If it is true, as we are told, that the United States spends roughly $7,000 on healthcare per person each year while
the rest of the developed world spends $3,500 per person and provides more universal healthcare (Peterson 2009), why wouldn’t we hire those developed-world experts to draft our healthcare proposal? The last thing Americans should want to do on their own is design their federal healthcare system.

More generally, why would you assume that alternatives to the status quo do not exist, without first seeing what other people facing similar messes are doing or have done, from which you could learn something useful? Margaret Thatcher was dubbed “Tina,” so frequently did she insist, “There is no alternative.” The social and legal critic Roberto Mangabeira Unger argues that the dilemma people face today is “the dictatorship of no alternatives”: “All over the world, people complain that their national politics fail to deliver real alternatives” (2005, 1). Nor is he the only commentator to make this point (see, for example, Runclman 2012). But if we actually looked “all over the world,” we would find much by way of existing alternatives and practices potentially useful to our own management. One of the founders of pragmatism, William James, used to remind his audience that this philosophy is “the habit of always seeing an alternative” (quoted in Mustain 2011, 119). It is bad enough that management occurs without any guarantees, but why would we start out blind to what works?

There is no Mallory’s camera to capture success or failure in our professionalism. (In 1924 two British mountain climbers, George Mallory and Andrew Irvine, attempted to conquer Mount Everest. No one really knows which man, if either, made it to the top, though people hoped that Mallory’s missing Kodak would be discovered and provide the definitive answer.) We can produce no picture to demonstrate that our policy messes are being reliably sorted out. What matters is that we do not manage poorly when we could have managed better. That is the message of this book. A group of banking and finance professionals put it this way: “What matters most in order to make sense of reality (which is inherently non-transparent to policy makers and the public alike) and of policy makers’ behaviour is a coherent frame of reasoning to interpret the subset of relevant information through clear messages” (Issing et al. 2005, 38). By this point in the book, I hope you understand that mess management is a coherent frame of reasoning.

So what in the end is expected of us as professionals? Clearly, a willingness to work under real-time pressures and know the difference between just on time and just for now is a start. Understanding the factors that pull you to just on time, as well as those that push you into just for now, is also important. A good grasp of how risk and ignorance
differ and what makes for Reality Number Three is just as significant. Never far away is a high tolerance for surprise and a genuine capacity to take advantage of setbacks. “What are we missing?” is always a good question to ask about any mess you and your network are asked to manage. In short, the better you and your network are at performing cross-scale, context-dependent, case-by-case analysis, the better off we all will be for your professionalism, given our political economy and the realism it requires of you. What this means, in practice, is that professionals have a strong aversion to macro designers or micro operators who insist on magicking a way to reliability. An article in the *Financial Times*, “Scientists to Face Legal Action over [Their] Bangladesh Water Survey,” guides us here (Tait 2003). The scientists surveyed the groundwater but did not test for the arsenic in their water supply. Many of our politicians and pundits have committed comparable offenses. They insist that the water is never purer than at the wellsprings of uniform principle and individual experience—but they are paid to know better. The arsenic when it comes to reliability management is also at its strongest there and needs to be diluted with huge flows of more and different knowledge. The mess starts at the source, not downstream. To willfully ignore or otherwise dismiss this borders on the criminal. Even “acting in good faith” with respect to the law means more than behaving with a “pure heart and empty head” (Menn 2012, 5).

All of this is essential to appreciate if we are to determine whether the financial mess and its aftermath are being managed well rather than poorly, the topic to which we turn in the final chapter. First, though, allow me to summarize the argument with respect to the societal and professional challenges facing those who are or aspire to be reliable mess managers.

**Summary of the Challenges Professionals Face**

I see four challenges confronting professionals in policy and management today. They must manage better the complexity of the issues with which they deal; build up their analytic and management capacity for addressing the issues (most important, through their contact networks); capitalize more on diverse communities and stakeholders when doing so (here, diversity refers to cultures, organizations, and performance conditions); and operate in real time much more effectively than often has been the case (Roe and Lindquist 2003).
Caught as professionals are in a world of unavoidably multiple cultures and different organizations requiring them to work across multiple performance modes, they manage complexity by translating system patterns and localized contingency scenarios into reliable service provision. Professionals build capacity, both analytic and managerial, because working in the middle, between patterns and scenarios, depends on being connected and networked to others who can help identify, assess, and ensure reliable services. Since no one professional can have all the required knowledge, it’s the network(s) you must look for. Making the most of diversity means engaging the other cultures and the other types of organizations in which you are networked, since although they increase volatility, they also offer the possibility of new resources and better practices. Last, the ability to operate in real time is imperative because of that increased volatility and the fewer options that are often at hand when working with multiple cultures, multiple organizations, and the networks that involve both. In effect, the four professional challenges center on managing the inevitable setbacks along the way and making the most of them by pulling the good from the bad.

What does this add up to? Most, if not all, readers have heard or said something like “the biggest problem we have is implementing policy.” Actually, that’s wrong. The biggest problem is to adapt better practices, where they exist, to policy and management issues faced locally, and to do that we must address better the four specific challenges just sketched. This entails a lot of hard work, but that work is more to the point and far more exciting than the junk mail that passes for much of present policy. Of course, there remains that illusion of policy as a mailbox in which we send and receive important messages, including from time to time unimportant ones. But have you noticed just how mismatched many free-standing mailboxes are and the houses they stand in front of, at least in parts of the United States? The mailbox is weathered, rusting, flaked, or chipped, while the house behind is much more interesting or cared for. Contrary to the illusion, many policymaking processes are in reality just such poor specimens of mailboxes—and who manages mailboxes anyway? They scarcely reflect, let alone match, all the busy, domestic life going on behind them, that domain honeycombed as it is with context and practices.

If professionals and their networks meet the four professional challenges, they will be in a much better position to make time to do the analysis and management they have been trained to do. I would go further. Not only can they free up time for more analysis, but meeting the four challenges also makes them better able to address that gap
between outputs and outcomes discussed in the previous chapter. The bold premise in direct macro-to-micro “solutions” has been that macro design produces outputs at the micro-operations level that lead to desired policy outcomes. Yet the gap between actual outputs and desired outcomes persists and even grows under conventional analytical and management approaches for our political economies.

The truth is that mess and reliability management can realize outcomes that macro design only promises. Network-centered decision-making, as we saw, can produce better impacts than a problem-centered approach, when the activities (outputs) undertaken become part and parcel of outcomes that those involved may not have originally planned for but end up knowing they require. This is especially the case when the contrasting problem-centered decisionmaking is reduced to just-for-now performance: “I’m only asking for a temporary fix here!” We have seen how network-centered decisionmaking could instead have led to more options-rich, just-on-time behavior under the same pressures of urgency. Participatory action research is full of cases of networks of community members undertaking activities that lead to new and more achievable ends than initially conceived (see Minkler and Wallenstein 2008). People come to know what they are able to analyze and manage in ways that matter to them when it most matters to them.

Finally, those terms “just on time” and “just for now” seem to smack of short-termism, don’t they? Nothing in this book, however, reduces to “short term trumps long term,” when it comes to being a professional. There is no argument here that “since nothing is going to end well, all we can expect from professionals is short-term relief.” Better practices, after all, emerge across both time and scale, and when drawing on and modifying those practices to manage the mess at hand, we seek to exploit an informational advantage commonly associated with both the longer term and the larger scale. In fact, you can see mess and reliability management in real time as a no-regrets strategy. No set of engineers can build a bridge to withstand the loads it must take once it is operational, unless that bridge can first take greater loads placed on it when it is being built.\footnote{Whether the long run can be guaranteed or not, it is best to manage reliably in real time, whatever the stage of development or operation. In fact, how is a reliable long run possible, if the short-run messes can’t be managed better now? But to recognize such challenges means that the reader must look for and acknowledge them. You must also do the radical work of understanding how your survival requires the survival of messy sociotechnical systems and their reliability managers, without which most of us}
would have few chances in life—let alone critical services when we need them. And just what is this radical work? President Dwight Eisenhower’s farewell speech in January 1961 is best remembered for his warning about the military-industrial complex. But he had another caution for listeners that night. The president warned about the “danger that public policy could itself become the captive of a scientific-technological elite.”12 This is the elite that promises few surprises and setbacks along the way, since—not to worry—they know what they are doing. I can think of no more important policy mess facing our political economy than the challenge of managing this aroused priesthood and its biddable congregants.

These would be fine words with which to end, were it not for drawing out the implications of this chapter and the preceding ones for this book’s primary case study, the financial mess. I have beaten CEOs, regulators, and lawgivers about the shoulders, but when will we know it is time to stop? Just how will we know that the messes left us by the financial upheaval are in fact being managed well rather than poorly? I conclude this book with some answers.