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This month's MuseLetter is an exploration of community resilience via two related articles. The first is about the City of New Orleans, which is famously vulnerable to natural disasters, but also has a lot to teach us about social capital as an asset for cultural survival. The second article is an interview with Daniel Aldrich, who has studied resilience, disaster recovery, and social capital for many years. His findings have great relevance not only for New Orleans, but for all of us who seek to build greater societal resilience ahead of the profound threats bearing down on us. There's useful guidance and even some good news here, folks!

When the Saints Go Marching Out: New Orleans and the Resilience of Cities

I've written repeatedly about community resilience over the years; for example, I penned an article in 2017 for Bloomberg on rebuilding for resilience after the devastating wildfires in Sonoma County, California, where I live.

In this piece, I want to tackle an even tougher case. The city of New Orleans dramatically exemplifies all the paradoxes, problems, and opportunities of resilience building. It is also a second home to me and my wife Janet: she was born there, many of her relatives still live there, and we spend at least a week each year in the Big Easy. So, I know a bit about New Orleans, and I care about the place and its people.

New Orleans also happens to be a lot of fun to write about. So, let's go!

Vulnerable, precarious, beautiful

Just 21 years ago, New Orleans was nearly wiped away. Hurricane Katrina brought high winds and drenching rain; after levees and pumping stations failed due to human error, much of the city was flooded. It took 43 days to pump the floodwater into the Mississippi River and Lake Pontchartrain. Nearly all the surviving residents had been evacuated. They returned after weeks or months to find buildings destroyed, possessions ruined or gone, entire neighborhoods devastated, and the city steeped in the stench of decay. Over a thousand fatalities were recorded. The hurricane quickly achieved a mythic status and, today, every New Orleanian over age 30 has an emotion-charged story to tell about loss and survival.

This wasn't the first hurricane or flood for New Orleans. The city is geographically disaster-prone, built on a subsiding river delta, mostly below sea level, with a bowl-like topography. The metropolis is squeezed between two major bodies of water, making it highly susceptible to catastrophic storm surges and flooding, which have taken a heavy toll on several occasions.

One was Hurricane Betsy (September 9, 1965), a massive Category 3 storm that flooded eastern New Orleans. It was the first US hurricane to cause $1 billion in damages.

The Crescent City is kept habitable by a 90-mile system of canals and pumping stations, along with huge levees along the river and lakefront. The stations together can pump a staggering 24,300 cubic feet of water per second. Yet, during heavy rains, they sometimes struggle to keep up. That struggle is about to get harder in the context of more extreme temperatures, ongoing loss of coastal land, stronger hurricanes, and rising seas.

New Orleans also faces inherent economic challenges. Its revenues derive mostly from tourism, offshore oil and gas production, shipping, and fishing. Oil and gas production in the Gulf of Mexico is currently riding high, but oil is, after all, a depleting non-renewable resource.

Tourism is sensitive to gasoline and jet fuel prices and dependent on tourists having disposable income. Fishing is vulnerable to a host of environmental and economic issues, including overfishing, oil spills, runoff pollution from the Mississippi (which has created a growing "dead zone" in the Gulf), and rising ocean temperatures. The inherent challenges of maintaining New Orleans are so great that there's an ongoing debate about whether the city should simply be permanently abandoned. I'll return to that. Still, New Orleans residents are fiercely protective of their city. And lots of folks who live elsewhere love to visit the Big Easy. That's because New Orleans has some things going for it.

Is New Orleans America's most magnetic city?

The Crescent City has a long, colorful cultural history; for a taste, I recommend Gary Krist's book *Empire of Sin: A Story of Sex, Jazz, Murder, and the Battle for Modern New Orleans*. Today, the city's culture persists in a unique dialect ("Yat," derived from the common greeting, "Where y'at?"), as well as foods, architecture, and music that often make you feel you're somewhere in the Caribbean rather than the United States.

Of all the city's unique cultural achievements, its music is perhaps its greatest source of pride. Hundreds of full-time musicians carry on New Orleans-related traditions, somehow making a living alongside potential competitors. The fact that so many succeed is largely due to the city's plethora of live music venues. WWOZ (a listener-supported radio station that plays New Orleans music of all varieties 24/7) publishes a daily online and radio-delivered summary of who's playing where (the Livewire); even on a weekday, it usually takes the announcer several minutes to name all the performers and venues.

To illustrate the degree to which New Orleans's music culture has gotten under my own skin, permit me to divulge a little personal info. When I first started visiting the Crescent City, I was a semi-professional classical violinist. Most of the music I listened to consisted of Bach, Brahms, and Paganini. Gradually I added a little Louis Armstrong to my sonic diet. Then, in 2021, a fingertip injury forced me to abandon the violin altogether. I decided to learn piano instead (its flat keys don't trigger the same nerve pains that metal strings did). I started with a few easy pieces by Bach and Scarlatti but soon found myself gravitating to the New Orleans sound.

New Orleans boasts a long tradition of jazz and blues piano playing, stretching from Jelly Roll Morton in the early years of the 20th century to Fats Domino, Professor Longhair, James Booker, and Dr. John in the rock era; to Jon Batiste, Tom McDermott, Jon Cleary, Harry Connick, Jr., and many others today.

There are currently so many great New Orleans pianists that WWOZ hosts an annual "Piano Night" of live performances, during which each of the invited piano pros is given 10 minutes to shine; the quality of their playing ranges from terrific to phenomenal, and the event typically lasts 5 to 6 hours. That's plenty of inspiration for an aspiring keyboard novice like me. These days, I'm working on learning several songs by Jelly Roll Morton and one by Dr. John.

It's a common story: many of the "New Orleans musicians" I've talked to were born elsewhere, but then became so enraptured by the relaxed, bluesy style of the city's music that they decided to move to the Big Easy and devote their lives to its culture. One example is a band of forty-somethings called Tuba Skinny, whose 8-or-so members formerly played in grunge bands around the US (its leader, cornetist Shaye Cohn, had a legit musical education on piano). They individually moved to New Orleans after Katrina, then gradually coalesced into a street band with a shared interest in the collective improvisation of 1920s and '30s jazz and blues. There are plenty of other trad jazz (and so-called Dixieland) groups in New Orleans, but Tuba Skinny has brought an admirable commerciality-be-damned dedication to their art. They can still be heard on the streets of the French Quarter playing for tips, but they also perform at many of the city's music clubs, and they've recorded numerous CDs and toured North America and Europe.

Okay, so New Orleans has plenty of unique culture. What does culture have to do with survival in the face of past and impending disasters? Plenty, it turns out.

Community resilience, New Orleans style

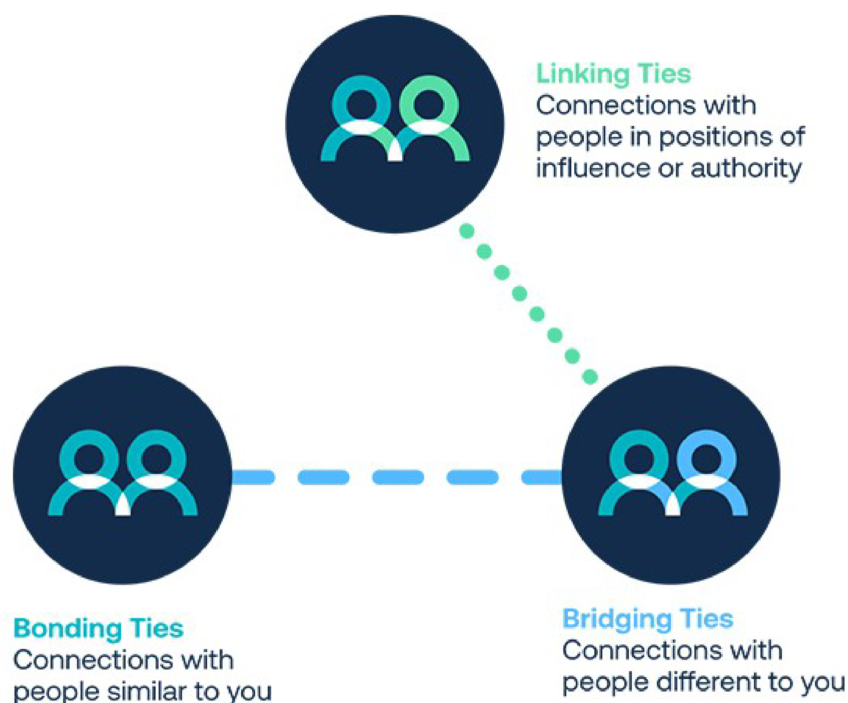
Political scientist Daniel Aldrich, who was living in New Orleans as Hurricane Katrina approached, later decided to conduct a sociological study centered on the question, "Why do some communities recover more quickly and successfully than others in the wake of disaster?" He reported his findings in a book, *Building Resilience: Social Capital in Post-Disaster Recovery*.

Aldrich's research suggested that an important factor in determining how well communities recover from a crisis is social capital (specifically, the balance of three different kinds of social capital; see my interview with Aldrich below). Social capital is essentially the relationships that people in a community have with one another, manifested in trusting neighborly relations, local gatherings and celebrations, formal and informal community "institutions" (e.g., a convivial neighborhood cafe; a quirky local tradition; a long-standing religious community), and participation in civic life, etc.

New Orleans has a lot of social capital, including not only thriving community organizations but also identifiable local traditions in food, architecture, and music. People talk to one another on the street and ask about their families. Still, as Aldrich found, this fabric of social connections does vary from one neighborhood to the next.

After Katrina, Aldrich studied two neighborhoods, both with approximately equal per capita pre-Katrina incomes: the Lower Ninth Ward, and the largely Vietnamese Village de L'Este in the northeast corner of the city. The Ninth Ward was still devastated years after the disaster, whereas Village de L'Este was 90 percent repopulated within two years. The difference: while there was plenty of one-on-one social bonding in the Ninth Ward, the neighborhood had poor bridging with government at all levels.

Social capital isn't just about the richness of direct contact between people (though that's vital), but also the functionality of connections between different ethnic and religious groups within the community, and between ordinary people and the holders of resources and decision-making power both within the community and in the larger society.



Adaptation of social capital ties diagram, Professor Daniel Aldrich, care of Resilient Ready

Tragically, social capital is undervalued in modern society: globalization undermines it, and usually only deep cultural traditions and activist efforts can preserve it against the onslaught of atomizing trends. We stare at our screens rather than talking to our neighbors.

The New Orleans Chamber of Commerce lists 66 community and civic organizations currently active in the city—but this is a fraction of the institutions supporting social capital. There are countless informal clubs, interest groups, and associations, and the city is chock-full of locally owned businesses, religious communities, gorgeous parks and museums, vibrant music venues and art galleries, and is home to several community-oriented local radio stations.

In short, New Orleans has tons of social capital. But sadly, its cultural richness and rootedness may not be enough to enable it to survive much longer.

The last second line

I think a lot about the future of New Orleans, so naturally I watched Dr. Emily Shoerning's recent climate video on the prospects for Louisiana in a 2°C world. Her forecast for the southern region of the state, based on the most recent county-by-county National Climate Assessment, is devastating. Later this century, New Orleans will be an island, effectively cut off from the Mississippi River and, hence, its main source of fresh water.

Even if people continue living in the parts of the city that are still above sea level and they manage to harvest and purify rainwater on a sufficient scale, the prospects for maintaining anything like current levels of population and economic activity are dim indeed.

A recent study published in Nature Sustainability concluded that New Orleans residents should plan now to move away from the city. For the hundreds of thousands who live in New Orleans, and the millions of others, like me, who love the Crescent City, this is an incredibly sad conclusion. And it's a conclusion that many other cities rich in culture and history will face around the world as sea levels rise.

Somehow, we must imagine ways to transplant the culture of New Orleans to other places. Musicians and listeners can adopt the city's music anywhere, and chefs in Los Angeles and Peoria can learn to make decent beignets and red beans (many already do). But it would be even more important to identify one or two places where archives, people, and perhaps even some buildings could be rehomed. The American Resiliency climate video for Louisiana, linked above, suggests Lafayette or Baton Rouge as possible sites.

It's been a life-changer to know New Orleans these last 35 years or so. I hope to keep going back as long as I can. I feel as privileged as the folks who knew Paris in the 1890s or Harlem in the 1920s must have felt. Those of us who've been to the Big Easy can make our own communities more resilient through what we've seen, heard, and tasted there.

Meanwhile, we're all living in some version of New Orleans. Every place on Earth is now vulnerable, each community held together by ecosystems under attack and culture that's unraveling. Still, if we face a century of crises, it's good to have songs to sing, friends you can count on, and recipes that remind you of good times. Those are just some of the gifts of New Orleans.

Social Capital and Community Resilience: A Conversation with Daniel Aldrich

Daniel Aldrich is Dean's Professor of Resilience at Northeastern University in Boston and author of five books, including *Building Resilience: Social Capital in Post-Disaster Recovery* and *Black Wave: How Networks and Governance Shaped Japan's 3/11 Disasters*. He is an expert in social capital and disaster recovery whose research was shaped by fleeing Hurricane Katrina with his family and enhanced by service as an American Association for the Advancement of Science (AAAS) Fellow at the US Agency for International Development (USAID). His insights have obvious relevance for readers of Resilience.org and for everyone seeking to make our communities more robust in the face of the crises now bearing down on them.

After reading *Building Resilience*, I contacted Daniel and he kindly agreed to an interview.

RH: You were formerly a professor of political science at Purdue University. What led you to study resilience?

DA: Personal experience. In July 2005, my family moved to New Orleans so I could begin an assistant professorship at Tulane. Six weeks later, at four in the morning on the 28th of August, my wife and I packed our two small children into the van and drove west toward Houston as the first rains of Hurricane Katrina came down.

A neighbor, Kathy, who understood the Gulf Coast, had warned us to leave. We grabbed toys for our two young kids, our slow cooker, and some photographs, and we left everything else behind. The eleven feet of water that poured into our Lakeview neighborhood from the Seventeenth Street Canal sat there for nearly three weeks and destroyed all of it.

What happened next shaped the rest of my career. We had arrived too recently to have flood or renters' insurance, so we had no coverage at all. Our applications to FEMA [the U.S. Federal Emergency Management Agency, which assists those affected by natural disasters] were denied, and we received nothing essentially until our appeals finally went through the following March. During those months, I kept noticing who actually showed up for us. It was friends, friends of friends, acquaintances, and family who did the most. The government was slow and the market offered us nothing.

I was trained as a political scientist who studied Japan and focused on the siting of controversial facilities, not as a disaster researcher. But living through the failure of the standard recovery model made me want to understand it. I started reading the disaster literature and found very little agreement on what makes one community bounce back while another empties out. Our own experiences as evacuees showed that the two pillars of our society that we expect to assist—the market and the state—did little to help us back on our feet. But friends, faith-based organizations, and even people that we had never met stood us up. That gap became my research question.

RH: Much of the literature about disaster recovery focuses on wealth (richer communities presumably have more options and resources for rebuilding) and government aid. However, you say that social capital is a neglected key to community resilience. What led you to that conclusion?

DA: Most of the field and most government programs rest on a 1950s paradigm. The assumption is that recovery is a function of two things: how much damage you took and how much money flows in afterward. Rebuild the bridges, the power lines, the roads and homes, write the checks, and recovery follows. That framing treats people as passive recipients of aid and concrete.

When I went looking for evidence, the story fell apart. I built four original datasets covering 225 neighborhoods and hamlets across very different times and places: forty neighborhoods in Tokyo after the 1923 earthquake, nine wards in Kobe after the 1995 earthquake, sixty-some villages plus 1,600 survey respondents in southeast India after the 2004 tsunami, and 115 zip codes in post-Katrina New Orleans. I ran the quantitative models with the usual suspects in them, things like wealth, population density, damage levels, and the amount of aid received. Then I added measures of social capital.

The social variables consistently outperformed the standard ones. Neighborhoods with denser networks and more civic life recovered faster, even when they were poor and badly damaged and received little outside help. Wealthy, lightly damaged places with thin social ties often stalled. I am not claiming money and damage do not matter, because they do, and material aid saves lives in the first hours. But over the long run social resources turned out to be at least as important as physical ones, and the field had barely looked at them. Other scholars had called for exactly this kind of quantitative test, and the results pointed in one direction.

RH: Researchers often distinguish three kinds of social capital: bonding, bridging, and linking. Could you unpack what each one means?

DA: Of course. Bonding social capital is the glue between people who are a lot alike—your family, your close friends, the neighbors you would lend a ladder to without a second thought. Bridging social capital reaches across difference, connecting you to people in other ethnic, religious, or income groups, the acquaintances who widen your world beyond your own circle. Linking social capital runs vertically, tying ordinary residents to people who hold power and resources—a city councilor, a bank manager, an agency official, an NGO. Healthy communities carry all three. Bonding gets you through the first night, bridging brings in help from outside your group, and linking is how you get the authorities to actually pick up the phone.

RH: What are some examples of social capital, and how do they contribute to resilience?

DA: The clearest way to see those categories is in action. The sociologist Kai Erikson once interviewed a flood survivor in West Virginia who described a neighbor as someone whose kitchen you could walk into and pour yourself a cup of coffee without being asked. That easy, unspoken trust is bonding capital at work, and in a disaster, it is often what carries people through the first chaotic hours.

In a crisis, these networks do concrete work. Neighbors who know each other pull one another out of collapsed buildings and share tools, generators, and information about which forms to file and which office to visit. People with bridging ties tap resources outside their immediate group, so when a local network is wiped out, their wider connections still hold. Those with linking ties can get the attention of decision-makers and steer aid toward where it is needed. In post-Katrina New Orleans, one neighborhood needed five hundred signatures to push the utility to restore power, and residents collected more than a thousand in a single day. That is social capital converting directly into electricity.

I do want to be honest that this resource has a dark side. Strong bonding capital can curdle into exclusion or hostility toward outsiders, and groups with deep ties can pull resources toward themselves and push marginalized people further to the edge. After the 1923 Tokyo earthquake, rumor and tight in-group solidarity fueled mob violence against Korean residents. So, the goal is not simply more social capital. The goal is a healthy balance of all three types, with deliberate attention to the people who get left out.

RH: We both have some history with New Orleans—you as a former resident, I as an annual visitor for three decades [see Richard's companion article to this piece above]. As anyone who's spent time there knows, the Crescent City has many easily identifiable and memorable cultural features, from its "Yat" dialect to its music, food, and architecture. People who were born there tend to stay, and New Orleans' culture attracts new residents despite the heat, humidity, and hurricanes. I've wondered whether the city's cultural richness is also a factor in its persistence in the face of severe environmental and infrastructural challenges. Would you agree that culture is a form of social capital? If so, how do you think it helps people work together in the face of crisis? Do you have any specific examples?

DA: I would, and in my own work I have used cultural participation as one of the ways to measure social capital. When I study a neighborhood, I look at things like turnout for local events and festivals, membership in voluntary associations, and involvement in shared rituals. Those are not just colorful background. They are the repeated, face-to-face occasions where people build trust and learn whom they can count on.

A second line, a Mardi Gras Indian tradition, a neighborhood feast, a funeral or a wedding all do the quiet work of weaving people together long before any storm arrives. In my India fieldwork, regular attendance at funerals and weddings turned out to predict how much recovery aid a survivor could later mobilize.

New Orleans is almost a laboratory for this. The Yat dialect, the music, the food, the krewes, the churches, the deep habit of staying put across generations, all of it gives people dense, overlapping ties and a fierce shared identity that says this place is worth coming back to. The clearest example I documented is Village de L'Est, the Vietnamese American community in New Orleans East, anchored by the Mary Queen of Vietnam church. Father Vien Nguyen and other leaders drove to evacuee shelters across Texas, Arkansas, and Louisiana to find their scattered parishioners, photographed people so families could confirm one another's safety, and ran Vietnamese-language radio broadcasts to coordinate the return. When the city reopened, those residents came back together, almost *en masse*, while more atomized neighborhoods trickled back one anxious household at a time. Cultural and religious life was the infrastructure that made that coordination possible.

RH: You extensively studied disaster and recovery in Japan following the earthquake, tsunami, and nuclear meltdown in the Tōhoku region in 2011. Considering the immense scale of the disaster, remarkably few people died. Why?

DA: It was an enormous event, a magnitude 9.0 quake and a wave that reached some sixty feet high, and more than 21,000 people lost their lives. Yet roughly 96 percent of the people living and working in the hardest-hit areas of Tōhoku survived, and smaller earthquakes and tsunamis have killed far more people in nearby China and India. So, the real question is why mortality varied so much from one community to the next.

Japan deserves credit for its hard infrastructure and its warning systems. But when Yasuyuki Sawada and I built a dataset of mortality across hundreds of inundated neighborhoods and roughly forty cities, towns, and villages, the variable everyone expected to matter most did not perform the way people assume. Wave height mattered and stocks of social capital mattered, while seawall height, coastal length, and the other physical measures showed little or no effect on who lived and who died. When we talked with survivors, the pattern became human. Many people did not move when the sirens sounded. The ones who evacuated often did so because a neighbor or friend urged them to or literally came to the door to make sure they got out.

That is social capital operating in the span of minutes. It matters most for the most vulnerable. For elderly residents and for people of lower socioeconomic status, deeper reservoirs of social capital were linked to lower mortality. An older person living alone may not hear the warning, may not be able to move quickly, and may hesitate. A neighbor who knows that person is there, and knocks, is the difference between life and death. High-trust communities where people actually knew one another came through at higher rates than otherwise similar low-trust communities. Concrete seawalls give a community a false sense of safety. Knowing your neighbors gets you to high ground.

RH: Are there other places you've studied that have important lessons for aspiring resilience builders?

DA: Several, and each taught me something different.

Kobe after the 1995 earthquake showed me that within a single city, wards with more civic life and political engagement rebuilt faster than wards that looked similar on paper. Tokyo after the 1923 earthquake was the most sobering case, because it showed both faces of social capital at once. Tight neighborhood solidarity sped recovery, and that same in-group intensity fed deadly violence against Korean residents. That history is a permanent warning that strong bonds, by themselves, are not automatically a force for good.

India after the 2004 Indian Ocean tsunami taught me the most about who gets left out. In the fishing villages of Tamil Nadu, traditional caste councils and associations were powerful engines of recovery for the people inside them and were a wall to the people outside. Survivors with ties to NGOs and to authorities beyond their village pulled in roughly twice the aid of those who had only the government to rely on. The lesson for anyone trying to build resilience is that you cannot just pour resources into existing networks and assume they will spread. You have to deliberately invest in the bridging and linking ties of people on the margins.

More recently I have been drawn to the physical places that generate these ties in the first place. In Tōhoku, an elder-led community center called Ibasho became a hub that helped older residents stay connected and, in turn, supported survival and recovery. In Philadelphia, greening vacant lots reduced crime, and in the Sahel, radio programming helped counter extremist recruitment. Different problems, same underlying tool.

RH: You have a new book coming out in October, *Beyond Common Ground: How Everyday Places Solve Big Social Challenges*. Would you like to say something about it?

DA: I would, gladly. *Beyond Common Ground* grew directly out of that last thread. For decades our default answer to almost every threat has been what I call gray infrastructure: seawalls against floods, prisons against crime, hardened buildings against attack. The book argues that social infrastructure—meaning the physical and virtual places where relationships form and are maintained, such as parks, libraries, and radio programs—is often a more effective and far cheaper alternative.

The evidence base is broad. I draw on qualitative and quantitative work from nine countries across Africa, Asia, and North America to show how these everyday spaces build social capital and resilience, and I lay out practical policies for doing it well. The Ibasho elder center in Japan, the Philadelphia greening work, and the Sahel radio programs all appear as cases. My argument is that social infrastructure works as a kind of polysolution, one investment that pays off across climate, crime, health, and extremism at the same time, and that we keep treating it as a Cinderella service—underfunded and overlooked—when it should be central and distributed equitably. The hopeful part is the part that has stayed constant since my own family fled Katrina. Unlike a fault line or a coastline, social ties can be built. We know how to strengthen them, and we know where the gaps are. The book is a love poem to the places that can both help knit our society back together and provide the launching pad for real transformative resilience.

RH: Thank you, Daniel! I have *Beyond Common Ground* on order; thanks for the preview. I look forward to reading it. Best wishes with all your work.