Disoriented City: Infrastructure, Social Order, and the Police Response to Hurricane Katrina

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From a technological point of view, what is unique about cities is that they are dense concentrations of infrastructure. In the core of most cities, the infrastructure of roads, buildings, and parking lots visually dominates the landscape, to the near complete exclusion of the natural environment. Housing and transporting a large urban population involves the construction of massive buildings, bridges, tunnels and other civil engineering works. A dense tangle of infrastructure is embedded within these massive structures, extending deep underground as well as high above the streets.

Cities are also complex, highly structured social institutions. Much of the institutional structure of cities is built around infrastructure networks. Distinct bureaucracies may oversee roads, electrical power transmission, sewer systems, building construction, and the protection of buildings from fire. In addition, elements of city government that aren't directly associated with infrastructure are highly dependent on the city's infrastructure simply because they are located within the geographic boundaries of the city. Finally, the employees of all of these organizations live and/or work in the city, and like all city dwellers, depend on infrastructure to support their activities and to orient themselves in the space and time of the urban environment.

New Orleans is no exception to this urban dependence on infrastructure. The urban core of New Orleans was a densely populated, older urban area criss-crossed by multiple interdependent infrastructure networks, many in a state of decay. In addition, most of the city lies below sea level and continues to sink, meaning that its continued existence as a populated place is entirely dependent on an infrastructure of levees, canals, and pumps that keeps water out of its bowl-like terrain.[1]

Hurricane Katrina had an astonishingly swift and devastating impact on infrastructure along the U.S. Gulf Coast, but it's most concentrated impact on infrastructure and human life was in New Orleans.[2] The hurricane roared ashore beginning the evening of August 28th, 2005, its eye wall passing near New Orleans on the morning of August 29th. As the eye wall came ashore, the electrical system, the telephone system – both wired and wireless – and internet connections were destroyed or severely damaged. Some towers used for emergency response radio systems were also knocked out by the storm.[3] Also that morning, levees and floodwalls surrounding New Orleans began to fail, and the city started to slowly fill with water.[4] By the next morning, the city was inundated, and with that inundation, most roads became impassable and sewers no longer functioned; at some

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[1] Craig E. Colten, *An Unnatural Metropolis: Wresting New Orleans From Nature* (Baton Rouge: Louisiana State University Press, 2005), 141.

[2] Portions of this chapter draw on Benjamin Sims, "'The Day After the Hurricane': Infrastructure, Order, and the New Orleans Police Department's Response to Hurricane Katrina," *Social Studies of Science* 37, no. 1 (February 2007): 111-118 and Benjamin Sims, "Things Fall Apart: Disaster, Infrastructure, and Risk," *Social Studies of Science* 37, no. 1 (February 2007): 93-95. For an overview of science, technology, and society issues raised by the hurricane, see the other articles in this comments section on Hurricane Katrina in *Social Studies of Science*, February 2007.

[3] Joby Warrick, "Crisis Communications Remain Flawed," *The Washington Post*, December 10, 2005.

[4] John McQuaid, "Alarm Sounded Too Late as N.O. Swamped - Slow Response Left City in Lurch," *The Times-Picayune*, September 8, 2005.

point, running water was shut off.[5] Homes, hospitals and police precinct buildings were

flooded. In a final blow, as the water rose, it swamped the backup generators powering

many of the remaining radio towers used by local agencies, causing them to shut down.[6]

At this point, local emergency responders were essentially without remote

communications of any kind, and had severely limited mobility and supplies.

[FIGURE 1 NEAR HERE]

Hurricane Katrina also destroyed elements of infrastructure specifically connected with

the New Orleans Police Department (NOPD). The department lost access to many of its

facilities in the flooding, including its headquarters, crime lab, evidence room, armory,

jail, and many police stations.[7] This left the police short of supplies, including food and

ammunition. About a quarter of the department's police cars were also lost or stranded in

the flooding that resulted from the failure of the levee system;[8] in any case, many areas of

the city were impassable to standard vehicles due to debris and flooding, and it became

impossible to obtain gasoline.[9] Like other local agencies, the police department also lost

its main communications infrastructure when radio antennas were damaged in the storm.

Police radios could still be used in walkie-talkie mode to communicate with nearby units,

although the frequency they operated on was soon overwhelmed with traffic, making

communications difficult. In any case, the radios' rechargeable batteries were soon

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[5] Susan B. Glasser and Michael Grunwald, "The Steady Buildup to a City's Chaos," *The Washington Post*, September 11, 2005.
[6] Warrick, "Crisis Communications."
[7] Dan Baum, "Deluged: When Katrina Hit, Where Were The Police?" *The New Yorker*, January 9, 2006.
[8] Ibid.
[9] Baum, "Deluged"; Joseph B. Treaster, "Police Quitting, Overwhelmed by Chaos," *The New York Times*, September 4, 2005.

drained with no electrical power available to charge them.[10] Alternative communications

technologies, such as personal cell phones, were not working either.[11] Finally – as if

these problems were not enough – New Orleans police officers were required by law to

live within the city. The storm left almost 900 of the department's approximately 1,400

officers homeless, leaving them without their normal off-duty sources of food, shelter,

and clothing. Many officers, even those who did not lose homes, were also preoccupied

with their families who had evacuated the city.[12]

[FIGURE 2 NEAR HERE]

The loss of virtually all of the police department's own infrastructure, with no effective

contingency plans in place, thoroughly compromised the department's normal

organizational routines. Officers lacked the mobility and communications capacity to

patrol or effectively coordinate response to crimes. With homes and police stations

unusable or destroyed, they lacked supplies, even for basic needs like food, shelter, and

bathing.

In the aftermath of the hurricane, there was a strong sense within the city that social order

was collapsing. Rumors of social breakdown were rampant, and were spread via

uncritical media accounts. In particular, the Superdome – where many residents of the

city who did not leave town were housed during and after the hurricane – became the

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[10] Baum, "Deluged"; Gwen Filosa, "N.O. Police Chief Defends Force," *The Times-Picayune*, September 5, 2005.

[11] Baum, "Deluged."

[12] Baum, "Deluged"; Mary Foster, "New Orleans Police Remain on Edge," *The Houston Chronicle*, October 11, 2005.

object of rumors of widespread intimidation, rape, and murder. Even high-level officials were not immune from spreading these rumors: Police Superintendent Eddie Compass appeared on "The Oprah Winfrey Show" shortly after the hurricane, tearfully claiming that "'little babies' were being raped in the Superdome."[13] Though these rumors of extreme acts turned out to be greatly exaggerated, they functioned as a kind of shorthand for the overwhelming sense of social collapse those remaining in the city felt, a sense that all the normal institutions of city life had simply ceased to function.

The sense of social order coming undone was as strong within the NOPD as it was anywhere in the city. Police buildings and police cars were destroyed, criminals traveled the city with impunity, often shooting at the police, and police officers lacked the resources to rescue people or even dispose of dead bodies. In many instances, police were very resourceful in improvising solutions to these problems, putting together makeshift command centers in dry parking lots, and in several cases coordinating informal boat rescue efforts. Nonetheless, the police department is widely reckoned to have failed as an institution in the aftermath of the storm, becoming ineffective at controlling crime or managing rescue efforts. Hundreds of police officers resigned or simply walked off the job, two committed suicide, and those who remained were severely demoralized and under extreme stress.

Because the NOPD is a well-defined, clearly bounded social institution that had a particular role to play in the response to the storm, and because its problems were widely reported, it is an ideal microcosm for exploring the collapse of urban social institutions

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[13] Baum, "Deluged."

and social order in the aftermath of Hurricane Katrina. As an emergency response organization, it is also one we would hope would be able to function following a major disaster. Its problems following the hurricane raise some critical issues about how the United States, as a society, has sought to prepare for natural disasters and attacks – the object of what we now call Homeland Security.

Infrastructure and social order

The question of social order – that is, how human beings are collectively able to enact regular social structures and patterns of behavior – is central to the social sciences. While there are many ways of describing social order, the perspective I use here derives from the classic Durkheimian tradition in sociology and anthropology, in particular as it has been developed in the work of anthropologist Mary Douglas.[14] It also draws from the science and technology studies literature. This literature has particularly emphasized the idea that social order is embodied in material and technological artifacts;[15] infrastructure is seen as unique in the way it is connected to social order across large spans of time and space.[16] Drawing from these sources, social order can be defined in terms of a number of interrelated elements:

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[14] Mary Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (London: Routledge & Kegan Paul, 1966).

[15] For example, see Wiebe E. Bijker, Thomas P. Hughes, and Trevor J. Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, MA: MIT Press, 1987); Donald MacKenzie, *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance* (Cambridge, MA: MIT Press, 1990); Wiebe Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change* (Cambridge, MA: MIT Press, 1995); Bruno Latour, *Aramis, Or the Love of Technology* (Cambridge, MA: Harvard University Press, 1996).

[16] Examinations of infrastructure from a science and technology studies perspective include Susan Leigh Star and Karen Ruhleder, "Steps Toward an Ecology of Infrastructure: Design and Access for Large Information Spaces," *Information Systems Research* 7, no. 1 (1996): 111-134; Paul N. Edwards,

– *Categories:* these include basic definitions and distinctions among social and material objects – for example, classes of things, like animal and plant, or social identities, including job categories like police officer.

– *Rules or norms* pertaining to those social categories. Certain norms, for example, might define how someone occupying the position of police officer should behave. A particularly powerful set of rules are pollution rules, which define certain actions, particularly those that involve the disruption of boundaries between categories, as dirty or dangerous.

– *Practices* that draw on and reinforce those categories and rules. For example, there are numerous practices for removing potentially dangerous or dirty elements from places they don't belong, such as bathing, snow removal, or pumping away floodwater. Social rewards or sanctions may serve to reinforce individual respect for categories and compliance with rules.

– *Durable structures*, both social and material, that draw on and reinforce the aforementioned categories, rules, and practices. Some practices become institutionalized, persisting in similar form for long periods of time. In many cases

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"Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems," in *Modernity and Technology*, ed. Thomas J. Misa, Philip Brey, and Andrew Feenberg (Cambridge, MA: MIT Press, 2003), 185-225; and Anique Hommels, *Unbuilding Cities: Obduracy in Urban Socio-Technical Change* (Cambridge, Massachusetts: The MIT Press, 2005). On the history of infrastructure protection, see Stephen J. Collier and Lakoff, Andrew, "The Vulnerability of Vital Systems: How "Critical Infrastructure" Became a Security Problem," in *The Politics of Securing the Homeland: Critical Infrastructure, Risk and Securitisation*, ed. Myriam Dunn and Kristian Soby Kristensen (London and New York: Routledge, 2008).

practices are made durable by being embedded in material things. Built barriers, for example, can serve as durable means for keeping both people and material objects in their socially acceptable places.

Technology plays a key role in each of these elements of social order. We use technologies to classify objects in the world through measurement and standardization. Technologies also serve to enforce social categories and constrain practices. Bruno Latour, for example, has shown how objects a simple as keys, doors, and child restraints can engage their users in a complex ballet of delegations of competencies between human and technological entities.[17] This process is normative in the sense that it enforces upon the user a certain limited set of roles and possible courses of action. Finally, if certain sociotechnical arrangements become stable over time, they become part of the durable social order. Infrastructure is a key part of the durable social order because it structures practice and provides common reference frames over much wider spans of time and space than other technologies. Indeed, it is difficult to explain social order on the scale of modern societies at all without reference to infrastructural technologies.[18]

Breakdowns in social order

In the aftermath of Hurricane Katrina, the NOPD experienced what organizational sociologist Karl Weick has termed a "cosmology episode," a situation in which "people

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[17] Bruno Latour, "Where are the Missing Masses? The Sociology of a Few Mundane Artifacts," in *Shaping Technology/Building Society*, ed. W.E. Bijker and J. Law (Cambridge, MA: MIT Press, 1992), 225-258.
[18] See Edwards, "Infrastructure and Modernity."

suddenly and deeply feel that the universe is no longer a rational, orderly system."[19] A cosmology episode occurs when all of the key elements of social order mentioned above break down, to the point where even the fundamental categories that the impacted people use to organize the world are called into question – in other words, their cosmology. Under such circumstances, organizations may experience difficulties with "sensemaking" – the ability of individuals within an organization to make their actions meaningful in relation to a wider organizational view of reality.[20] When this capacity breaks down, organizations find it difficult to come up with collective representations of situations, which in turn can made it difficult for them to take collective action to respond to events.

The social science literature on disaster has noted that difficulties with sensemaking following disasters are often rapidly overcome, resulting in creative improvisation and recombination of available resources to solve problems.[21] In the immediate aftermath of Hurricane Katrina, however, the NOPD was never able to fully overcome the sensemaking difficulties it encountered, resulting in a diminished problem-solving capacity. Sensemaking did not completely break down. A number of cases of effective improvisation by the police are evidence of this. These included assembling makeshift command centers, taking control of stores to obtain food, water, and needed equipment,

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[19] Karl E. Weick, "The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster," *Administrative Science Quarterly* 38 (1993): 633.

[20] Ibid., 635.

[21] Tricia Wachtendorf, "Improvising 9/11: Organizational Improvisation Following the World Trade Center Disaster" (Doctoral Thesis, University of Delaware, 2004); Tricia Wachtendorf and James M. Kendra, "Improvising Disaster in the City of Jazz: Organizational Response to Hurricane Katrina," 2005, http://understandingkatrina.ssrc.org/Wachtendorf_Kendra. In his classic sociological study of disaster, *Everything in its Path: Destruction of Community in the Buffalo Creek Flood* (New York: Simon and Schuster, 1976), Kai Erikson described the aftermath of a flash flood which physically obliterated several coal mining towns in West Virginia, while leaving many survivors. One of Erikson's more disturbing findings was that no sense of collective resilience or sensemaking emerged following that disaster, which also involved large-scale destruction of infrastructure.

pumping gasoline from underground tanks using jury-rigged electric pumps powered by generators and car batteries, and organizing boat rescue efforts.[22] However, the ability of the police department to improvise appears to have been largely exhausted by efforts to obtain resources for its own survival, with little capacity left over to coordinate rescue or crime-fighting activities at an organizational level.

The ability of the NOPD to respond to Hurricane Katrina was compromised by three major breakdowns in social order: a breakdown in the barriers that separate the human body from pollutants, a breakdown in the spatiotemporal routines of police work, and a breakdown in the moral order of police work. Each of these breakdowns was the direct result of infrastructure failure, and each called into question the elements of social order described above: durable structures, practices, rules and norms, and fundamental categories. This, in turn, led to difficulties with sensemaking, including a profound sense of spatiotemporal disorientation as well as a breakdown of morale and commitment to the department.[23]

Barriers between the human body and pollution

When the levees around New Orleans failed, they let massive quantities of waters in to the streets. With the failure of this one infrastructure, it became impossible to put into

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[22] Charles Hustmyre, "NOPD Versus Hurricane Katrina," *Tactical Response Magazine*, July 2006; James Arey and Ann Wilder, "NOPD SWAT Versus Katrina," *Law and Order Magazine*, January 2006; Baum, "Deluged"; Michael Perlstein and Trymaine Lee, "The Good and the Bad," *The Times-Picayune*, December 18, 2005.
[23] In *Everything in its Path*, Kai Erikson similarly found that disorientation in space and time and diminished commitment to the collective were key symptoms of a breakdown in social order.

practice the normal rule of separation between water and roadways. This was important because it immediately made many streets impassable to conventional cars and trucks. But the water transgressed other boundaries as well. Other substances are readily carried by water, and because water is a fluid, it readily fills spaces and crosses material barriers when given the opportunity to do so. The floodwater in New Orleans immediately dissolved the boundary between the sewage system and the rest of the city, picking up waste and toxic substances and distributing them around the streets.[24] Mary Douglas suggests that our modern concept of dirt is essentially one of "matter out of place":

> Shoes are not dirty in themselves, but it is dirty to place them on the dining-table; food is not dirty in itself, but it is dirty to leave cooking utensils in the bedroom, or food bespattered on clothing; similarly, bathroom equipment in the drawing room; clothing lying on chairs; out-door things in-doors; upstairs things downstairs; under-clothing appearing where over-clothing should be, and so on.[25]

By this standard, the failure of the levee infrastructure, and resultant flooding, immediately made the streets of New Orleans a very unclean environment.

[FIGURE 3 NEAR HERE]

One of the key sources of information on the situation of the NOPD after Katrina is the reportage of Dan Baum, who spent time with a number of police units in the weeks

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[24] Barbara L. Allen, "Environmental Justice and Expert Knowledge in the Wake of a Disaster," *Social Studies of Science* 37, no. 1 (February 2007): 103-110.
[25] Douglas, *Purity and Danger*, 36.

following the storm. New Orleans police officers, like many others forced to get around in the flooded portions of the city, were unable to avoid contact with the dirty water in the streets, as illustrated by the following vignette from Baum:

> Captain Edwin Hosli … sloshed through filthy knee-deep water at the corner of Napoleon Avenue and Carondelet Street, directing his own makeshift [boat rescue] operation. The smell of rot and gasoline that blanketed the city was strongest here at the water's edge, where floating sewage and garbage gathered in foamy skeins. … He carried a black semi-automatic assault rifle and wore the same squishy wet shoes and uniform he'd had on since the storm.[26]

As a result of this constant exposure to wet and polluted water, many police officers developed blisters, rashes, and fungal infections on their feet and legs.[27] To make matters worse, lack of electricity and scarcity of water, along with lack of access to homes, meant that there was no easy way for officers to bathe or wash their clothes – two actions that could have served to restore the usual separation between bodies and dirt. Some improvisation occurred: one officer Baum talked to washed her uniform daily in a waste basket.[28] Another refused to wear his clean uniform shirts:

> In the car where he sleeps, he has hung three starched, white uniform shirts wrapped in plastic. He's been wearing a ratty, gray T-shirt for several days.

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[26] Baum, "Deluged."
[27] Joseph B. Treaster and John DeSantis, "With Some Now at Breaking Point, City's Officers Tell of Pain and Pressure," *The New York Times*, September 6, 2005; Filosa, "N.O. Police Chief."
[28] Baum, "Deluged."

"I'm not going to wear those starched shirts in this filth," he explained. "I'm saving them."[29]

As this instance suggests, not only bodily comfort but some aspect of the identity of police officers was threatened by exposure to the polluted environment of post-Katrina New Orleans, to the extent that this officer found more value in preserving some of the symbolic trappings of the police role in a pristine state than in wearing his shirts.

In erasing the boundaries between the sewage system and the streets, the levee failure also rendered the sewer system inoperable. This, in turn, made it impossible for those remaining in New Orleans to manage human waste according to normal standards. The problem was compounded by the fact that police officers, working out of improvised command posts, had almost no space to carry out any personal hygiene activities. One imagines there must have been a considerable amount of improvisation in this area, considering the circumstances, though this has not been documented in media accounts.

The inability to maintain normal social order around the body and things regarded as dirty or polluted was cited as a major difficulty by the police force. Police Superintendent Compass, with characteristic hyperbole, put it this way: "If I put you out on the street and made you get into gun battles all day with no place to urinate and no place to defecate, I

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[29] Ariana Eunjung Cha, "New Orleans Police Keep Public Trust, Private Pain," *The Washington Post*, September 12, 2005.

don't think you would be too happy either".[30] By a few weeks after the hurricane, the

department was able to house its officers on a cruise ship. Even with two officers to a

room, this was considered, as one officer put it, a "lifesaver": "If it wasn't for that, being

able to eat a hot meal, having a place to stay, I think I would have lost my mind."[31] The

cruise ship presumably also provided shower and bathroom facilities.

Douglas suggests that the human body frequently serves as a metaphor for social order in

general. In modern societies, one path between the integrity of the body and the integrity

of social order is through infrastructure: because the rituals surrounding bodily waste and

cleanliness are intimately entangled with large-scale infrastructures, destruction of those

infrastructures can directly impact our sense of our bodies and their relationship to the

world. In turn, this impact on bodies may serve as a powerful amplifier of individuals'

sense of the scope and severity of breakdown in infrastructure and social order. This may

be one reason why the inability to maintain order around the body had such an impact on

morale in the NOPD.

Spatiotemporal routines

Another effect of infrastructure destruction was to radically alter the spatial and temporal

order of the city and of police work specifically. The space of police work was disrupted

at two levels. First, the infrastructure of police buildings was largely destroyed or

rendered unusable, leaving the police no place to enact many of the daily routines and

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[30] Treaster, "Police Quitting."
[31] Foster, "New Orleans Police."

interactions that serve to coordinate police work and create a shared sense of identity and purpose. The importance of this function is reflected in the fact that much of the improvisation that occurred within the department following Katrina had to do with setting up command posts wherever possible – store parking lots, casino driveways, schools, nursing homes, hotels.[32] The hurricane also profoundly disordered the city landscape in which police officers were used to operating. Flooding rendered many streets impassable to vehicles, making it necessary for police to find new routes, which frequently forced them to take the wrong way down one-way streets or highways. Some officers apparently found that their knowledge of the streets was not easily "reversible" in this way, adding to the difficulty of getting around.[33] Those involved with boat rescues also had difficulty navigating streets where familiar landmarks were destroyed or submerged.[34]

The disruption of other institutions by the flooding also impacted police routines. Baum relates the story of one officer who spent the better part of a day driving around with a dead body in his patrol car, unable to find anyone willing to deal with the body. After being unable to contact the coroner's office, and being turned away from local emergency rooms, he was forced to return the body to the street where he found it.[35]

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[32] Baum, "Deluged"; Michael Perlstein and Trymaine Lee, "The Good and the Bad," *The Times-Picayune*, December 18, 2005; Charles Hustmyre, "NOPD Versus Hurricane Katrina," *Tactical Response Magazine*, July 2006.

[33] James Arey and Ann Wilder, "New Orleans Police Respond to Katrina," *Law and Order Magazine*, October 2005.

[34] James Arey and Ann Wilder, "NOPD SWAT Versus Katrina," *Law and Order Magazine*, January 2006.

[35] Baum, "Deluged."

A sense of mingled spatial and social disruption is captured vividly in another description from Baum:

> The boat proceeded slowly up Napoleon Avenue, bumping against sunken cars and fallen trees. Graceful multicolored turn-of-the-century houses reflected prettily in the calm water. The officers ducked a street sign as they rounded the corner onto commercial Claiborne Avenue, and fell silent as their view widened to a panorama of their city. A body floated face down in a used-car lot. The rounded shoulders of another bobbed near a funeral home. The giant root-beer mug that announced Frostop Burgers was upside down and half submerged. On the horizon rose a thick spiral of heavy smoke. A young woman sunbathed on top of a heap of boxed toasters, blenders, and other kitchenware piled into a speedboat moored outside a Walgreens drugstore. She waved nervously and yelled to someone inside the store; the cops cruised past.[36]

The temporal order of police work was also thoroughly disrupted by the hurricane. Instead of a normal routine with distinct work shifts and time spent at home, police officers were essentially on a work footing all the time, even when they had a chance to sleep. This was tied to the destruction of the space of police work and the city – with homes destroyed and mobility restricted, standard temporal as well as spatial routines became impossible.

Moral order

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[36] Ibid.

The essence of police work is the enforcement of moral order: distinguishing between right and wrong actions, and making sure people who cross that boundary are stopped and/or removed from society at large. The practices that enable this sorting depend on infrastructural support in the form of police stations, jails, and prisons. Another aspect of the enforcement of moral order is that police officers are supposed to assist the innocent, protecting them from criminals and keeping them from harm. This also depends on the infrastructure that enables police mobility and communications. As enforcers of moral distinctions, a key part of the role of the police officer is to serve as an exemplar of unambiguously right behavior. The ability to behave righteously, however, is itself dependent on elements of infrastructure – for example, on the supply chains and monetary exchange systems that make it possible to clearly distinguish between legal and illegal ways of obtaining property. Because it damaged or destroyed the infrastructure attached to these aspects of moral order, Hurricane Katrina threatened the moral standing of the police department.

For the police, one of the more frightening aspects of the post-hurricane environment was the sense that they were being outgunned by criminals who were no longer reluctant to fight back against the police. Rather than running at the sight of police lights, looters were apt to shoot at police cars.[37] Nor was it clear what police officers were to do with offenders if they did capture them, with the normal jail and prison infrastructure out of commission or inaccessible from inside the city. One officer took two looters into custody and handcuffed them to a railing at the hotel where he was staying, but had to let

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[37] Ibid.

them go because he had nowhere to send them.[38] Other officers simply photographed

looters with the items they had stolen and let them go, hoping to be able to catch them

later on. Ironically, the Louisiana Department of Public Safety and Corrections had set up

an improvised jail at Union Station in New Orleans, but apparently officers on the street

did not know of its existence.[39]

Some police officers were also disturbed about their inability to help victims of the storm.

Given the scope of the need, the difficulties in getting around the city in police cars, the

lack of medical facilities, and the relative scarcity of boats, many officers were forced to

stand by ineffectually while people suffered and died. One officer related the following

horrifying incident to a reporter:

> He was helping at the convention center one night when a man came up to him
> carrying his baby in a filthy blanket.

> "The baby's lips were blue," he remembered. He hadn't eaten in days, and his
> mother was unable to breast-feed because she was ill.

> [He] didn't know what to do. There was not hospital, no paramedics to call. He
> rushed the father and baby into his car, and began speeding west, away from the
> water. He stopped in St. Charles parish and called an emergency medical service
> crew, which picked up the child. He found out later that the baby did not survive.

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[38] Treaster and DeSantis, "With Some Now at Breaking Point."
[39] Baum, "Deluged."

"I never thought in my wildest fears that this could happen – that a baby could

starve like that in America. I have to think God has a reason," he said.

A few days later, after the National Guard arrived, [the officer] saw a huge pallet

of baby formula at the police headquarters and was in agony all over again.[40]

On a similar note, one of the officers who committed suicide was said to be upset because

"he couldn't help stranded women who were pleading for food and water" and could not

rescue trapped animals.[41] The role of police as helpers of the innocent is often a matter of

facilitating the handoff of problems to the appropriate authorities outside the police

department. With the destruction of infrastructure, police lost access to many of those

outside institutional resources and found that, without this support, they were often

unable to help in ways they felt were adequate.

The NOPD has long been notoriously corrupt, so the ability of its officers to draw on the

cultural image of police as moral exemplars has never been particularly strong. The

exigencies of operating in the post-hurricane environment put their moral status under

additional strain. For one thing, there were a few clear-cut cases of police officers

participating in looting, taking over space and scarce resources for personal gain, and

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[40] Cha, "New Orleans Police."

[41] The Associated Press, "Katrina's Devastation Reaches into the Psyches of Survivors," *Pittsburgh Tribune-Review*, September 7, 2005.

threatening those who questioned their actions.[42] These were isolated cases, but they threw many of the actions of other police officers into question. Many of the actions the police had to take to obtain needed resources to continue their work were morally ambiguous. With the normal infrastructure of financial transactions essentially destroyed, the police were forced to commandeer supplies from stores within the city. Without effective communications, the police command structure was not functional, making it necessary for individual units to make their own decisions about what kind and quantity of material were appropriate to commandeer. In such an environment, it was not always easy to distinguish looting from legitimate efforts to procure supplies. These ambiguities have largely been resolved since the storm through a series of investigations in which the activities of some officers were prosecuted while others were legitimized.[43] But in the immediate aftermath of the storm, no such structures for legitimizing actions were in place, forcing officers to rely on their own moral reasoning in an inherently ambiguous situation. Given the circumstances, it certainly seems possible that even well-intentioned officers could have made decisions that, in hindsight, appear to be wrong.

Impact of breakdowns on the NOPD

Disorientation in space and time

The ability to orient the self and the group in time and space is a key element sensemaking. Without this orientation, it can become difficult to coordinate activities or

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[42] Baum, "Deluged"; Dan Barry and Jere Longman, "A Police Department Racked by Doubt and Accusations," *The New York Times*, September 30, 2005; Perlstein and Lee, "The Good and the Bad."
[43] Perlstein and Lee, "The Good and the Bad."

measure accomplishments, making it difficult to maintain social order. In modern societies, infrastructure is one of the key means we use to orient ourselves in space and time. Spatially, infrastructure – especially transportation infrastructure, like roads, walkways, and train lines – is a network that makes connections between some points relatively easy, and others much harder. For example, it might be easier to move between parts of a city that are along the same major roadway than it is to more from one of those places to an area only accessible by side streets, affecting our perception of distance between those places. One-way streets can similarly affect perception of urban space, as New Orleans police officers found out when they tried to navigate without that restriction. A large-scale disruption to these transportation networks can therefore render urban space difficult to navigate. Infrastructures have a more subtle spatial orienting function as well – for example, a city resident might think of direction in terms of an iconic bridge or skyscraper, or a particularly distinctive overpass or intersection. Because this kind of orientation is often primarily visual, even subtle changes in visual texture – such as from an inundation of floodwater – can make a city seem unfamiliar.

The infrastructure of time keeping is fortunately portable enough – thanks to wristwatches – that it remained available in the aftermath of Katrina. But infrastructure also structures time in more subtle ways, by enabling many of the practices and rituals that punctuate daily routine and orient people in time: bathing, eating, moving between home and work. For New Orleans police officers, infrastructure destruction made these activities difficult or impossible, or shifted them in time, creating a subjective feeling of one unending day.

For example, in the midst of driving around the city with a dead body, one of the police officers mentioned above reported a feeling that time had come to a standstill:

> He parked a few blocks from the Superdome, staring through the windshield at the huge structure rising incongruously from deep water. "I was dazed and confused," he told me later. All he had was his uniform, the cash in his wallet, and his gun. He didn't know what to do with the corpse. The entire edifice of city government seemed to have dissolved in the floodwaters. He sat gazing at the Superdome for two hours.[44]

Several comments by police officers in newspaper and magazine reports corroborate this sense of temporal disorientation. One sergeant was quoted as saying: "this is the same kind of stress I experienced in war … there is no way to tell what day of the week it is … time just stopped on August 29th and it has been one long, continuous day ever since."[45] Warren Riley, Compass's successor as police chief, told a reporter "it disturbs me that I don't know where I slept for the first few days … it reached a point when we didn't know what day it was."[46] Likewise, a Louisiana State University psychologist who worked with the NOPD after the storm overheard someone in an elevator ask a police officer what day it was. The officer reportedly responded, "I know what day it is. Every day is the same day; it's the day after the hurricane."[47]

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[44] Baum, "Deluged."
[45] Arey and Wilder, "NOPD SWAT.".
[46] Perlstein and Lee, "The Good and the Bad.".
[47] Ceci Connolly, "Katrina's Emotional Damage Lingers," *The Washington Post*, December 7, 2005.

Decline of morale and commitment

In the days after the hurricane, signs started to emerge that the police department was in deep crisis as an organization. Two police officers committed suicide, one of them apparently despondent over being unable to help people and animals trapped by floodwaters.[48] 91 officers resigned in the days and weeks after the storm, while 228 were investigated for simply leaving their posts without permission.[49] These departures suggest that, for many officers, commitment to the police department, and the role of police officer, could not compete with other commitments, such as personal survival or taking care of family. Baum quotes one officer who left as follows:

> "Look, man, I stayed that whole week […] no electricity, no radio communications. I hadn't heard from my wife and kids. . . . I finally decided this, this job . . ." He sighed, looking for words to describe the thanklessness of being a New Orleans cop. "I decided that my family was more important."[50]

This officer's comments move directly from infrastructure problems, to family issues, to the difficulties of police work, suggesting the close connection between infrastructure and these commitments. This kind of calculation appeared to be widespread; Police Superintendent Eddie Compass resigned shortly after the hurricane, and was quoted by

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[48] Perlstein and Lee, "The Good and the Bad"; Associated Press, "Katrina's Devastation."
[49] Perlstein and Lee, "The Good and the Bad."
[50] Baum, "Deluged."

Mayor Ray Nagin as saying "look man, I've done my share," citing his need to take care of his pregnant wife as a reason for resigning.[51]

The departures and suicides appear to have been connected to an overwhelming sense of failure within the police department, connected to the lack of infrastructural resources and consequent inability to perform police work. One of the officers Baum interviewed, who stayed for the duration of the crisis, described his sense of the outcome:

> "Today, it finally hit me," he said softly. "I woke up and thought, there's nothing here for me. Not at work. Not at home. What did we accomplish? Nothing. We took such an ass-whipping. We didn't stop the flooding. We didn't stop the looting. The whole city got destroyed. We lost."[52]

While the police department, as an organization, was crippled at a purely functional level by the loss of basic infrastructure, there seems little doubt that these second-order failures of sensemaking and morale, themselves a result of infrastructure problems, were what brought the NOPD to the brink of complete collapse.

Conclusion

The swift collapse of, essentially, the entire infrastructure of the city of New Orleans exposed an uncomfortable truth: existing infrastructure, even in a relatively wealthy and

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[51] Ibid.
[52] Ibid.

highly technological society like the U.S., is surprisingly vulnerable to destruction – not only because specific systems are not robust, but also because these systems are thoroughly and often perversely interdependent. More seriously still, it showed that cities, as social institutions, can be exceedingly vulnerable to infrastructure collapse. In the immediate aftermath of Katrina, city government almost entirely ceased to function: decision-makers were in danger and cut off from their supporting organizations, employees of many city organizations had been allowed to leave the city, key facilities were damaged or destroyed, and emergency response agencies – like the police department – found themselves without the resources to effectively manage the situation. These difficulties were compounded by the failure of state and federal officials to fully comprehend the devastation in New Orleans.

Cities count on the efforts of emergency response agencies to maintain social order in the face of constant low-level threats, as well as the occasional major disaster. This creates a characteristic dilemma: to effectively respond to all kinds of threats to the urban fabric, emergency responders must themselves be highly embedded in this environment and have intimate local knowledge of its workings. Having such a close working relationship with the urban environment, however, means that the routines and practices of these agencies become highly tuned to local circumstances, and as a result are more vulnerable to disruption in a disaster affecting the city.

The response of the NOPD to Hurricane Katrina reveals an organization crippled by the unavailability and destruction of infrastructure, at more than one level. At an immediate

level, the capacity of police officers to communicate at a distance, to move about the city, and to obtain needed resources was severely limited. This, in itself, partly explains the problems the NOPD had in responding to the disaster. But it does not explain police officers walking off the job, committing suicide, or becoming demoralized to the point of despair, which may have had an equally severe impact on the ability of the department to respond effectively. These secondary effects were directly related to the immediate impacts: the department lost capacity to perform key policing tasks, and with this, police officers were unable to enact key elements of police identity and culture, calling their role as emergency responders and public servants into question. At the same time, the flooding made it difficult to maintain boundaries around the self more generally, and to orient the self in space and time. The result of these impacts was to undermine the sensemaking ability of the department, in terms of making sense of the immediate environment as well making sense of the department's response to it.

Regardless of the negative publicity surrounding the police department's performance after the hurricane, a careful consideration of the entirety of the situation suggests that, in some ways, the department performed remarkably well. Despite the department's prior problems with corruption and low morale, despite a lack of planning by the city, despite having lost access to much of the infrastructure of police work, despite being forced to work in a filthy environment, despite having no homes to return to, despite being unable to lock criminals up in jail – the majority of the police force stayed in place and in many cases heroically improvised solutions to almost impossible problems.

This is not to say the department's performance is beyond criticism. But it does suggest certain resources that ought to be in place if other local emergency response agencies are to avoid these problems when faced with similar circumstances. Better, more comprehensive planning and prepositioning of resources for use in extreme events would certainly help. This might need to include resources that are commonly thought of as beyond the scope of emergency response organizations, like housing, food, and personal hygiene facilities for responders. Improvisation is an ability that can be learned and improved upon with practice, as any New Orleans jazz musician can tell you. Emergency response exercises could stress improvisational skills to a much greater degree by routinely taking away familiar infrastructural resources and forcing responders to develop work-arounds. Finally, disaster response plans could be more realistic if they took into account the likelihood that, in an extreme event like Katrina, some local emergency response agencies could be as severely affected as any population in the disaster zone, and might even be unable to effectively request help. More research is needed to determine whether these kinds of interventions would be effective, or if others would be more effective, at bolstering the ability of emergency responders to respond effectively to a disaster affecting their local area.

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Figures (Note: Do not use these low-resolution versions. High-resolution images are being sent separately.)

Figure 1. New Orleans infrastructure, underwater: Interstate 10 at West End Boulevard, view toward Lake Pontchartrain, August 29, 2005, shortly after the passage of Hurricane Katrina. U.S. Coast Guard photograph by Petty Officer 2nd Class Kyle Niemi.

Figure 2. Police cars and emergency vehicles, presumably parked on an overpass to keep them out of floodwater, ended up stranded: New Orleans, September 7, 2005, a week after Hurricane Katrina's initial impact. U.S. Federal Emergency Management Agency photograph by Jocelyn Augustino.

Figure 3. Matter, and infrastructure, out of place: Lower 9th Ward, New Orleans, September 18, 2005, three weeks after Hurricane Katrina's initial impact. U.S. Federal Emergency Management Agency photograph by Andrea Booher.