

Karen Stephenson, Ph.D., is a unique visionary and a pioneer in the rapidly emerging field of social network analysis. She has forged an innovative approach that integrates the natural sciences (quantum physics and chemistry) with the social sciences (anthropology). This approach has transformed the concept of network analysis—and won Karen international recognition as a foremost corporate anthropologist. Karen is the president of

NetForm and a professor of management currently teaching at Harvard's Graduate School of Design. She previously held a position on the faculty of the UCLA Graduate School of Management as well as visiting anthropologist and scholar positions at Bolt, Beranek and Newman; MIT's Sloan School of Management; and IBM's Advanced Business Institute. Karen is also the author of the forthcoming book *The Quantum Theory of Trust*.

In this chapter, Karen helps us understand what happens behind the scenes of an organization's hierarchy. She confirms what many women leaders have long known: that networks are the central nervous system of an organization, and its signals cannot be ignored.

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TRAFFICKING IN TRUST

The Art and Science of Human Knowledge Networks

Karen Stephenson

First they ignore you, then they laugh at you, then they fight you, then you win.

—Ghandi

She had been mentored by the very best. It was all because the CEO had had an epiphany. He had looked around his company and seen that he was wheeling and dealing mostly with men—where were the women in the equation? Why weren't they involved? And then he realized that he was the sole party responsible for both the absence and silence of women. In a quiet promise to himself, he decided to change the context and shift the equation. And he did—she was now CEO. But the appointment alone was not enough to garner the impact he sought. Oh sure, he saw the press rally 'round her—both praising and picking. But that's not the kind of recognition he was expecting for his new successor. Instead, what he saw was that the male managers within the enterprise didn't trust the new female CEO—perhaps because they had difficulty trusting any woman. Quite frankly, he had not spent much time in nurturing those relationships to get past that ol' familiar "gender issue." He also saw that women managers did not trust the new woman CEO either! Did she sell out? What did she do that they had not done or would not do? Surely her promotion was not the result of mere meritocracy!!

If time is appropriately spent in building collegial relationships in the leadership network, gender issues can become irrelevant. But when leaders don't do their homework and fail to establish their networks, then other factors, like gender take center stage. In the final analysis, merit matters, but only when networks are nurtured.

Why Is the Web of Relationships So Important?

I have spent my entire professional career in hot pursuit of this single question. I've come to realize that the only way to inspire change, stir activity, or get anything done at all is to explore the hidden world of social networks—"grey markets" of rights, riddles, and rituals.

Such social networks exist within your organization. And if you are a woman leader, these are forces that you should not and cannot ignore. Indeed, because women leaders have so long been on the outside looking in, they in particular need to understand the various sources of power that exist within an organization. It's not just about simple and straightforward hierarchy anymore. It's also about social networks. Recognizing, understanding, and leveraging these social networks, then, are critical for women leaders who want or need to secure power within their organizations.

In this chapter, we'll review significant moments, milestones, and insights relating to the power of social networks. And we'll discuss the importance of the art and science of network analysis.

First, let me provide a quick overview about the research that forms the foundation of this art and science. As a corporate anthropologist, I enter an organization through any number of access points. About 30 percent of my access comes through human resources, 30 percent through the chief financial officer or chief operating officer, and 30 percent through the chief executive officer directly. I survey the population using a simple paper form, an online form, or, in some cases, interviews. No matter what the medium, the method is the

same. With whom do you work directly? To whom do you turn for advice? To whom do you look for new ideas and new information? With whom do you collaborate and socialize? After I aggregate the answers to these questions across the entire organization, a series of cultural knowledge maps is produced.

I am talking here about how the relationships between people in an organization create the real pathways of knowledge, for the actual power of an organization exists in the structure of a human network, not in the architecture of command and control superimposed on it. My research is about making invisible workplace relationships visible by computer modeling the web of social exchange in both twoand three-dimensional forms. And the data always reveal some significant answers to a host of significant questions: Who is talking to whom (before and after the formal agenda-driven meeting)? Where do ideas get bottlenecked, and how do they get widely dispersed? Who has the authority, and who has the ability to make things happen? Why are the top salespeople effective, and what does that have to do with their proximity to customer service? Which candidate for CEO has a finger on the pulse of the organization, and which candidate has merely grabbed the current CEO's ear? Who among the senior partners is informally mentoring a younger generation of potential successors, and what does that have to do with their smoking habits? Why is the merger, which looked so promising on paper, failing to gel? Why did the latest middle-management layoffs, less severe than in previous rounds, leave the organization so much more decimated? Why did one factory plant become so efficient as compared to two identical ones?

By x-raying the social network of an organization, we in effect provide another and new way of seeing. Until very recently, we perceived organizations as a structural hierarchy that was both blind and deaf to another life force fomenting within. Tacit knowledge—the critical information that makes organizations functional—is in fact transferred not through established channels within the formal hierarchy but instead through informal relationships. And the medium

of exchange is not just the *authority* of transactions but, significantly, the *trust* within relationships.

Without an understanding of this other world and its operating principles, women leaders will find genuine power to be potentially within their grasp yet nevertheless, frustratingly, at arm's length. And they will be marginally effective, at best, at managing and influencing their own culture. The missteps and misreads that result during reorganizations, layoffs, strategic initiatives, and promotion decisions are just a few signs of a larger cultural illiteracy that can bedevil all leaders (male and female) who fail to understand the social networks at work.

Such corporate failings usually indicate an incomplete portfolio of knowledge. An overreliance on explicit, procedural knowledge that can be readily taught or passed on in notes, instructions, or textbooks is the culprit. Tacit knowledge, in contrast, is developed through embodied experience; stored away in impressions, intuition, and instinct; and subsequently shared with trusted colleagues. The best leaders understand that this knowledge is a critical component of success. How one interacts with customers, navigates a bureaucracy, generates innovations, blows off steam without stressing the system, or increases the efficiency of a warehouse storage facility is not information that is always readily accessible. Such knowledge cannot be stored in databases or captured in instructional manuals so that it can be tapped when needed. Instead, it invisibly resides in each person's knowledge bank and is exchanged, distributed, or blocked depending on who that person encounters, trusts, or fears.

To understand how information flows through a network of relationships, I have focused on three archetypes of information sharers that exist in every social system—people I call Hubs, Gate-keepers, and Pulsetakers. Together they constitute a culture's DNA. Knowledge is encoded in these positions because they are located at the nucleus of trust. Knowledge is then replicated throughout the social system via trust-based relationships, which hold these key positions in place (see Figure 15.1).

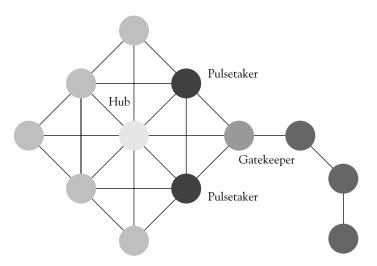


Figure 15.1. The DNA of Social Capital

- Hubs are people who are socially connected to the nth degree. They have the highest number of "direct ties" to others and hold numerous face-to-face conversations, like the center of a star in a classic hub-and-spoke system. They are also effective multitaskers who can juggle many activities, concepts, and relationships. You have to be careful what you say to Hubs. Although they are not malicious, they are so connected that any message may be quickly spread and potentially damaging. A Hub can thus accidentally cause harm, much in the same way a child unwittingly causes embarrassment by speaking the unadorned truth.
- Gatekeepers serve as important links or bridges within an organization, functioning as human way stations on critical pathways between parts of an organization or between Hubs. When information must funnel through one person on the way to another, a Gatekeeper is the conduit. If this person likes you, he or she can act as a valuable broker. Conversely, if the Gatekeeper does not support you, he or she can slow

down your progress by withholding critical information. Because Gatekeepers do not have as many activities to juggle, they have more time to survey the political landscape. And they are keenly aware of the calculus of power.

• *Pulsetakers* are connected through a great number of "indirect ties." They are almost the opposites of Hubs, unseen but all-seeing. Such people carry a lot of influence, much of it subtle. They are well versed in the culture, and a good proportion of them evolve into great leaders. They are key to knowledge succession and, at the very least, should serve as mentors and coaches for the newly hired and uninitiated. My favorite historical example of a Pulsetaker is Machiavelli, who observed court intrigue and influenced it masterfully without a prominent station.

These are the types of people at the nexus of knowledge within a network. And they transmit information amid a web of relationships using the powerful, cementing force of trust.

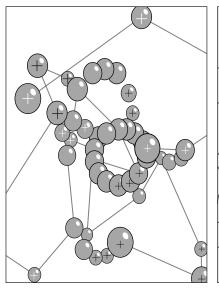
The Force Field of Trust

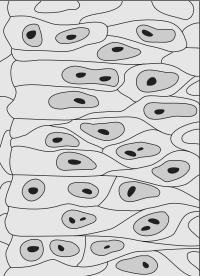
For a long time I did not realize that by studying networks I was actually staring at trust. Knowledge is biased and does not travel neutrally like currency in an electronic communication network (ECN), or electric currents in utility lines. Instead, knowledge ebbs and flows down hallways, in meetings, and in private conversations inside and outside the office. The key to the way that knowledge travels lies in the relationships that can bypass the standard organization chart. The quality, kind, and extent of those relationships are much more influential than most leaders recognize. Relationships are the true medium of knowledge exchange, and trust is the glue that holds them altogether.

What does all this mean for the individual woman leader? Among other things, it dictates that her effectiveness and power depend not on her position or title but, instead, on her connections to others in a variety of intertwined networks. As a woman leader, you have to pay attention to those many and varied connections. And you have to make sure that those relationships are infused with trust. Only then can you fully access the many important strands of knowledge existing in your organization's social networks.

Consider the idea that members of an organization are wired to others to produce a ganglia of interconnected nerve endings (Figure 15.2). Studying the figure, you begin to realize that the network is a collective intelligence that is greater than the sum of its parts. Conversely, this also means that the insight of any one person about his or her own network (the egocentric network) is, by definition, fundamentally flawed. Why? Because it is engulfed by the whole of the organizational network. If a woman leader can fly over the network or through it, she can also understand how to produce a tipping point—and how to best influence the organization more effectively through its key network nodes. Indeed, new knowledge or strategy will be accepted by the organization only if adopted by the networks.

Figure 15.2. Models of a Human Network Nervous System (Left) and of Biological Nerve Complexes (Right)





Despite the perceived authority of the formal hierarchy, an organization's real value is at the mercy of its social networks.

Let's take three examples that evidence the impact of relationships, trust, and social networks in everyday work life: mentoring, contract law, and office politics.

Mentoring is one of the oldest forms of knowledge transfer and, in many ways, still the most efficient. Mentoring programs that thrive do so because they rely on the building of a real relationship between mentor and mentee. Mentoring programs that fail do so because they force the relationship on the participants without the understanding that trust is the foundation for the real connection. It is the quality, not quantity, of reciprocal exchange that is proportional to a high level of trust.

Contracts that adjudicate between organizations fill a void where trust has not yet formed by controlling for the costs of transactions across organizational divisions. At the same time, when trust is present, contracts ensure that there is clean separation between transaction costs and trust so that the relationship may continue unfettered.

In terms of office politics, how many successful executive underlings have found that it is critical to gain the trust of the CEO's administrative assistant? Without tacit knowledge of the CEO's time constraints, meeting availability, priorities, and moods (which the top executive assistant can choose to share or withhold), it is unlikely that one will succeed in effectively communicating with the CEO.

Seven Networks (and Seven Core Layers of Knowledge)

You can achieve complete cultural literacy by understanding that all organizational knowledge is not created equally. Specifically, in any organizational culture, there are seven core layers of knowledge, each with its own informal network of people who exchange information. Individual people move among all networks. And different people may play different roles in each—for example, a Hub in one network may be a Pulsetaker in another. So it is who in what net-

work that shapes organizational knowledge. The following sections describe the seven social networks that I regularly use to discern the stratigraphic layers of knowledge.

The Work Network

With whom do you exchange information as part of your daily work routine? The everyday contacts of routine operations represent the habitual "resting pulse" of the organization. This network contains functional and dysfunctional processes. It is a baseline of knowledge containing valuable nuance as well as noise.

The Social Network

With whom do you *check in* to find out what is going on? This network is a strong indicator of trust. Healthy organizations have social networks strong enough to withstand stress and uncertainty but not overly demanding of people's personal or productive time. When social networks are sparse, it can mean two things: either the organization has just been formed and trust is nascent, or the organization has suffered a setback and trust is betrayed.

The Innovation Network

With whom do you collaborate to kick around new ideas? In this network, people talk openly about ideas, perceptions, and experiments without political concerns. People in this network do not hold sacred cows in esteem and may clash with keepers of corporate customs. There is a healthy amount of trust and irreverence in this network.

The Expert Knowledge Network

To whom do you turn for expertise or advice? Organizations have core networks possessed by key members who take solace in the legacy of the enterprise. They are the keepers of past traditions and

procedures that they helped establish. As such, they are often uncomfortable or threatened by innovation. The people in this network form tight-knit core groups or cliques of closely held trust.

The Career Guidance or Strategic Network

To whom do you go for advice about the future? If people tend to rely on others in the same company for mentoring and career guidance, that in itself indicates a high level of trust. This network often directly influences corporate strategy, decisions about careers, and strategic moves.

The Learning Network

With whom do you work to improve existing processes or methods? Key people in this network may end up as bridges between Hubs in the expert knowledge and innovation networks, translating between the old guard and the new. Because most people are afraid of genuine change, this network tends to lie dormant until the change awakens a renewed sense of trust. It takes a tough kind of love to entrust people to poke holes in your established habits, rules, and practices.

The Decision-Making Network

To whom do you go in order to get decisions made expeditiously? Key people in this network know how to "work" the system, use old processes for new purposes, and in general get things done. This network is usually sparse because, under normal conditions, decisions are made through established processes and procedures. When this network is dense, it is indicative that existing procedures are in all likelihood broken, irrelevant, or never existed. In these instances, decisions become like market transactions and occur instantaneously.

An individual woman leader's understanding of the social networks within her organization usually determines her access to critical organizational knowledge—and thus the extent of her power, influence, and impact within the enterprise. Not surprisingly, a woman leader's understanding of social networks usually shapes her satisfaction with her leadership position and the organization in general.

Mapping Trust: Decoding the DNA of the Organization

More broadly, understanding networks and the roles people play in them is the key to decoding the DNA of the organization. Network analysis can be used as a diagnostic tool in many ways. Insights rendered can be critical for the success of mergers, acquisitions, talent management, corporate restructuring, innovation, improving efficiency, succession planning, and deploying a communication strategy, to name just a few areas. Network analyses have been used by architects and interior designers to determine optimal workspace planning, CLOs who want to tap real knowledge and innovation potential, and the U.S. government in unraveling the networked world of al Qaeda. Here are several real-world cases taken from the NetForm database exemplifying a smattering of the applications.

The aerospace giant **TRW** learned that a procurement staffer three layers below the divisional hierarchy was an informal "personnel department." She was assessing the competencies of colleagues and matching them to the right jobs or directing them to appropriate training. Our work helped identify this shadow leader. The organization recognized and rewarded her. She was coached in the ways of the hierarchy so that in six months her promotion would result in a smooth and successful transition.

A medieval—er, rather a midlevel—university administrator at **UCLA** was, as a control mechanism, letting work collect on his desk, thus keeping it out of the hands of others. He'd taken up with a clique of grousers who reinforced his negative aura. The surprising solution? A promotion. It's hard, after all, to fire someone in

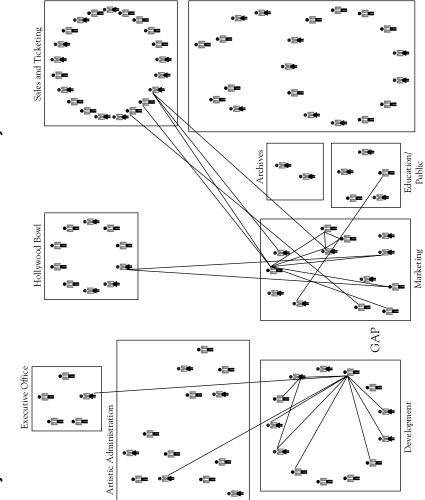
academia—but promoting him disconnected him from his negative support group and removed him as a bottleneck.

The Los Angeles Philharmonic Orchestra, dependent on donor goodwill, upset some sponsors by failing to print their names in the programs. Information was dropping between the cracks. No one was able to understand how this could happen. The real reason? The development staff consisted of young new hires, whereas the marketing staff was made up of fifteen-year veterans. The net result: the two groups talked past each other when it came to thinking up new ways to do things. Hubs, Gatekeepers, and Pulsetakers were assembled in a task team to ensure that nothing more fell through the cracks (see Figure 15.3).

Hewlett-Packard was reorganizing and reinventing itself in the late 1990s. The company's founders, now deceased, had made famous their management approach (the HP Way). I employed network analysis and confirmed the long-held cultural belief that the HP Way consisted of management by walking around (MBWA)—in essence, nurturing the networks. I uncovered that the root cause of organizational pathologies was not the HP networks but a vacuum of authority, for example, hierarchy missing in action. The HP response was an organizational swap whereby powerful networks begrudgingly gave ground to a new imposed hierarchy.

The royal tombs in ancient Egypt were home to the bones of the dead. So it was with a sense of irony that I was staring up at a six-story modern pyramid of **Steelcase**, a manufacturing firm, home to research and development. The company's tacit policy was "creativity on demand" producing over the years a state of cultural exhaustion. A return to former levels of creativity was achieved by diagnosing undiscovered but thriving areas of innovation. The solution consisted of integrating the measurement of the networks as part of individual and collective performance, reinforced with a redesign of the workspace.

Figure 15.3. The Innovation Network at the Los Angeles Philharmonic



Social networks also proved to be key for the naval operations for Warfare Requirements and Programs at the **Pentagon.** Figure 15.4 is the image of an organizational analysis conducted of the U.S. government, three hierarchical layers down from the president. Within each organizational segment you can see smaller subgroups denoted by densely connected circles. The perimeter of the circles is made up of microscopic dots denoting real people. The crisscrossing lines that fill each circle represent the reciprocal communications between individuals. It is obvious that the relative density within the circles eclipses the connections between them,

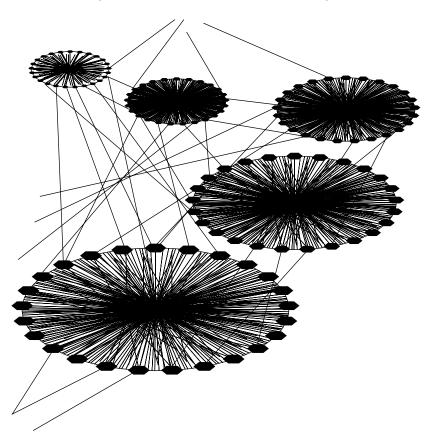


Figure 15.4. Work Network, Pentagon

indicating that people spend their limited resources arbitraging information within segmentary or "siloed" divisions. The unhappy result: competing for scarce information produced a perilous mix of politics and human error compromising overall effectiveness. New technology was put in place to eliminate human error, freeing individuals to do the one thing that technology cannot—innovate.

A network analysis of a largely female-run **Head Start** agency revealed an unusual pattern, one in which men were communicating exclusively through a subset of the women. There seemed to be no rhyme or reason for this particular pattern, as it cut across division, function, and tribe. On reviewing the anomaly with the company's president (who was not a member of the clique), she too was stumped. On hearing the names read to her, she proclaimed, "I've got it—they're all smokers!" One further note: none of the men had previously smoked. They nevertheless risked potential long-term health hazards for short-term access to information.

In a merger of two container plants, International Paper had to wrestle with decisions around what would be outsourced and what would remain with the new entity. Management quickly came to certain decisions about retaining key players. Our network analysis indicated, however, that the key players were only a part of a greater knowledge network. Management's initial decisions about retention of talent were based on individuals, not on the collective intellectual capital of the network. When they considered the broader implications of outsourcing in light of organizational knowledge, they came to a different set of decisions.

Women made up less than one percent of the directors at **JP Morgan** in the early 1990s. By 2001, the firm's population of directors was fifty percent men and fifty percent women. A network analysis showed that the statistically balanced population at the director level shared a healthy dialogue between male and female counterparts. Closer examination, however, revealed a hidden pathology. Men talked to each other at the director level eighty percent more than

women talked to each other. Why? Female directors were still treating men as their mentors, modeling their behavior on their female predecessors, who in fact did rely on male mentors. But now, in a day of gender equity, this survival behavior was disabling rather than enabling. By still communicating through a male conduit, women were spending more time in circuitous female-to-male communications rather than communicating directly with each other, woman to woman. Building trust and true cooperation (and not competition) among the female cohorts was the next step in achieving effective operations by overcoming the legacy of gender bias.

Moments of Seeing

"Deep tissue" network analysis described in these case studies provides information most people sense but can't see. Executives are satisfied with these revelations because they can at last see what's really going on and are able to influence their organizations in a more profound and knowledgeable way. Rank-and-file employees are relieved because there is a rationale for recognizing their role in collecting, facilitating, and distributing tacit knowledge. This results in both management's and employees' having greater confidence in each other.

I have personally conducted many network analyses. And I have done so as an anthropologist. My goal here has been to decipher what real working knowledge is. People in organizations are intimately familiar with their own context, while the anthropologist is not. To a real extent people are right about what they are describing to me—it is their reality. But they know too much and see too little. That's where an anthropologist's interpretive eye serves as a corrective lens. What do I mean?

Every time I step across the threshold of an organization, I remember the research done on children's art. Most children draw what they know, not what they see. Similarly, when the untrained eye of a leader draws a picture of the organization, he or she does it on the basis of what he or she knows. The resulting image is usually

a flattened organization chart, distorted in perspective; long on opinion and short on reality. To draw what you see, you must forget what you know. You must erase any preconceived notion of what the object is and draw only what is there. If all of us can do this, then we truly see.

The sad fact is that what people usually see inside their organizations is what they know—an explicit structure—in exactly the same way that we walk into any building and see its physical architecture. What they do not see is the shape of an invisible culture that fills the organization, in much the same way that people can't see the shape of the space that fills a building. Although there is safety, security, and certainty in the explicit hierarchical structure of organized work, there is precious little representation of another, equally valid, and very real worldview of its hidden culture. By connecting the dots revealed by network analysis, an anthropologist can bring into focus an emergent, shadow world beneath the formal one.

The Accidental Anthropologist: A Nonconformist's Triumph over Bureaucracy

I am fortunate to be an anthropologist, if only by accident. The story of my journey to that discipline (and to my passion for social networks) is a tale of two identities, one with relevance for any woman leader. For that tale is illustrative of the value in nonconformity—and the stifling danger of playing by and with the rules of the bureaucracy.

I vividly remember an early, crystallizing moment in that journey. I had graduated from college and was working as a research chemist in Salt Lake City. One evening, after ruminating over molecular structures all day in my office, I glanced down from the mezzanine onto the laboratory floor below. Chemists, physicists, and technicians were milling about the lab benches enmeshed in their work, colliding and dispersing in a swirl of motion that reminded me of the way molecules or subatomic particles interact. I froze. Instantly, a picture formed in my mind, and I saw a pattern of connections formed from

familiar exchanges that had been invisible to me before. Over the next few months, I continued to observe such patterns in action.

I saw these patterns largely because of the parallel lives I had been living in both the arts and sciences. While pursing my undergraduate studies in chemistry and physics at Austin College in Texas, I also privately maintained my lifelong studies in the visual arts. Although I was unwilling to substitute art for chemistry, I was willing to make art my second major. And, eventually, I was drawn to the field of iconography of art—and indirectly to the discipline of anthropology by using art and artifacts to reconstruct the ancient trading patterns of the Mayans and Egyptians.

Track back to that moment on the mezzanine. When I saw the pattern of human interactions taking place in real life and coupled them with the archeological work I had done in reconstructing ancient human interactions, I decided that the idea was robust enough to follow up on in a disciplined way. After all, it was all about recognizing patterns. So I transferred all of my postgraduate studies in quantum chemistry and mathematics—much to the chagrin of Professor Henry Eyring in the chemistry department—to the department of anthropology. I subsequently received a master's degree for developing a new mathematical model for analyzing human networks.

Five years later, I moved to Boston with my husband and son, landing at Harvard. I did not find it easy to carve an innovative path while fulfilling requirements for my Ph.D. Perhaps because I had been in the corporate world, I had little patience for the antiquated rituals of academia. Yet I pressed on, regardless of the obstacles. The folks at Harvard initially urged me to become an archaeologist. I demurred—I was tired of piecing together the incomplete puzzles of dead people's cultures. I wanted to understand living cultures in which all the pieces are alive and moving. Meeting me halfway, my professors suggested that I model myself after Margaret Mead and live among tribal elders, such as the Mayans. But if I were going to study strange, exotic behavior, I wanted to go where the real action was—to strike at the solar plexus of the modern corporation, an unexamined heart of darkness. Although not the usual anthropological fare, it was compelling to me.

Persuading professors, corporations, and potential funders of my idea proved daunting—and ultimately unsuccessful. But I didn't give up and decided that I could pay my own way through by consulting. Toss in a few scholarships, I figured, and I just might make it. The lesson here: have the integrity to hold true to your ideas and it will immunize you against institutional attempts to transform you into a Stepford student. Who wants to be a professor's clone (aka protégé), when you can be an independent product of your own thinking?

After pounding on many corporate doors and having as many slammed in my face, Bolt, Beranek and Newman (BBN), the technology company founded by MIT professors (they are the ones responsible for the @ sign in email), decided to enlist me. My professor's skepticism about my unique approach evaporated upon their recognition that the Harvard Business School (HBS) was jealous of my opportunity to study BBN, an opportunity long denied to them. It's always heartwarming when one vice trumps another. Later, I discovered that BBN founder Richard Bolt was a personal friend of Margaret Mead. Coincidence?

During my dissertation writing, I was a careful listener, responding discreetly and respectfully. As attempts among BBNers to surreptitiously play me for information failed, they began to trust me. In method, I functioned exactly like a cultural anthropologist studying a hunter-gatherer tribe. I took copious notes, attended meetings, watched how and in what order people spoke. As part of my thesis, I developed formulae for ranking the significance of individuals as knowledge conduits, and began calculating how networks emerged and changed over time.

With Ph.D. in hand, I went west to the business school at UCLA to continue my research. And it was there that I finally and fully ran into the obstacle of bureaucracy. As the only anthropologist in the business school and the newest junior member to join the faculty of this public institution, I was a bit taken aback at the sheer number of private, closed-door meetings during which faculty members obsessed over unwritten rules, behaviors, and dress. Social scores were kept over every slight. Differing ideas about scientific research

were taken personally. I was explicitly instructed to steer clear from the Margaret Mead model of reaching out to the public and to instead adopt a competitive strategy of narrowing my field of potential discussants. My goal according to the academic bureaucrats was to create an intellectual fortress built up through years of obfuscation with the tools of an arcane academic language. Following such an approach, if I played my cards right, I could eventually work my way up the ladder to an apotheosis, at which point there would be only one other person in the world with whom I could have a conversation about my research. This was allegedly the height of intellectual achievement.

I have never and will never conform to such a stifling bureaucracy. And I didn't then, either. For instance, when I pointed out the relativity of hierarchical rules, one UCLA economics professor (a rumored confidant of the deified Alan Greenspan), proclaimed, "What hierarchy? I see no hierarchy here at UCLA." My deadpan response: "Well, if you look 'straight out' from the top of a hierarchy, you can't see the organization below." I'm not sure if my comment ever fully registered.

After a decade at UCLA, my resignation in 2000 marked my coming of age in academia. I gleefully accepted Harvard's invitation to come back east and teach at the Graduate School of Design. I had, in a sense, returned to art. And, in so doing, I encountered far less bureaucracy. Perhaps this was due to the fact that Harvard doesn't care about becoming "the UCLA of the East" and is instead focused, for better or worse, on being "the Harvard of Harvard." Or perhaps this had nothing to do with a particular institution at all. Perhaps it was because I had finally learned how to triumph over bureaucracy—by completely ignoring it.

Lessons Learned

Here's one important truth that I have learned from my personal journey: streamlined org charts, precise reporting relationships, and established bureaucratic procedures create a traffic grid, a visual

composition of formal structures for how things should work. The fact that things actually work much differently, and sometimes at complete odds with the formal apparatus, leads us to the discovery of a second world, buried beneath the first.

It was a bitter pill to swallow when the test case for my theories came from the World Trade Center towers, not the ivory tower. The field of research and practice I had spawned in the 1990s was growing—competition surged. But then the cacophony of entrepreneurialism was stilled with the collapse of the World Trade Center towers on September 11, 2001. Never was the case for the power of networks made more obvious than on that day in that single event, but not in the way most people think. Al Qaeda is a network, but any network's success depends on its host. And what better host than a U.S. government that did not or would not talk or walk across organizational walls and halls? It was the same bureaucratic phenomenon I had earlier witnessed within the American university system—a problem that is plainly not unique to that system.

The lesson here for women leaders in today's organization? We ignore trust-based networks at our peril. When we do, key employees are not retained over time. Mentorship breaks down. Institutional memory seeps away. Manipulative blowhards who have the boss's ear get promoted over more talented but less visible rivals. Lacking the psychological safety net of trust, many employees run away from risk rather than run toward it.

Please don't consider this an indictment of hierarchy, however. Hierarchy is an important aspect of an organization's structural integrity. It is, in fact, half of the knowledge equation. But hierarchy's power cannot be confused with that of the equally real and relevant social networks that account for so much organizational knowledge. In the final analysis, hierarchy and networks should be yoked together to ensure balance and accountability.

By respecting the social networks in her organization, keeping the trust of its powerful Pulsetakers, forming alliances with the Gatekeepers, and strategically positioning herself with the Hubs, today's woman leader can optimize power, innovation, and efficiency. At

the same time, she needs to remember that only the hierarchy can turn all of this cellular anarchy into order. The woman leader should respect and leverage the hierarchy accordingly.

I have been branded the "Queen of Between" for my contribution to the network theory and its application. Guilty as charged. In truth, I'm really a closet hierarchist because I recognize that hierarchies will always have their place in organizational structure. Hierarchies can neutralize networks but networks can unhinge hierarchy. In the end, it is a dilemma—and an uneasy balance of power.