Dept. of Human Resources

Designs for Working

Why your bosses want to turn your new office into Greenwich Village.

By MALCOM GLADWELL

In the early nineteen-sixties, Jane Jacobs lived on Hudson Street, in Greenwich Village, near the intersection of Eighth Avenue and Bleecker Street. It was then, as now, a charming district of nineteenth-century tenements and town houses, bars and shops, laid out over an irregular grid, and Jacobs loved the neighborhood. In her 1961 masterpiece, "The Death and Life of Great American Cities," she rhapsodized about the White Horse Tavern down the block, home to Irish longshoremen and writers and intellectuals – a place where, on a winter's night, as "the doors open, a solid wave of conversation and animation surges out and hits you." Her Hudson Street had Mr. Slube, at the cigar store, and Mr. Lacey, the locksmith, and Bernie, the candy-store owner, who, in the course of a typical day, supervised the children crossing the street, lent an umbrella or a dollar to a customer, held on to some keys or packages for people in the neighborhood, and "lectured two youngsters who asked for cigarettes." The street had "bundles and packages, zigzagging from the drug store to the fruit stand and back over to the butcher's," and "teenagers, all dressed up, are pausing to ask if their slips show or their collars look right." It was, she said, an urban ballet.
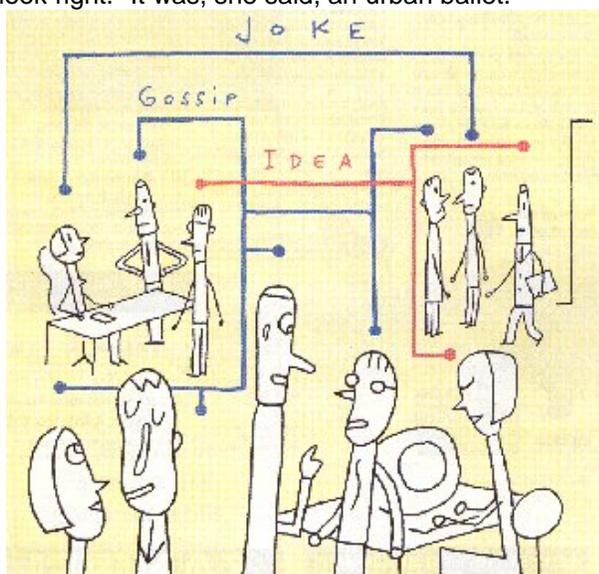
The miracle of Hudson Street, according to Jacobs, was created by the particular configuration of the streets and buildings of the neighborhood. Jacobs argued that when a neighborhood is oriented toward the street, when sidewalks are used for socializing and play and commerce, the users of that street, are transformed by the resulting stimulation: they form relationships and casual contacts they would never have otherwise. The West Village, she pointed out, was blessed with a mixture of houses and apartments and shops and offices and industry, which meant that there were always people "outdoors on different schedules and … in the place for different purposes." It had short blocks, and short blocks create the greatest variety in foot traffic. It had lots of old buildings, and old buildings have the low rents that permit individualized and creative uses. And, most of all, it had people, cheek by jowl, from every conceivable walk of life. Sparely populated suburbs may look appealing, she said, but without an active sidewalk life, without the frequent, serendipitous interactions of many different people, "there is no public acquaintanceship, no foundation of public trust, no cross-connections with the necessary people-and no practice or ease in applying the most ordinary techniques of city public life at lowly levels."

Jane Jacobs did not win the battle she set out to fight. The West Village remains an anomaly: Most developers did not want to build the kind of community Jacobs talked about, and most Americans didn't want to live in one. To reread "Death and Life" today, however, is to be struck by how the intervening years have given her arguments a new and unexpected relevance. Who, after all, has a direct interest in creating diverse, vital spaces that foster creativity and serendipity? Employers do. On the fortieth anniversary of its publication, "Death and Life" has been reborn as a primer on workplace design.

The parallels between neighborhoods and offices are striking. There was a time, for instance, when companies put their most valued employees in palatial offices, with potted plants in the corner, and secretaries out front, guarding access. Those offices were suburbs – gated communities, in fact – and many companies came to realize that if their best employees were isolated in suburbs they would be deprived of public acquaintanceship, the foundations of public trust, and cross connections with the necessary people. In the eighties and early nineties, the fashion in corporate America was to follow what designers called "universal planning" –

rows of identical cubicles, which resembled nothing so much as a Levittown. Today, universal planning has fallen out of favor, for the same reason that the post war suburbs like Levittown did: to thrive, an office space must have a diversity of uses – it must have the workplace equivalent of houses and apartments and shops and industry.

If you visit the technology companies of Silicon Valley, or the media companies of Manhattan, or any of the firms that self-consciously identify themselves with the New Economy, you'll find that secluded private offices have been replaced by busy public spaces, open-plan areas without walls, executives next to the newest hires. The hush of the traditional office has been supplanted by something much closer to the noisy, bustling ballet of Hudson Street. Forty years ago, people lived in neighborhoods like the West village and went to work in the equivalent of suburbs. Now, in one of the odd reversals that mark the current economy, they live in suburbs and, increasingly, go to work in the equivalent of the West Village.

The office used to be imagined as a place where employees punch clocks and bosses roam the halls like high-school principals, looking for miscreants. But when employees sit chained to their desks, quietly and industriously going about their business an office is not functioning as it should. That's because innovation – the heart of the knowledge economy – is fundamentally social. Ideas arise as much out of casual conversations as they do out of formal meetings. More precisely, as one study after another has demonstrated, the best ideas in any work place arise out of casual contacts among different groups within the same company. If you are designing widgets for Acme.com, for instance, it is unlikely that a breakthrough idea is going to come from someone else on the widget team: after all, the other team members are as blinkered by the day-to-day demands of dealing with the existing product as you are. Someone from outside Acme.com – your old engineering professor, or a guy you used to work with at Apex.com – isn't going to be that helpful, either. A person like that doesn't know enough about Acme's widgets to have a truly useful idea. The most useful insights are likely to come from someone in customer service, who hears firsthand what widget customers have to say, or from someone in marketing, who has wrestled with the problem of how to explain widgets to new users, or from someone who used to work on widgets a few years back and whose work on another Acme product has given him a fresh perspective. Innovation comes

from the interactions of people at a comfortable distance from one another, neither too close nor too far. This is why – quite apart from the matter of logistics and efficiency – companies have offices to begin with. They go to the trouble of gathering their employees under one roof because they want the widget designers to bump into the people in marketing and the people in customer service and the guy who moved to another department a few years back.

The catch is that getting people in an office to bump into people from another department is not so easy as it looks. In the sixties and seventies, a researcher at M.I. T. named Thomas Allen conducted a decade-long study of the way in which engineers communicated in research-and-development laboratories. Allen found that the likelihood that any two people will communicate drops off dramatically as the distance between their desks increases: we are four times as likely to communicate with someone who sits six feet away from us as we are with someone who sits sixty feet away. And people seated more than seventy-five feet apart hardly talk at all.

Allen's second finding was even more disturbing. When the engineers weren't talking to those in their immediate vicinity, many of them spent their time talking to people *outside* their company – their old computer-science professor or the guy they used to work with at Apple. He concluded that it was actually easier to make the outside call than to walk a cross the room. If you constantly ask for advice or guidance from people inside your organization, after all, you risk losing prestige. Your colleagues might think you are incompetent. The people you keep asking for advice might get annoyed at you. Calling an outsider avoids these problems. "The engineer can easily excuse his lack of knowledge by pretending to be 'an expert in something else' who needs some help in 'broadening into this new area,' " Allen wrote. He did his study in the days before E-mail and the Internet, but the advent of digital communication has made these problems worse. Allen's engineers were far too willing to go outside the company for advice and new ideas. E-mail makes it even easier to talk to people outside the company.

The task of the office, then, is to invite a particular kind of social interaction – the casual, nonthreatening encounter that makes it easy for relative strangers to talk to each other. Offices need the sort of social milieu that Jane Jacobs found on

the sidewalks of the West Village. "It is possible in a city street neighborhood to know all kinds of people without unwelcome entanglements, without boredom, necessity for excuses, explanations, fears of giving offense, embarrassments respecting impositions or commitments, and all such paraphernalia of obligations which can accompany less limited relationships," Jacobs wrote. If you substitute "office" for "city street neighborhood," that sentence becomes the perfect statement of what the modern employer wants from the workplace.

Imagine a classic big-city office tower, with a floor plate of a hundred and eighty feet by a hundred and eighty feet. The center part of every floor is given over to the guts of the building: elevators, bathrooms, electrical and plumbing systems. Around the core are cubicles and interior offices, for support staff and lower management. And around the edges of the floor, against the windows, are rows of offices for senior staff: each room perhaps two hundred or two hundred and fifty square feet. The best research about office communication tells us that there is almost no worse way to lay out an office. The executive in one corner office will seldom bump into any other executive in a corner office. Indeed, stringing the exterior offices out along the windows guarantees that there will be very few people within the critical sixty-foot radius of those offices. To maximize the amount of contact among employees, you really ought to put the most valuable staff members in the center of the room, where the highest number of people can be within their orbit. Or, even better, put all places where people tend to congregate – the public areas – in the center, so they can draw from as many disparate parts of the company as possible. Is it any wonder that creative firms often prefer loft-style buildings, which have usable centers?

Another way to increase communication is to have as few private offices as possible. The idea is to exchange private space for public space, just as in the West Village, where residents agree to live in tiny apartments in exchange for a wealth of nearby cafés and stores and bars and parks. The West Village forces its residents outdoors. Few people, for example, have a washer and dryer in their apartment, and so even laundry is necessarily a social event: you have to take your clothes to the laundromat down the street. In the office equivalent, designers force employees to move around, too. They build in "functional inefficiencies"; they put kitchens and copiers and printers and libraries in

places that can be reached only by a circuitous journey.

A more direct approach is to create an office so flexible that the kinds of people who need to spontaneously interact can actually be brought together. For example, the Ford Motor Company, along with a group of researchers from the University of Michigan, recently conducted a pilot project on the effectiveness of "war rooms" in software development. Previously, someone inside the company who needed a new piece of software written would have a series of meetings with the company's programmers, and the client and the programmers would send messages back and forth. In the war-room study, the company moved the client, the programmers, and a manager into a dedicated conference room, and made them stay there until the project was done. Using the war room cut the software-development time by two thirds, in part because there was far less time wasted on formal meetings or calls outside the building: the people who ought to have been bumping into each other were now sitting next to each other.

Two years ago, the advertising agency TBWA\Chiat\Day moved into new offices in Los Angeles, out near the airport. In the preceding years, the firm had been engaged in a radical, and in some ways disastrous, experiment with a "nonterritorial" office: no one had a desk or any office equipment of his own. It was a scheme that courted failure by neglecting all the ways in which an office is a sort of neighborhood. By contrast, the new office is an almost perfect embodiment of Jacobsian principles of community. The agency is in a huge old warehouse, three stories high and the size of three football fields. It is informally known as Advertising City, and that's what it is: a kind of artfully constructed urban neighborhood. The floor is bisected by a central corridor called Main Street, and in the center of the room is an open space, with café tables and a stand of ficus trees, called Central Park. There's a basketball court, a game room, and a bar. Most of the employees are in snug workstations known as nests and the nests are grouped together in neighborhoods that radiate from Main Street like Paris arrondissements. The top executives are situated in the middle of the room. The desk belonging to the chairman and creative director of the company looks out on Central Park. The offices of the chief financial officer and the media director abut the basketball court. Sprinkled throughout the building are meeting rooms and project areas and plenty of nooks where

employees can closet themselves w hen they need to. A small part of the building is elevated above the main floor on a mezzanine, and if you stand there and watch the people wander about with their portable phones, and sit and chat in Central Park, and play basketball in the gym, and you feel on your shoulders the sun from the skylights and listen to the gentle buzz of human activity, it is quite possible to forget that you are looking at an office.

In "The Death and Life of Great American Cities," Jacobs wrote of the importance of what she called "public characters" – people who have the social position and skills to orchestrate the movement of information and the creation of bonds of trust:

> A public character is anyone who is in frequent contact with a wide circle of people and who is sufficiently interested to make himself a public character ... The director of a settlement on New York's Lower East Side, as an example, makes a regular round of stores. He learns from the cleaner who does his suits about the presence of dope pushers in the neighborhood. He learns from the grocer that the Dragons are working up to something and need attention. He learns from the candy store that two girls are agitating the Sportsmen toward a rumble. One of his most important information spots is an unused breadbox on Rivington Street ... A message spoken there for any teen-ager within many blocks will reach his ears unerringly and surprisingly quickly, and the opposite flow along the grapevine similarly brings news quickly in to the breadbox.

A vital community, in Jacobs's view, required more than the appropriate physical environment. It also required a certain kind of person, who could bind together the varied elements of street life. Offices are no different. In fact, as office designers have attempted to create more vital workplaces, they have become increasingly interested in identifying and encouraging public characters.

One of the pioneers in this way of analyzing offices is Karen Stephenson, a business-school professor and anthropologist who runs a New York-based consulting company called Netform. Stephenson studies social networks. She goes into a company – her clients include J.P. Morgan, the Los Angeles Police Department, T.R.W, and I.B.M. – and distributes a questionnaire to its employees, asking about which people they have contact with. Whom do you like to spend time with? Whom do you talk to about new ideas? Where do you go to get expert advice? Every name in the company becomes a dot on a graph, and Stephenson draws lines between all those who have regular contact with each other. Stephenson likens her graphs to X-rays, and her role to that of a radiologist. What I she's depicting is the firm's invisible inner mechanisms, the relationships and networks and patterns of trust that arise as people work together over time, and that are hidden beneath the organization chart. Once, for example, Stephenson was doing an "X-ray" of a Head Start organization. The agency was mostly female, and when Stephenson analysed her networks she found that new hires and male staffers were profoundly isolated, communicating with the rest of the organization through only a handful of women. "I looked at tenure in the organization, office ties, demographic data. I couldn't see what tied the women together, and why the men were talking only to these women," Stephenson recalls. "Nor could the president of the organization. She gave me a couple of ideas. She said, 'Sorry I can't figure it out.' Finally, she asked me to read the names again, and I could hear her stop, and she said, 'My God, I know what it is. All those women are smokers.'" The X-ray revealed that the men – locked out of the formal power structure of the organization – were trying to gain access and influence by hanging out in the smoking area with some of the more senior women.

What Stephenson's X-rays do best, though, is tell you who the public characters are. In every network, there are always one or two people who have connections to many more people than anyone else. Stephenson calls them "hubs," and on her charts lines radiate out from them like spokes on a wheel. (Bernie the candy-store owner, on Jacobs's Hudson Street, was a hub.) A few people are also what Stephenson calls "gatekeepers": they control access to critical people, and link together a strategic few disparate groups. Finally, if you analyse the graphs there are always people who seem to have lots of indirect links to other people – who are part of all sorts of networks without necessarily being in the center of them. Stephenson calls those people "pulsetakers." {In Silicon Valleyspeak, the person in a sea of cubicles who pops his or her head up over the partition every time something interesting is going on is called a prairie dog: prairie dogs are pulsetakers.)

In the past year, Stephenson has embarked on a partnership with Steelcase, the world's largest manufacturer of office furniture, in order to use her techniques in the design of offices. Traditionally, office designers would tell a company what furniture should go where. Stephenson and her partners at Steelcase propose to tell a company what people should go where, too. At Steelcase, they call this "floor-casting."

One of the first projects for the group is the executive level at Steelcase's headquarters, a five-story building in Grand Rapids, Michigan. The executive level on the fourth floor is a large, open room filled with small workstations. (Jim Hackett, the head of the company, occupies what Steelcase calls a Personal Harbor, a black, freestanding metal module that may be – at seven feet by eight – the smallest office of a Fortune 500 C.E.O.) One afternoon recently, Stephenson pulled out a laptop and demonstrated how she had mapped the communication networks of the leadership group onto a seating chart of the fourth floor. The dots and swirls are strangely compelling – abstract representations of something real and immediate. One executive, close to Hackett, was inundated with lines from every direction. "He's a hub, a gatekeeper, and a pulsetaker across all sorts of different dimensions," Stephenson said. "What that tells you is that he is very strategic. If there is no succession planning around that person, you have got a huge risk to the knowledge base of this company. If he's in a plane accident, there goes your knowledge." She pointed to another part of the floor plan, with its own thick overlay of lines. "That's sales and marketing. They have a pocket of real innovation here. The guy who runs it is very good, very smart." But then she pointed to the lines connecting that department with other departments. "They're all coming into this one place," she said, and she showed how all the lines coming out of marketing converged on one senior executive. "There's very little path redundancy. In human systems, you need redundancy; you need communication across multiple paths." What concerned Stephenson wasn't just the lack of redundancy but the fact that, in her lingo, many of the paths were "unconfirmed": they went only one way. People in marketing were saying that they communicated with the senior management, but there weren't as many lines going in the other direction. The sales-and-marketing team, she explained, had somehow become isolated from senior management. They couldn't get their voices heard when it came to innovation – and that fact, she said, ought to be a big consideration when it comes time to redo the office. "If you ask the guy who heads sales and marketing who he wants to sit next to, he'll pick out all the people he trusts," she said. "But do you sit him with those people? No. What you want to do is put people who don't trust each other near each other. Not necessarily next to each other, because they get too close. But close enough so that when you pop your head up, you get to see people, they are in your path, and all of a sudden you build an inviting space where they can hang out, kitchens and things like that. Maybe they need to take a hub in an innovation network and place the person with a pulsetaker in an expert network – to get that knowledge indirectly communicated to a lot of people."

The work of translating Stephenson's insights onto a new floor plan is being done in a small conference room – a war room – on the second floor of Steelcase's headquarters. The group consists of a few key people from different parts of the firm, such as human resources, design, technology, and space-planning research. The walls of the room are clustered with diagrams and pictures and calculations and huge, blown up versions of Stephenson's X-rays. Team members stress that what they are doing is experimental. They don't know yet how directly they want to translate findings, from the communications networks to office plans. After all, you don't want to have to redo the entire office every time someone leaves or joins the company. But it's clear that there are some very, simple principles from the study of public characters which ought to drive the design process. "You want to place hubs at the center," Joyce Bromberg, the director of space planning, says. "These are the ones other people go to in order to get information. Give them an environment that allows access. But there are also going to be times that they need to have control – so give them a place where they can get away. Gatekeepers represent the fit between groups. They transmit ideas. They are brokers, so you might want to put them at the perimeter, and give them front porches" – areas adjoining the workspace where you might put little tables and chairs. "Maybe they could have swinging doors with white boards, to better transmit information. As for pulsetakers, they are the roamers. Rather than give them one fixed work location, you might give them a series of touchdown spots where you want them to stop and talk. You want to enable their meandering."

One of the other team members was a tall, thoughtful man named Frank Graziano. He had a series of pencil drawings – with circles representing

workstations of all the people whose minds, as he put it, he wanted to make "explicit." He said that he had done the plan the night before. "I think we can thread innovation through the floor," he went on, and with a pen drew a red line that wound its way through the maze of desks. It was his Hudson Street.

"The Death and Life of Great American Cities" was a controversial book, largely because there was always a whiff of paternalism in Jacobs's vision of what city life ought to be. Chelsea – the neighborhood directly to the north of her beloved West Village – had "mixtures and types of buildings and densities of dwelling units per acre ... almost identical with those of Greenwich Village," she noted. But its long-predicted renaissance would never happen, she maintained, because of the "barriers of long, self-isolating blocks." She hated Chatham Village, a planned "garden city" development in Pittsburgh. It was a picturesque green enclave, but it suffered, in Jacobs's analysis, from a lack of sidewalk life. She wasn't concerned that some people might not want an active street life in their neighborhood; that what she saw as the "self-isolating blocks" of Chelsea others would see as a welcome respite from the bustle of the city, or that Chatham Village would appeal to some people precisely because one did not encounter on its sidewalks a "solid wave of conversation and animation." Jacobs felt that city dwellers belonged in environments like the West Village, whether they realized it or not.

The new workplace designers are making the same calculation, of course. The point of the new offices is to compel us to behave and socialize in ways that we otherwise would not – to overcome our initial inclination to be office suburbanites. But, in all the studies of the new workplaces, the reservations that employees have about a more social environment tend to diminish once they try it. Human behavior, after all, is shaped by context, but how it is shaped – and whether we'll be happy with the result – we can understand only with experience. Jane Jacobs knew the virtues of the West Village because she lived there. What she couldn't know was that her ideas about community would ultimately make more sense in the workplace. From time to time, social critics have bemoaned the falling rates of community participation in American life, but they have made the same mistake. The reason Americans are content to bowl alone (or, for that matter, not bowl at all) is that, increasingly, they receive all the social support they need – all the serendipitous interactions that serve to make them happy and productive – from nine to five.