



**Coworking, Swarming, and the Agile Workplace.** Birds do it, bees do it, schools of whale-avoiding Atlantic herring do it. So do hockey teams, emergency departments, and volunteer firefighters. In social groups like these, collaborative efforts and collective decision-making happen “in the moment” and contribute significantly to survival and success.

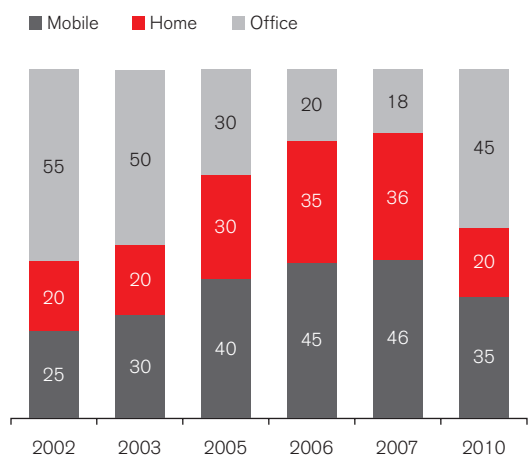
In the workplace, achieving this kind of seamless interaction among groups of individuals has proven elusive. But with converging developments in technology, social media, and cognitive science comes the prospect of achieving breakthrough levels of organizational collaboration. What role, if any, will the physical workplace play in this transformation?

Over the past two decades, digital technology and the internet have radically changed communication processes and the nature of work itself. Mobile devices like iPads and smart phones and interactive applications like blogs, wikis, and social media—collectively referred to as Web 2.0—create networked environments with huge potential for supporting collaboration among widely dispersed groups of people.

Putting this transformation into perspective, software entrepreneur Bill Coleman notes that “the most powerful inflection points in the history of mankind have come when new tools were developed to leverage and expand collective intelligence.” The rise of the internet, he says, is the third such inflection point, the first being the development of language, and the second the invention of the printing press.<sup>1</sup>

What the impact of Web 2.0 is—or could or should be—on businesses organizations and the offices in which their members have traditionally come together in order to communicate (and, it is hoped, leverage their collective intelligence) is still being debated. Many speculate that, with people no longer needing to be in the same place at the same time to share information and ideas, the office building as we know it is destined for obsolescence.<sup>2</sup>

If the recent past is any indication, however, reports of the death of the office continue to be highly exaggerated. The predicted mass exodus to home offices has not materialized. A recent survey found that less than two percent of people working for large employers worldwide work from home, and that most (over 60 percent) still commute to an office four or five days a week.<sup>3</sup>



Flexible Working 2010

In fact, there are signs that the trend may be moving in the opposite direction. An international survey undertaken for Johnson Controls in 2010 found a significant increase in the amount of time people spent working at the office. Respondents (all of whom were identified as “flexible workers,” whose employers allow some discretion in when and where they work) reported spending an average of 45 percent of their work time “in the office,” up from 18 percent in 2007, while percentages of time working from home and “on the move” decreased compared to 2007 levels.<sup>4</sup>

In his introduction to the report, *Flexible Working 2010*, Chairman of the Office Productivity Network Paul Bartlett writes, “there is no evidence that employers influenced or requested this shift in behavior,” and that workers are increasingly choosing to use the corporate office “as a place to meet, interact, and collaborate.” According to the report, the fact that 64 percent of its respondents indicated that going to the office was “important” or “extremely important,” “demonstrates how much face-to-face interaction is an important part of the working life.”<sup>5</sup>

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## Swarm Intelligence and Mirror Neurons

The assumption that virtual communication would negate the need for people to gather together physically to accomplish work is proving to be inherently “flawed,” according to Andrew Laing, managing director at DEGW North America: “The richness of face-to-face communication allows for fast-paced and ad hoc interactions, which help to speed up decision making and information flow in ways that have not yet been fully matched by purely virtual work environments.”<sup>6</sup>

Ad hoc and fast-paced interactions are increasingly the name of the game in today’s organization as the complexity and unpredictability of the external business environment requires constant monitoring and minute-by-minute adjustments by companies hoping to compete. A recent report from Gartner, Inc., finds knowledge work becoming steadily less routine and increasingly characterized by “volatility,” “hyper-connectedness,” and “swarming—a work style characterized by a flurry of collective activity by anyone and everyone conceivably available and able to add value.”<sup>7</sup>

In contrast to traditional corporate teams—composed of people who work together regularly, often in the same location and under the same manager—swarms typically encompass a diverse group of professionals and experts who may not have worked together before and probably won’t work as a team again in the future. Swarms form quickly to attack a problem or opportunity, then dissipate as their members are pulled into other ad hoc groups addressing other issues.

For years, scientists have been studying “swarm intelligence”—the collective behavior of social insects like honeybees and ants—to better understand the mechanisms underlying the amazing effectiveness of groups of individuals interacting “in the moment.” Without layers of management or carefully developed strategic plans, these “self-organizing teams” arrive at the best solutions to complex survival issues like nest building and foraging for food.

As early as a decade ago, companies like Southwest Airlines and Capital One began applying swarm theory principals to optimize various business operations, such as scheduling and materials management. More recently, in a book subtitled “How Understanding Flocks, Schools, and Colonies Can Make Us Better at Communicating, Decision Making, and Getting Things Done,” *National Geographic* editor Peter Miller outlines valuable business lessons from nature:

From honeybee swarms we’ve learned that groups can reliably make good decisions in a timely matter as long as they seek diversity of knowledge. By studying termite mounds we’ve seen how even small contributions to a shared project can create something useful. Finally, flocks of starlings have shown us how, without direction from a single leader, members of a group can coordinate their behavior with amazing precision simply by paying attention to their nearest neighbor.<sup>8</sup>

To the researchers' surprise, a group's successful performance was not strongly related to the average intelligence of its members, but rather to the way its members interacted and, in particular, to the even distribution of individual contributions to the group effort.

In his forward to *The Smart Swarm*, Don Tapscott, author of *Wikinomics: How Mass Collaboration Changes Everything*, notes that these findings have tremendous relevance to us in what he refers to as the “early days of the biggest change to deep structures, architecture, and modi operandi of the century.”<sup>9</sup> As mass collaboration allows us to move away from centralized, tightly controlled processes to more spontaneous and decentralized ways of working, Tapscott says, there's a lot we can learn from the birds and the bees.

For example: the importance of physical proximity and social awareness to effective collaboration. In nature, a smart swarm distributes problem solving among many individuals who, as Miller describes it, “interact with one another in countless ways until a pattern emerges—a tipping point of motion or meaning—that enables a colony of ants to find the nearest pile of seeds, or a school of herring to dodge a hungry seal.”<sup>10</sup>

A new study from Carnegie-Mellon University recently documented a similar phenomenon in groups of people working together on assigned tasks.<sup>11</sup> For the study, research subjects were tested for general intelligence and personality-related characteristics and then randomly assigned to small groups. Each group performed a series of tasks that included puzzle-solving, brainstorming, and making collective moral judgments. Based on the results, the researchers were able to identify a consistent level of “collective intelligence” for each group. Groups that performed well on putting together a puzzle also performed well on other more complex tasks.

To the researchers' surprise—but probably not to Peter Miller's—a group's successful performance was not strongly related to the average intelligence of its members, but rather to the way its members interacted and, in particular, to the even distribution of individual contributions to the group effort. Groups that did well were those that considered “multiple perspectives,” according to Anita Woolley, assistant professor at Carnegie Mellon's Tepper School of Business. “In groups where the conversation was more evenly distributed, where you had better participation—and more equal participation among all of the group members—the groups were more collectively intelligent.”<sup>12</sup>

Another significant predictor of higher group intelligence found by the Carnegie-Mellon study was high levels of “social sensitivity” among its members. Described by one of the researchers as “the ability to intuit another person's feelings” by accurately “reading” facial expressions, this essential factor in boosting collective intelligence is not something that can be practiced via email or instant messaging.

A recent discovery in behavioral neuroscience may hold a clue as to why social cohesiveness is bolstered by face-to-face interaction. A previously unknown class of neurons that cause a person to mimic or mirror what another person does is now known to play an important role in human interactions. These “mirror neurons” reproduce emotions that we consciously or unconsciously detect by observing another person's actions, collectively creating “an instant sense of shared experience.”<sup>13</sup>

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“There is a tremendous power in face-to-face meetings,” says James Ware of the Work Design Collaborative. “Same-time, same-place can spark a powerful source of collaborative innovation and meaning for people. He advocates putting the need for personal connection at the core of new office design, creating workspaces that are as “chat-friendly as they are tech-friendly.”<sup>14</sup>

### **Coworking: A Window on the Future**

The entrepreneurial clubs and “coworking” spaces popping up across Europe and North American offer one model of workspaces that support both virtual and face-to-face networking. These repurposed warehouses and office buildings are designed and managed to provide their members (who pay a monthly fee) with a space to work, wifi access, and shared amenities like conference rooms and coffee bars and essential office equipment. Most significantly, according to the people who use them, coworking spaces allow independent professionals from a variety of backgrounds and areas of expertise to participate in the community and connection and happy accidents that come from physical co-location.

The Hub, an international chain of independently owned and operated coworking spaces, calls its business “social entrepreneurship”—providing “space for people with good ideas for the world.”<sup>15</sup> With ambitions that go beyond “space-based-table-rental,” the Hub promotes its facilities as “places for experience and encounter, full of diverse people doing amazing things.”<sup>16</sup>

Jerome Chang of BLANKSPACES, a coworking space in Los Angeles that caters to freelancers and entrepreneurs, likes to think of coworking as “Web 2.5.” He notes that while Web 2.0 was “about engagement,” it was purely online and virtual engagement: “There was never that level of face-to-face interaction that has been tried and true for thousands of years.” He says that Web 2.5—coworking space—“allows people to get that face-to-face interaction back into a social networking community. If LinkedIn had a store, this would be it.”<sup>17</sup>

Jennifer Magnolfi, a consultant for Herman Miller, recently completed a study of the coworking phenomenon as “a window into the future of work” and a possible template for the design of a physical workplace that supports both virtual and face-to-face networking.

“The office is a state of mind,” Magnolfi says, and she’s identified several “emergent work behaviors” that are shaping that state. In addition to new tools of mobility and the “social media mindset” that people bring to work today, she notes a desire for the “accelerated serendipity” and community that come with co-location. Coworking spaces, she says, are the first physical manifestation of the net culture—a culture that values sharing, openness, and co-creation.<sup>18</sup>

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An idea of what that physical manifestation looks like can be found on the “Spaces” page of Hub Atlanta’s website. The site offers “desk situations” that range from “more publicly situated and interactive desks in the Open Workspace area,” to “Dedicated Desks” with file storage in a quieter area of the Hub. The Open Workspace area is designed for maximum flexibility, with furniture that can be arranged to accommodate everything from training sessions to gallery installations. The Dedicated Desk area also offers project room or “war room” options for small groups. Shared support spaces at the core of the Hub include a kitchen, private conference and “call” rooms, impromptu meeting areas, and “a shower for Bike Commuters.”<sup>19</sup>

### Toward the Agile Workplace

Meanwhile, back in the “real world” of standardized floorplates and workstations, organizations struggle to accommodate—or at least not get in the way of—new ways of working. “With the convergence of technology support of mobility, cloud computing, the social media explosion,” explains Brian Green, senior researcher with Herman Miller’s Insight and Exploration team, “you have enterprises ripe with collaborative tools trying to operate in office environments designed to support individuals working alone in workstations.”<sup>20</sup>

Green believes that, for most organizations, the transformation to the kind of fluid and permeable spaces that encourage interaction and leverage collective intelligence will take time. He and his colleagues in Herman Miller research and design are currently conducting an extensive ethnographic study of how and where collaboration takes place in existing office facilities in order to develop products and services that help companies move from workspaces designed to support individuals working in isolation to more agile settings that can accommodate “swarm” behavior and support “accelerated serendipity.”

“Agility may be the single highest priority for workplaces now and in the future,” Green says. “We want to help organizations develop physical places that are as open and customizable as the digital spaces they work in, but that also leverage the real value of place as a catalyst for human interaction.”

### Notes

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