HermanMiller

Appropriate Flexibility: New Twist on an Old Conundrum

A conversation with STUDIOS Architecture

One of a series of collaborations between Herman Miller and leading architecture and design firms

Bob Propst, *The Office: A Facility Based on Change,* Herman Miller, 1976

In 1968, Bob Propst and his team of researchers and designers at the Herman Miller Research Corporation published a remarkable book—*The Office: A Facility Based on Change*. This book served as the software designed to run the first systems furniture, Action Office, introduced by Herman Miller in the same year, and invented by Propst and his team. There were no computers in offices. No fax machines. No e-mail. No cell phones. No search engines. No printers.

There were a lot of white collar workers (seems like a quaint label, doesn't it?) and a lot paper. There were two kinds of offices—private and bullpen. Nothing much moved, except people (sound familiar?). Propst and his team envisioned an action office, where the facility actually responded to increasing rapid changes in business, working methods, and teams. They put hinges on their panels, and everything was designed to be reconfigured easily. They even invented a profession—facility management—to make all the moves. Flexibility suddenly became a quality everyone wanted.

It's almost 40 years later. Offices haven't gone away. Neither has paper. But these days, people work in all sorts of places, with all sorts of technology. Offices are increasingly social places where connections and relationships are established and tended. Is flexibility in work environments that big a deal? What is flexibility anyway, and do we all need the same kind? How much does it cost and how much do we use? STUDIOS Architecture has some interesting answers.

Herman Miller: Flexibility in work environments has been hashed and rehashed since the 1960s. How did you come to this new understanding and expression of flexibility?

Christopher Budd, principal: It started out 16 or 17 years ago with a major client in Washington who wanted to reexamine how flexibility was achieved. We wanted to see how flexibility could be achieved first and foremost by the end user or small group. So we looked at the entire system in two ways: first from the end users point of view. How can you effect most change easily without having to bring in outside help, maximize flexibility with the least cost? Second, what's important for the developer, the people who are taking risks, who own the building?

And so we came up with very different types of infrastructures and approaches than are typically offered on the market, which are often designed with the wrong people in mind. For instance, sometimes panel systems are designed to give certain people flexibility, but not actually the people who need it. How can we design interiors to have the flexibility best suited for clients and projects? We want to be client and design driven.

Herman Miller: Did some client say, "We've got all this raised floor and we never use it," or, "We have all this supposedly flexible systems furniture and never move it," or, "We have to call a facility manager every time we want to change a file cabinet"?

Budd: All buildings pose significant problems in planning, and particularly the Pentagon, where we began a project in September 2001 and applied what we had learned about what we call "appropriate flexibility." It was an existing building, a historic building. Like many buildings, it looks good from the outside, but we had to face the problems on the inside. In a lot of existing buildings—and I think over the next 20 years, existing buildings are going to be a big part of our portfolio—you cant do everything you'd like to. Maximum flexibility in an older building is a big lie, and total flexibility is very, very expensive.

So what flexibility is actually possible, given the building? What flexibility really benefits the client? We think we should edit flexibility. The Pentagon was planned quite well for 1940—it's actually an amazing building. The more you understand the inside of the building, the more you appreciate what people were thinking—this building was one of the first totally air-conditioned buildings—and the whole thing is laid out to maximize a certain type of planning. We needed to add some efficiency, because these old buildings are designed with a central corridor flanked by enclosed suites, and you get this triple circulation. The square footage per person is outrageous. We streamlined circulation and allowed many more things to happen flexibly within that structure.

It just made more sense to take what we call "dumb systems"—things like tables, chairs, file cabinets, simple partitions without power and data—and allow them to move and change, versus adding a little bit of expensive flexibility to intelligent systems—power, data, HVAC. That has been our model for a while. In a brand-new building, where column spacing is perfect and the fenestration is right, we don't need to worry about some of those things, because a raised floor is a perfect application where you can plan almost anything.

Esther Carpi, associate principal: A side effect of our view of flexibility has been the inherently better results you get in the future. Demolition is minimal. The ceiling stays in place, the lighting stays in place, the carpet pretty much stays in place. The walls and windows stay in place. You can move all the other components and reconfigure the space without major construction.

Herman Miller: Did the Pentagon ask you to come up with "appropriate flexibility" rather than "total flexibility"?

Carpi: The Pentagon itself asked for something as innovative as possible. They had their criteria of flexibility. They have a high churn rate. They want the building to function well for another 50 years, they want it to be efficient. Over time the building had lost much of its interior shape and efficiency. It became small, little cut-up spaces.

They looked at three different teams to come up with an idea to accomplish all that. We worked with a contractor, Hensel Phelps, and the engineers, as well as an architect that specializes in this sort of preservation of buildings. Our team

came up with the idea of integrating building systems to maximize the workspace. Christopher knew this could work, that we wouldn't have to change everything to meet the Pentagons tremendous churn rate. People are there for 18 months or maybe 3 years maximum; yet when they come in, they want everything reconfigured, and that's accommodated. In the past, by the time the changes are designed and built, that person had already gone.

Budd: That gets to be very expensive. We solved this for the Pentagon.

Herman Miller: Were you directed to help people work together? Separately? Is there a culture you had to account for?

Budd: We needed to develop a space that worked for many different cultures and many different types; we couldn't really home in on one. So we had to develop a space that could be either highly hierarchical or open and flexible with pipelines to everybody—both of which are needed at the Pentagon. And we wanted to do that without changing any of the major utilities.

When we proposed open, collaborative space or a touchdown space, the project leaders told us, "We will never work that way at the Pentagon." And yet you find that they do. So we didn't know who would be working in highly innovative, modern, contemporary, mobile ways and who would be working in the authoritarian, hierarchical mode. We needed to develop a space that could do both, and we showed how a space could go from 100 percent private offices to 100 percent open, collaborative spaces without changing a single utility other than light switches. Light switches are one thing that's been hard to resolve.

We wanted to predesign the circulation and then take maximum advantage of everything that was remaining. We wanted to break the Pentagon down into manageable parts, and because its such a regular building structurally, we were able to find two consistent bays—the interior bay that was 11 x 20 and an exterior bay that was roughly 13.5 x 20. And you break the entire building down like that, and you have a huge amount of space that fits into those two bays. We also could create modules that would do the most without changing major utilities. And the job involved developing new products that were not on the market.

Carpi: The building pretty much tells you everything. You work with what the building does best.

Tom Krizmanic, principal: An old idea was universal flexibility, where you have a certain amount of floor space and a flat ceiling and then put in six thousand 6 x 6 workstations or four thousand 10 x 10 workstations. The client would think, "Wow! This will adapt to all the changes I could want in the next 20 years." Then they picked the average 8 x 8 and the interior stayed that way forever, because it was too complicated to figure out how to change it. In the end, it was ultimately easier just to move the people.

With the phrase "appropriate flexibility," were trying to say no one knows what the futures going to be, and the thing were really afraid of is the unknown. But you have to help clients define some parameters for the unknown based on history and their particular culture. An advertising agency in the Pentagon building might not use the bay system at all, but something that would look completely different.

Alethea Cheng, associate: Well, I think that flexibility in theory is a highly desirable thing. Everybody gets excited about it, but what sounds really good on paper and in theory doesn't necessarily pan out in reality. So we sit with the client and look at the history—the reality—and look at the cost, what they are

paying for flexibility, and help them find what's most appropriate—what degree of flexibility they will really take advantage of.

Herman Miller: Sounds like "real flexibility" as opposed to "imaginary flexibility."

Krizmanic: And it's going to be different for every organization. It's difficult to come up with a solution based on existing products. You have to take a little from here, take a little from there, and evolve it.

Carpi: We just did a project where the furniture is all modular and mobile except for one fixed piece. We did some surveys—there were really an infinite number of ways we could set it up efficiently, no panels—some people loved it exactly as it was set up when they moved in. Other people were curious and figured out how to unscrew things, set things at different heights, really played around, stole components from other people. Even within one company, the amount of flexibility actually used varies from person to person or group to group.

Budd: Total flexibility to us can be any of a number of things, but it typically is more expensive and more effort than people want to ever deal with or will ever use. Pyramids are flexible if you have the right kind of help to move them.

Herman Miller: How do you go about determining what kind of flexibility a client needs, and is it a different process from regular programming? Does it require a new cast of players?

Budd: The first "person" we interview is the building. That will tell you what types of flexibilities are really possible. Then we consider what resources the client has. I really think it's an evaluation of how good the existing building systems are and if they allow many choices. Then when we talk to a client, we understand the givens and can talk intelligently about what's possible and what's appropriate.

Many things can inhibit companies from taking advantage of flexibility. For one really big client, because of small departments where sometimes two or three people in every department get billed for the space they use, its almost impossible to engage a really flexible environment because their internal system cant figure out how to charge or pay for it. Many times companies lose out because their own bureaucracy doesn't allow them to take a very simple approach. One of the things Esther brought to the Pentagon project was the clarity and simplicity of how to develop and manage the change process once our part in the project was over.

Carpi: Now were starting work on another part of the Pentagon, and they are managing the changes of our previous projects all on their own. They don't need us any more, which is great. Its now been turned over to the building itself, and they do their own reconfigurations. We hear that it's going well.

Cheng: Sometimes a user has a lot more flexibility than they know about. They don't even know that they could actually rearrange things. No ones gone over the issues with them—its set up, you can move this over here and move this around. Many people aren't used to making those sorts of judgments.

Herman Miller: Are buildings in Washington—and the organizations in them—any different from New York or any other city?

Cheng: I think it's more about corporate culture, how comfortable people feel doing something on their own. They don't want to have to think about where's the best place for their keyboard trays. They expect that somebody's already thought about that and put it in the best place.

Carpi: We have gotten a lot of interest and enthusiasm from engineering firms—mechanical and electrical firms. Especially in Washington, with these old buildings and the height restriction, we cram as many floors in as we can, and we cant do raised floors that often. The engineering firms are interested in working with us to simplify the utility distribution with some kind of standard utility closet. That's one way the buildings in Washington have influenced our work.

Herman Miller: Do you like working with a client who has thought everything out?

Krizmanic: Clients who don't come with all the rules and culture well defined can go through a process to get there—they're open to so many more ideas. I guess that's the challenge to them, after that exploration process, to get to appropriate possibility.

Cheng: Its easier if someone says this is how the workstations are going to be and every one is going to be that way, but is it more fun?

Budd: With the Pentagon, we controlled the concept and the architecture, but we didn't control the furniture. The furniture was selected by someone else. That's created a little bit of a glitch in the fluidity of the planning. Furniture manufacturers absolutely were unable to provide furniture as simple as we had designed it.

Carpi: They really tried to make it work with their line's standard features.

Budd: Furniture can float, it can be very simple within a space, and that's what manufacturers had a huge amount of trouble with. We could not get furniture manufacturers to forget about a panel. The Pentagon got it, the construction people got it, we got it—even the end users in the prototype facility totally got it. When I talk to the creatives in furniture companies, there's no shortage of ideas and fantastic thinking, so I'm not really quite sure why thinking beyond the panel is so difficult.

Herman Miller: Unattached furniture could be a nightmare for facility managers, couldn't it?

Carpi: Most facility managers are most concerned that their end users will be happy.

Budd: It used to be that furniture was thought of in conjunction with designing a building, and as that work separated, we created spec buildings. Furniture then had to carry power and data, do all this stuff that normally the architecture would do. And what we did with the Pentagon was pull all that stuff out and make it a part of the overall superstructure again. So furniture could be very, very simple.

Herman Miller: The way Bob Propst originally conceived of systems furniture in the 1960s. It's all spelled out in the book Action Office: A Facility Based On Change.

Budd: Actually, if you read why he did what he designed, its still quite brilliant today. We messed it up by putting requirements on it that it should never have had. It's amazingly simple, and Action Office 1, which nobody hears about—the freestanding stuff designed by Propst and George Nelson—was absolutely ahead of its time. And we have such a hard time getting back to that point.

Herman Miller: How do technology and its runaway development fit into your ideas?

Krizmanic: I remember 10 years ago, we spent all our time designing around the wiring of the equipment. Corner workstations, the computers were huge, all these caddies and wowmajiggies to hold the CPUs and the printers. People sat down in front of them and even the keyboard helped you access the almighty corner computer. Now we have wireless phone, were going to have a wireless LAN, you

can have a laptop, have a wireless videoconference, we don't have to go to special places to have videoconferences with special rooms. Technology is helping revert to the simple things, to helping employees do work and work among themselves, interacting with each other instead of interacting with a computer.

Herman Miller: Is their technology making your clients want a new look at flexibility?

Carpi: They want to know what everybody else is doing. They want to make sure they're doing enough, and that they're putting in infrastructure so they can change with new versions of things.

Budd: I wanted to come back to one of your questions about looking at a client's process and how they work. We have a strategic approach to how we look at process. One of the problems that we've seen in the industry is that consultants often determine process through a clients self-report. We've found that people don't really know how they work or how they should work. Basing a determination of process on self-report can be a very dangerous thing. Unless you utilize multiple research methods, you're going to get bad data. We take a narrative approach to breaking down what people say and looking at the hidden messages. We call it "narrative research," and we've published it, but its just one tool. Getting to understand what motivates people, what their values are, their assumptions and beliefs—that's the real way to understand an organization and its people.

Herman Miller: You know this wonderful phrase supposedly from Oliver Wendell Holmes: "Nobody cares about the simplicity on this side of complexity, but the simplicity on the other side of complexity is really important." To get to this more sophisticated simplicity, you have to understand all its factors, but you don't have to impose those on your clients.

Budd: You know, what you're saying reminds me that architects may not necessarily be the best people to be consulting with clients on simplicity. The other day Esther came to me and said, okay, here is a new form that kills four birds with one stone. It was such a simple thing, such an improvement.

Herman Miller: What made you think, "I don't have to do it the old way"?

Krizmanic: She hit her own complexity threshold, and she came out on the other side.

Budd: Tom's right. You start at zero, and people throw complexity out at you, and then someone like Esther says, "Well, maybe we are asking the wrong questions." Then we can begin stripping away the layers of assumption that have built up on top of each other.

Cheng: Complexity fights against flexibility. You end up hitting your complexity threshold, and you're paralyzed. You just keep things the way they are.

Budd: A colleague went to a firm in New York that was having a lot of problems with process. They were a mess, a total mess. So she did a series of interviews and all the other studies to figure out what their process was and what was going wrong. In her final presentation, she said, "The answer is, you just have too many meetings." And that was it. The meetings were unnecessary. They didn't include the right people or they included too many people. That simple answer drove the rest of the project. But it came only after understanding all the complexities of the process.

Herman Miller: Have you ever applied your ideas about flexibility to other kinds of space besides commercial office workspace?

Budd: Sure. The whole idea of looking at process, simplicity, and what the infrastructure is goes into everything we do. We applied this thinking to a broadcast studio space. Even on a trading floor, where the problem is how to handle too much information, that same sort of concern about simplification guides how we provide something.

Carpi: I think how you handled food at the trading floor project is amazing. You can eat breakfast, lunch, and dinner there, you can take it to your desk easily. There's no hot food. It keeps people there and provides healthy fast food. It's all provided, it's free to the employees, its beautifully displayed, and its in one place.

Krizmanic: Four thousand employees have to come to one large area to get a cup of coffee, but it's not a cafeteria. There are no ovens or stoves. It's like a market in a plaza. And the choices are simple—no complexity.

Budd: This job is actually a "category starter" for organizations or companies that have no previous model. Our XM Radio project is that way, and the Pentagon is that way. We learn so many lessons from these projects where we start from zero that we could probably write a book about it.

Herman Miller: Don't your clients always come to you and say, "Part of the reason we need an architect is to make some choices for us"?

Krizmanic: Well, I think its because we start from zero and not from any preconceived notion of what a space should be. We try to look at what is particular about a particular situation that leads to a solution.

Carpi: Some architects impose their ideas on a project, and some architects do exactly what the client asks them to do. We do both. We listen to what the client wants, but were not necessarily just going to do exactly what they tell us.

Herman Miller: Can you give us a checklist or process by which any client can begin to think and ask the right questions about flexibility, either of their own architects, of you, or of their facility people?

Budd: First, what are you starting with, and what is the building, and what resources do we have to work with? What are the sacred cows that we can't touch, and what things can we manipulate? Do you have the right leadership for this change to occur? The first step toward appropriate flexibility—or any solution, really—is understanding everything that you have to deal with before jumping into any sort of solution.

Cheng: You must understand what the issue is before trying to get too close to what a new project might look like. People are often surprised when we ask questions that appear not to be about the space at all in the beginning.

Herman Miller: You sound just like the wonderful little book from the Danish Design Council, Design Begins with a Problem.

Krizmanic: Another thing would be to understand yourself both through what you know and what you can learn by observing the space. What you think you know might not be really how you're using the space. Then try to go back to zero and ask why. Why do we have a reception area? Why does the CEO have an office? Why is it that big?

Herman Miller: Do we have to have ovens in our cafeteria?

Krizmanic: Exactly right. When you start asking why, you'll come up with the things that Christopher refers to as the sacred cows, and then you can start to see those areas in which there is room for change, so that you can define what

flexibility you need.

Budd: No change should be change just to be cool. We recognize that our clients have either a business or a mission, and our job is to strengthen that. An architecture project is all about getting them to that end goal.

Carpi: There is also the real estate investment to think about. Lots of our clients are forced to move based on a real estate decision, and we try to help them make the most of that investment.

Budd: Don't be so swayed by flashy advertising, and keep in mind that you're dealing with a piece of architecture and not a purchased product. Look first at what motivates people, what the organization is meant to do. Are you motivated by a mission? Are you motivated by profits? The questions you should be asking during the first quarter or half of the programming process should have nothing to do with architecture. It should be about how people work, who they are, and how they function. I think so many times people begin with, "How many file cabinets do you need? How many departments do you have? We have standards already, so this group gets 6 x 6, this group gets 8 x 8." I think that architects and designers need to be much more investigative, much more open to what's really driving their projects.

Krizmanic: If I were a client hiring an architect, I would ask my architect to challenge me. Make me feel uncomfortable in the process. Show me things that I don't already know and make me think about them. Then were going to end up with something that neither one of us could imagine, both the architect and the client. That's where some of the best solutions are. When a client asks for an office, and the architect says here's your office, or I want a ceiling, here's a ceiling—then it's all very comfortable, and everyone feels good. That's not innovation and flexibility for the future. If both parties are feeling a little bit uncomfortable in the process and they're not quite sure where it's going, then you know you're succeeding.

Cheng: I would say to a client selecting an office space, don't just look at the office they are giving you, look at the questions they're asking you in the interview about the project.

Herman Miller: You're recommending people treat their architecture project like a tough love spa?

Krizmanic: That's right. Don't be afraid if it feels like a tough love spa.

Budd: Well, it's true. In lot of things we do, if we realize a client has a problem going in a certain direction, you need to find out why they have a problem. So its a little bit of therapy having them face their demons. It may be uncomfortable to talk about things like that. But you can't have meaningful change without conflict.

STUDIOS Architecture is an international architecture, interiors and planning practice with offices in San Francisco, Los Angeles, New York, and Washington, DC, and Paris. Founded in 1985, STUDIOS is active in the programming, master planning, design and construction of corporate campus, academic, civic and commercial office building design, including strategic consulting and design of interior architecture.