

STRATEGY

APRIL 2008

Innovation lessons from Pixar:

An interview with Oscar-winning
director Brad Bird

What does stimulating the creativity of animators have in common with developing new product ideas or technology breakthroughs? A lot.

Hayagreeva Rao, Robert Sutton, and Allen P. Webb

**Article
at a
glance**

Pixar's Brad Bird makes his living fostering creativity. In an interview, this director of two Academy Award-winning animated films (*The Incredibles* and *Ratatouille*) describes how he pushes teams of animators beyond their comfort zones, encourages dissent, and builds morale.

Bird's experiences and anecdotes hold powerful lessons for executives in any organization seeking to nurture innovation.

If there's one thing successful innovators have shown over the years, it's that great ideas come from unexpected places. Who could have predicted that bicycle mechanics would develop the airplane or that the US Department of Defense would give rise to a freewheeling communications platform like the Internet?

Senior executives looking for ideas about how to make their companies more innovative can also seek inspiration in surprising sources. Exhibit One: Brad Bird, Pixar's two-time Oscar-winning director. Bird's hands-on approach to fostering creativity among animators holds powerful lessons for any executive hoping to nurture innovation in teams and organizations.

Bird joined Pixar in 2000, when the company was riding high following its release of the world's first computer-animated feature film, *Toy Story*, and the subsequent hits *A Bug's Life* and *Toy Story 2*. Concerned about complacency, senior executives Steve Jobs, Ed Catmull, and John Lasseter asked Bird, whose body of work included *The Iron Giant* and *The Simpsons*, to join the company and shake things up. The veteran of Walt Disney, Warner Brothers, and FOX delivered—winning Academy Awards (best animated feature) for two groundbreaking movies, *The Incredibles* and *Ratatouille*.

Ten days before *Ratatouille* won its Oscar, we sat down with Bird at the Emeryville, California, campus of Pixar, which is now a subsidiary of Disney.¹ Bird discussed the importance, in his work, of pushing teams beyond their comfort zones, encouraging dissent, and building morale. He also explained the value of “black sheep”—restless contributors with unconventional ideas. Although stimulating the creativity of animators might seem very different from developing new product ideas or technology breakthroughs, Bird's anecdotes should stir the imagination of innovation-minded executives in any industry.

The Quarterly: What attracted you to Pixar?

Brad Bird: One thing that was unbelievably different about this company was that they were worried about becoming complacent. When I came here, they had made three movies—*Toy Story*, *A Bug's Life*, and *Toy Story 2*—that had all been big hits. I was coming off a film called *The Iron Giant* that was a highly regarded financial failure.

Steve Jobs, Ed Catmull, and John Lasseter said, in effect, “The only thing we’re afraid of is complacency—feeling like we have it all figured out. We want you to come shake things up. We will give you a good argument if we think what you’re doing doesn’t make sense, but if you can convince us, we’ll do things a different way.” For a company that has had nothing but success to invite a guy who had just come off a failure and say, “Go ahead, mess with our heads, shake it up”—when do you run into that?

The *Quarterly*: How did your first project at Pixar—*The Incredibles*—shake things up?

Brad Bird: *The Incredibles* was everything that computer-generated animation had trouble doing. It had human characters, it had hair, it had water, it had fire, it had a massive number of sets. The creative heads were excited about the idea of the film, but once I showed story reels of exactly what I wanted, the technical teams turned white. They took one look and thought, “This will take ten years and cost \$500 million. How are we possibly going to do this?”

So I said, “Give us the black sheep. I want artists who are frustrated. I want the ones who have another way of doing things that nobody’s listening to. Give us all the guys who are probably headed out the door.” A lot of them were malcontents because they saw different ways of doing things, but there was little opportunity to try them, since the established way was working very, very well.

We gave the black sheep a chance to prove their theories, and we changed the way a number of things are done here. For less money per minute than was spent on the previous film, *Finding Nemo*, we did a movie that had three times the number of sets and had everything that was hard to do. All this because the heads of Pixar gave us leave to try crazy ideas.

The *Quarterly*: What sorts of things did you do differently?

Brad Bird: There are purists in computer graphics who are brilliant but don’t have the urgency about budgets and scheduling that responsible filmmakers do. I had to shake the purist out of them—essentially frighten them into realizing I was ready to use quick and dirty “cheats” to get something on screen if they took too long to achieve it in the computer. I’d say, “Look, I don’t have to do the water through a computer simulation program. If we can’t get a program to work, I’m perfectly content to film a splash in a swimming pool and just composite the water in.” This absolutely horrified them. Or I’d say, “You can build a flying saucer, or you can take a pie plate and fling it across the screen. If the audience only sees the pie plate very briefly and you throw it just right, they will buy it as a flying saucer.”

I never did film the pool splash or throw the pie plate, but talking this way helped everyone understand that we didn't have to make something that would work from every angle. Not all shots are created equal. Certain shots need to be *perfect*, others need to be very good, and there are some that only need to be good enough to not break the spell.

We also made superelaborate storyboards. We even emulated camera movement in them, so everyone knew that "We only need to make things work between here and there." Once I was able to commit to the camera angles, we could be very specific about how we built things. Something would look beautiful from one position, but if you moved five feet to the right, the image would disintegrate. I gave up the flexibility to move within a set, but in exchange I bought size and scope.

The Quarterly: Do angry people—malcontents, in your words—make for better innovation? Can you be innovative and also happy?

Brad Bird: I would say that *involved* people make for better innovation. Passionate involvement can make you happy, sometimes, and miserable other times. You want people to be involved and engaged. Involved people can be quiet, loud, or anything in-between—what they have in common is a restless, probing nature: "I want to get to the problem. There's something I want to *do*." If you had thermal glasses, you could see heat coming off them.

The Quarterly: How important is team dynamics to innovation and creativity?

Brad Bird: Making a film, you have all these different departments, and what you're trying to do is find a way to get them to put forth their creativity in a harmonious way. Otherwise, it's like you have an orchestra where everybody's playing their own music. Each individual piece might be beautiful, but together they're crazy.

The Quarterly: How do you build and lead a team that collaborates in the way you're describing?

Brad Bird: When I directed *The Iron Giant*, I inherited a team that was totally broken—a bunch of miserable people who had just gone through a horrific experience on a previous film that had bombed. When the time came for animators to start showing me their work, I got everybody in a room. This was different from what the previous guy had done; he had reviewed the work in private, generated notes, and sent them to the person.

For my reviews, I got a video projector and had an animator's scenes projected onto a dry-erase board. I could freeze a frame and take a marker and show where I thought things should be versus where they were. I said, "Look, this is a young team. As individual animators, we all have different strengths and weaknesses, but if we

can interconnect all our strengths, we are collectively the greatest animator on earth. So I want you guys to speak up and drop your drawers. We're going to look at your scenes in front of everybody. Everyone will get humiliated and encouraged together. If there is a solution, I want everyone to hear the solution, so everyone adds it to their tool kit. I'm going to take my shot at what I think will improve a scene, but if you see something different, go ahead and disagree. I don't know all the answers."

So I started in: "I think the elbow needs to come up higher here so that we feel the thrust of this action." "I'm not seeing the thought process on the character here." "Does anybody disagree? Come on, speak up." The room was silent because with the previous director, anyone who dared to say anything got their head chopped off.

For two months, I pushed and analyzed each person's work in front of everybody. And they didn't speak up. One day, I did my thing, and one of the guys sighed. I shouted, "What was that?" And he said, "Nothing man, it's OK." And I said, "No, you *sighed*. Clearly, you disagree with something I did there. Show me what you're thinking. I might not have it right. You might. Show me." So he came up, and I handed him the dry-erase marker. He erased what I did. Then he did something different and explained why he thought it ought to be that way. I said, "That's better than what I did. Great." Everybody saw that he didn't get his head chopped off. And our learning curve went straight up. By the end of the film, that animation team was much stronger than at the beginning, because we had all learned from each other's strengths. But it took two months for people to feel safe enough to speak up.

The Quarterly: How does your experience with that team compare with your work leading creative teams at Pixar?

Brad Bird: When Pixar asked me to take over *Ratatouille*, the project had been in development for five years but was not in any shape to produce as a movie. There was a moment, at the very beginning of my involvement, when I was in a room full of about 30 people. At this stage, the rats in the movie had been articulated. Articulation is where they design how the muscles and controls work on the characters. Because people were worried about the audience's reaction to rats, all of them were designed to walk on two legs.

I thought that was a mistake. I knew it would be an expensive use of resources, at that point in the process, to rearticulate the rats, but I said, "We have to get them so that they walk on all fours. And Remy, the protagonist rat, has to be able to walk not only on all fours but up on two legs." Everybody said, "Ugh!" because they had spent a year making the rats look good walking on two legs. If you simply took those models, bent them over, and put them on all fours, their hips didn't work and things just looked wrong. They were designed to be upright.

One of the guys challenged me. He said, “I want to know why you’re doing this.” Now, I had gone into this film reluctantly. It’s not what I was looking to do after *The Incredibles*. And there was a part of me that wanted to say, “Because I’m the director, that’s why. Do *you* want to take this problematic thing over?”

But I stopped and thought for a second. I thought, these guys have been sent down blind alleys for a couple of years. They want to know that I’m not doing anything lightly and that if I’m going to make them do a bunch more work, it’s for a reason. So I said, “This movie is about a rat who wants to enter the human world. We have to make that a visual choice for the character. If you have all of the rats walking on two legs, there’s no separation between him and the other rats. If we have this separation as a visual device, we can see the character make his transformation and choose to be on two legs, and he can become more or less ratty, depending on his emotional state. That brings the audience into the character’s mind.”

I spent six minutes saying all this and the guy was initially scowling. But gradually the scowl went away, and he said, “OK.” Once I gave that answer, *everyone* felt, “OK, we’re on this ship and we’re going toward a definite destination.”

The Quarterly: It sounds like you spend a fair amount of time thinking about the morale of your teams.

Brad Bird: In my experience, the thing that has the most significant impact on a movie’s budget—but never shows up in a budget—is morale. If you have low morale, for every \$1 you spend, you get about 25 cents of value. If you have high morale, for every \$1 you spend, you get about \$3 of value. Companies should pay much more attention to morale.

Before I got the chance to make films myself, I worked on a number of badly run productions and learned how not to make a film. I saw directors systematically restricting people’s input and ignoring any effort to bring up problems. As a result, people didn’t feel invested in their work, and their productivity went down. As their productivity fell, the number of hours of overtime would increase, and the film became a money pit.

The Quarterly: Engagement, morale—what else is critical for stimulating innovative thinking?

Brad Bird: The first step in achieving the impossible is believing that the impossible can be achieved. There was a point during the making of *The Incredibles* where we had a company meeting. We have them about twice a year, and anybody can bring up concerns. Somebody raised their hand and said, “Is *The Incredibles* too ambitious?” Ed Catmull said, “I don’t know” and looked over at me. I just said,

“No! If there’s one studio that needs to be doing stuff that is ‘too ambitious,’ it’s this one. You guys have had nothing but success. What do you do with it? You don’t play it safe—you do something that scares you, that’s at the edge of your capabilities, where you might fail. That’s what gets you up in the morning.”

The Quarterly: If you ask most companies how they innovate, they’ll say, “Know your customer. Find out what your customer really wants you to do.” It sounds like you think about innovation differently.

Brad Bird: Our goal is different because if you say you’re making a movie for “them,” that automatically puts you on an unsteady footing. The implication is, you’re making it for a group that you are not a member of—and there is something very insincere in that. If you’re dealing with a storytelling medium, which is a mechanized means of producing and presenting a dream that you’re inviting people to share, you’d better believe your dream or else it’s going to come off as patronizing.

So my goal is to make a movie I want to see. If I do it sincerely enough and well enough—if I’m hard on myself and not completely off base, not completely different from the rest of humanity—other people will also get engaged and find the film entertaining.

The Quarterly: What does Pixar do to stimulate a creative culture?

Brad Bird: If you walk around downstairs in the animation area, you’ll see that it is unhinged. People are allowed to create whatever front to their office they want. One guy might build a front that’s like a Western town. Someone else might do something that looks like Hawaii. Steve Jobs initially didn’t like this idea, but John Lasseter said, “We’ve got to let it go a little crazy where the animators are.” John believes that if you have a loose, free kind of atmosphere, it helps creativity.

Then there’s our building. Steve Jobs basically designed this building. In the center, he created this big atrium area, which seems initially like a waste of space. The reason he did it was that everybody goes off and works in their individual areas. People who work on software code are here, people who animate are there, and people who do designs are over there. Steve put the mailboxes, the meetings rooms, the cafeteria, and, most insidiously and brilliantly, the bathrooms in the center—which initially drove us crazy—so that you run into everybody during the course of a day. He realized that when people run into each other, when they make eye contact, things happen. So he made it impossible for you not to run into the rest of the company.

The Quarterly: Is there anything else you’d highlight that contributes to creativity around here?

Brad Bird: One thing Pixar does—which is a knockoff of old-school, Walt-era

1940s Disney—is to have all kinds of optional classes. They call it “PU,” or Pixar University. If you work in lighting but you want to learn how to animate, there’s a class to show you animation. There are classes in story structure, in Photoshop, even in Krav Maga, the Israeli self-defense system. Pixar basically encourages people to learn outside of their areas, which makes them more complete. Sometimes, people even move from one area to another.

The Quarterly: On the one hand, you are a leader here. On the other hand, you sound like a bit of a subversive. How do you do both things?

Brad Bird: I think the best leaders are somewhat subversive, because they see something a different way. And I’m not leading by myself. My producer, John Walker, and I are famous for fighting openly, because he’s got to get it done and I’ve got to make it as good as it can be before it gets done. If you look at the extra materials on *The Incredibles* DVD, there’s a moment where we’re fighting about *something*, and John says, “Look, I’m just trying to get us across the line.” And I say, “I’m trying to get us across the line in first place.”

I don’t want him to tell me, “Whatever you want, Brad,” and then we run out of resources. I want him to tell me, “If you do X, we’re not going to be able to do Y.” I’ll fight, but I’ll have to make the choice. I love working with John because he’ll give me the bad news straight to my face. Ultimately, we both win. If you ask within Pixar, we are known as being efficient. Our movies aren’t cheap, but the money gets on the screen because we’re open in our conflict. Nothing is hidden.

The Quarterly: We’ve been talking a lot about how you promote innovation. What undermines it?

Brad Bird: Passive-aggressive people—people who don’t show their colors in the group but then get behind the scenes and peck away—are poisonous. I can usually spot those people fairly soon and I weed them out.

The Quarterly: What kinds of leaders inhibit innovation?

Brad Bird: When I first started at Disney, the old master animators were slowly leaving, and there was an animator in his 40s starting to direct films there; management was sort of grooming him to take over animation at the studio. Anyway, he had taken over a film and had a bunch of us meet in his office. The first thing that came out of his mouth was, “I’m here to teach you. I’m satisfied with what I do.” In that opening statement, he lost me because I had already worked with the old Disney masters—and they were never satisfied.

It’s surreal to think about now, but my first real, formal teachers in animation were the best animators in the world. I’d started a film when I was 11, and a friend of the

family knew the composer of the Disney films, who took me into the studio. I met a lot of the great old master animators. Their worst animation was 1,000 times better than this new director's best, yet they would get to the end of a film and say, "I just started to feel like I was understanding the character, and I want to go back and do the whole thing over. Can't wait for next time!" They were masters of the form, but they had the attitude of a student. This guy taking over the studio had only done a few pieces of pretty good animation, and he was totally satisfied. Could not have been less inspiring.

The Quarterly: How would you compare the Disney of your early career with Pixar today?


Brad Bird: When I entered Disney, it was like a classic Cadillac Phaeton that had been left out in the rain. It was this amazing machine that was beautiful but old and getting a little decrepit. Still, they had the best system on earth at that time. They had the best talent. The movies were still well executed, if uninspired.

But Disney at this time was pared down. They were making one film every three years rather than a film every year or year and a half, as they had at Disney's height. Walt had been gone for more than a decade, and the old guys were leaving. The company's thought process was not, "We have all this amazing machinery—how do we use it to make exciting things? We could go to Mars in this rocket ship!" It was, "We don't understand Walt Disney at all. We don't understand what he did. Let's not screw it up. Let's just *preserve* this rocket ship; going somewhere new in it might damage it."

Walt Disney's mantra was, "I don't make movies to make money—I make money to make movies." That's a good way to sum up the difference between Disney at its height and Disney when it was lost. It's also true of Pixar and a lot of other companies. It seems counterintuitive, but for imagination-based companies to succeed in the long run, making money can't be the focus.

About the Authors

Hayagreeva Rao and **Robert Sutton** are both professors at Stanford University, where Rao is a professor of organizational behavior in the Graduate School of Business and Sutton is a professor of management science and engineering in the School of Engineering. **Allen Webb** is a member of *The McKinsey Quarterly's* board of editors.

Speaking personally, I want my films to make money, but money is just fuel for the rocket. What I really want to do is to go somewhere. I don't want to just collect more fuel. 

Notes

¹Readers interested in the relationship between innovation, organization, and leadership may also wish to read several other recent *Quarterly* articles: Joanna Barsh, "Innovative management: A conversation with Gary Hamel and Lowell Bryan," mckinseyquarterly.com, November 2007; Lenny T. Mendonca and Robert Sutton, "Succeeding at open-source innovation: An interview with Mozilla's Mitchell Baker," mckinseyquarterly.com, January 2008; and Joanna Barsh, Marla M. Capozzi, and Jonathan Davidson, "Leadership and Innovation," mckinseyquarterly.com, January 2008.

Related Articles on mckinseyquarterly.com

"Innovative management: A conversation with Gary Hamel and Lowell Bryan"

"Succeeding at open-source innovation: An interview with Mozilla's Mitchell Baker"

"Leadership and innovation"

"Coaching innovation: An interview with Intuit's Bill Campbell"

"How companies approach innovation: A McKinsey Global Survey "

Copyright © 2008 McKinsey & Company. All rights reserved.