



AN INTERVIEW WITH

JOHN KAO

BY JOEL KURTZMAN

WHEN IT COMES to creativity, John Kao practices what he preaches. Trained as a medical doctor and a psychiatrist at Harvard and Yale, Dr. Kao, who is 46, has also had a long love affair with business and academia. For the past 14 years, he has taught courses on creativity in the M.B.A. and Advanced Management programs at the Harvard Business School, where he is a senior lecturer and program chairman and where he also did graduate business study. Not content with one university affiliation, Dr. Kao is also academic director of the Managing Innovation program at Stanford University as well as a visiting professor at the Media Lab at the Massachusetts Institute of Technology. At Harvard, Dr. Kao's research has formed the basis for books, monographs and articles in the Harvard Business Review.

While at Harvard, Dr. Kao (pronounced KAY-oh) came up with the idea of the impresario, a term he borrowed from the music world, as the type of executive best suited to managing creative people. There

he also began to see the similarities between the creative processes in business and in jazz.

Dr. Kao is not merely a student of business. He is also a practicing entrepreneur who has put his ideas about creativity into the marketplace. Over the years, he has started several businesses, including Genzyme Tissue Repair, now a publicly owned

biotech company specializing in advanced tissue engineering techniques, and K.O. Technology, a next-generation cancer diagnostics and therapeutics company. In addition to his scientific and technological pursuits, Dr. Kao has produced feature films, including "sex, lies and videotape," which won the Palme d'Or award at the 1989 Cannes Film Festival, and "Mr. Baseball,"

which starred Tom Selleck. He is also a pianist and jazz musician.

Dr. Kao's most recent effort has been to write a book, "Jamming: The Art and Discipline of Business Creativity" (HarperCollins, 1996), and to produce a documentary film based on the same subject. The book has been favorably reviewed around the world and has made it onto a number of best-seller lists. Among other things, it resulted in a profile of Dr. Kao in The Economist.

What follows are excerpts from a recent conversation with Dr. Kao at his office in Cambridge, Mass.



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Joel Kurtzman is the editor of Strategy & Business.

S&B: *John, when you talk about creativity, you use the metaphor of jamming, as in jazz improvisation. Is it true that you once brought a jazz ensemble into a company to teach people about creativity?*

JOHN KAO: I'm guilty of that, yes.

S&B: *What were you trying to show people at that company?*

JOHN KAO: Jazz musicians can be great teachers of business. Their creativity is not dependent on their mood, it does not have to be coaxed out of them, it has nothing to do with the phases of the moon or even how they feel that day. They go on stage and start playing. Being creative is their job.

Now jamming — which is about collaborative improvisation — has to do with getting people together to be creative musically. But it is a very powerful metaphor for understanding the grammar of the creative process. It applies to business and to other pursuits as well. The capacity to creatively

improvise is an important factor that differentiates successful companies — or teams — from those that are not successful.

Improvisation in the jazz sense — like the business sense — is not formless. It is built on a skill set. Jazz, for example, involves selecting a tune. Tunes have notes and tempos and

rules. If the tune is “All the Things You Are,” you have to adhere to its structure and to the tradition behind that structure. Jazz is not about getting and playing whatever notes you want. It is about reworking themes in a manner that sounds good, that can be followed by the other musicians and that the audience enjoys. You cannot do that without first acquiring skills. In the end, as Duke Ellington said, “If it sounds good, it is good,” which is to say, ultimately, jazz has to work. It has to play with the audience and with

the marketplace. I think that is relevant to business.

S&B: *How do you know whether a company is sufficiently creative?*

JOHN KAO: There are some pretty obvious ways of benchmarking creativity. One way is to perform what I call a creativity audit, which is to look at your capabilities and look at your performance and examine the percentage of revenue that comes from products that are less

than five years old, less than three years old and that are current with the present accounting period. You can then compare those figures to those of your competition along the same axes.

You see, my notion is that an organization is really a factory for producing new ideas and for linking

those ideas with resources — human resources, financial resources, knowledge resources, infrastructure resources — in an effort to create value. These are processes that you can map, with results that you can measure. Organizations are about putting ideas through one or more types of gating procedures. In this way, ideas go from being a whim to becoming a project, from being a “skunk works” effort to becoming an official, mainstream effort, from being an unfounded program to a funded process, and so on.

Now, all companies do what I just described with their ideas. But most companies do it unconsciously, unintentionally or almost by default, which is to say not very effectively. As a result, conducting a creativity audit can be very illuminating because it can tell you how the process is working internally and against the competition.

You can do it quite simply by gathering people together in a room and asking them about the creative process and then diagramming it. You can create a map and by doing so gain a new understanding of how it works, who the gatekeepers are, who has the power, where the ideas really come from, and so on.

You can ask yourself whether you are happy with the source of your organization's ideas. Do the ideas come only from official, specially anointed, idea-generating sources, or do they come from people who are off the radar screen? How are they rewarded? What does that say about the quality of creative collaboration? What does it say about the rigidity or

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appropriate flexibility of the organizational structure as a whole?

S&B: *When you do an audit, are you able to show how new, creative ideas translate to the bottom line?*

JOHN KAO: If you come up with a new product, you can very easily track its contribution to the bottom line. But often the challenge can be both large and subtle.

If you are at Coca-Cola, for example, the creative challenge is one of maintaining — rather than creating — a tremendous level of consumption for your products. Every day, there are 770 million Cokes consumed, which means that there are 770 million purchasing decisions made each day regarding the product. To support those decisions, the company must constantly reinvest in its marketing links to its customers. As a result, a high level of creativity must go into everything the company does, from cause-related campaigns — Coca-Cola and its sponsorship of the Olympic Village in Atlanta, for example — to new catch phrases, commercials, marketing slogans, advertising campaigns and promotional tie-ins.

All of these creative ideas and decisions about new ways to reach the consumer can be tracked with regard to how well they are working, whether and how they are building awareness for the product, how well they motivate the consumption of the product, and so on. So there's real "right brain" creativity that goes into all of the organizational processes that a company utilizes and must continually reinvent in order to con-

duct its business. But there are also the "left brain" accounting functions that must continually ask how the company is doing financially and whether the creative processes are working for the bottom line.

S&B: *Do you manage those "right brain" creative processes the same way you manage "left brain" functions?*

JOHN KAO: I would argue that the management of creativity requires a skill set that's relatively different from the traditional management skill set that is appropriate to a large, complex, industrial-era organization.

S&B: *Can you describe how they differ?*

JOHN KAO: Let me put it this way. The management of creativity is more intimate. By that I mean that it deals with an individual's personal, psychological landscape. It deals with the way you create relationships. It deals with creating an atmosphere and environment that support the creative process. As a result, it is a management skill set that is inherently psychological and that encourages desired outcomes rather than demands those outcomes.

You see, the traditional managerial mind-set is an analytical mind-set. It is about creating accountability and defining responsibilities. But when you come into a creativity-driven environment, things are very different and there is the danger that a traditional managerial mind-set could even do damage. That is because managing creative teams and people is very different from managing the factory worker/foreman rela-

tionship. The creative process is different from the traditional production and work-flow process. It is not so linear. Instead of command and control, managing the creative process is about facilitating and permitting.

S&B: *What about people skills?*

JOHN KAO: Managing the creative process means selecting the best people and then letting them do their work. That means nurturing. It also means, from time to time, creating drama — even uncertainty — so that the creative environment has an edge to it, a charge, and does not run out of steam. In jazz, performances have this function. Performers may play in the studio, but they need to go out and tour every once in a while to keep their edge, or a performer who is a stranger may be asked to "sit in" on a set.

So rather than managing by clarifying events, the creative process may require raising the level of uncertainty. Sometimes this can be done by issuing a creative challenge that has resonance in that it inspires the team to activity.

S&B: *Can you give me an example of what you mean by a creative challenge?*

JOHN KAO: Yes. Take Sony. A few years ago, a senior manager went to see a group of engineers who were working on designing tape recorders. He walked into the group, took a small wooden block out of his pocket and threw it on the table. Then he said to the engineers, "Make it this big," and he left the room. Well, the

only way that they could make a stereo tape recorder so small was to eliminate the loudspeakers, use headphones and eliminate recording. Once the engineers decided on this, it led to a whole raft of innovations in tape transport, electronics miniaturization and so on, all culminating in the first Walkman.

Now, the manager did not go to the engineers and say, "Market research wants a tape recorder this size but without loudspeakers." Instead, he challenged them. He didn't tell them how he wanted his problem solved, either. Perhaps he did not know. He did not provide them with too many directions or too much clarity, for that matter.

S&B: *The management style you are describing sounds more like art than science. Are certain types of people more adept at it than others? How do you make certain it is practical?*

JOHN KAO: The metaphor that I like to use for the leader of a creative process is that of the head of a record label. The C.E.O.'s job in a creativity-driven company is to be an impresario, not a manager. The impresario's job is to pick the right people who can pick the right people. He picks the people who can pick artists and relate to them. People who know what the market craves. The head of a record label sets up structures, but he also defines the sound of the label, which is to describe what is desirable, what fits and what is quality for that label and then to create an environment where that sound can thrive.

As a result, a large part of the impresario's job has to do with maintaining and communicating standards of performance. Knowing how to set those standards — which are often more subjective than analytical — means knowing how to communicate the difference between something that is great and something that is just O.K. It means that you are able to monitor and police your standards of quality once you have defined them. It also means that you are able to create an environment so that the creative process can take place and that you can get people to perform at their highest levels.

But ultimately, the impresario must also know when to simply get out of the way. You see, to continue the musical metaphor, in the end it is the musician who actually plays the notes. The impresario — or the project leader — is only there to make sure that happens. That is a very different type of management mind-set.

S&B: *What else does the impresario do?*

JOHN KAO: The impresario functions as a bridge and a translator. He or she is a bridge between the creative point of view — which is often very focused on the creative task itself — and the resource-allocation process. The impresario has to make certain the funds and people required to get that task completed are available. The impresario function is also about intervening with the company's more administrative management structure. It is about trying to establish a sense of bound-

aries and budgets and milestones and so forth on a project that does not necessarily lend itself to milestones. It is about translating between the intimate interior environment of the creative work team and the company's need to make money. And finally, it is about positioning the fruits of the creative process in the marketplace and selling them.

S&B: *Are there companies that use the impresario management model?*

JOHN KAO: Neutrogena does this. Lloyd Cotsen, the C.E.O., explicitly says that his job is managing the creativity of his people and that maintaining the creativity of the company is his most important responsibility.

S&B: *How would you characterize the environment?*

JOHN KAO: Well, it's everything from the physical attributes of the environment — which is to say the internal design, the furniture, the decor — to the culture of the organization. The culture must underscore, in no uncertain terms, the primacy of the creative talent as the way the company competes. At Neutrogena, if you're in product development, you are a hero.

S&B: *Has that translated into superior results?*

JOHN KAO: Neutrogena is a highly profitable company. Other profitable companies embrace the same view of creativity. Silicon Graphics has gone so far as to say it will now treat its engineers like recording-label superstars, by providing them with money and funds and whatever they

need to excel at their creative work.

Coca-Cola also takes the view that creativity is a corporate discipline. M. Douglas Ivester, Coca-Cola's president, told me his company is way beyond thinking about creativity as a momentary epiphany or as something to learn over a weekend at an executive training course.

He said that creativity is something the company cares about and takes seriously every day. It does not think of creativity as a whim or a lighting bolt or a company fad, or even as a campaign, but as a discipline to be fostered. That discipline translates directly into the company's competitive capabilities. To do that, Mr. Ivester explained, people must get respect for their new ideas. It must be ingrained in the culture, which is 100 years old, even celebrated. Coca-Cola does that. They have historical displays, museums. They are proud of their invention of the contour bottle in 1915 and of their reinvention of Santa Claus in the 1930's and 40's.

S&B: *Is there a "department of creativity"? Does Coca-Cola outsource it?*

JOHN KAO: Coca-Cola has it in its own culture and it has created relationships to foster it when necessary, too. The traditional model for a company like Coca-Cola is to hire one big advertising agency and essentially outsource all of its creativity in that area. But Coca-Cola does not do it that way. It knows how to manage creative people and creative teams and it has been quite adept at building a network that includes the Creative Artists Agency in Hollywood, which is

a talent agency. And rather than relying on a single advertising agency, the company's unique global structure and independent bottling company relationships have enabled it to put together a network of four or five dozen boutique advertising, marketing and communication agencies on a global basis.

In broad terms, what this means is that the company can benefit from what I call knowledge and creative arbitrage. It can take the Brazilian creative team and put its work to use in a project in Japan. It can use this work in a project in Eastern Europe. The output of one team can be used to stimulate another.

What that means is that Coca-Cola can get really fresh output because it is getting people who are outside the traditional model and they are combining ideas in very novel ways. F. Scott Fitzgerald said that the mark of the developed intellect is that it could accommodate two contradictory ideas at the same time. That is a skill at which Coca-Cola excels.

S&B: *Fitzgerald mentioned intellect. How is knowledge related to creativity?*

JOHN KAO: It takes creativity at every stage to make the discontinuous leap from one level of knowledge to the next. These discontinuous leaps of understanding lead to insights that in

turn lead to value creation.

So in a corporate context, companies have to try very hard to oppose the enticements of conventional wisdom. They must aim for the leaps,

which means that companies have to do more than simply manage their knowledge, which is composed of the insights and understandings they already know. They also have to manage the knowledge-generation process. It's not just about, "Oh, we're going to create a data warehouse and we are going to invent a computerized filing system to get at all the stuff we know." Companies have to take risks to

get new knowledge, in a manner similar to how jazz musicians take risks when they go after a new approach to a tune or a performance.

Let me give you an example of what I mean about the knowledge-generation process in a business context. The Global Business Network, a trend-forecasting firm, creates scenarios about the future for its clients. It wanted to figure out whether there is a single global teenage market, and if so, what characterizes it. How did the G.B.N. do it? In a very creative way. It hired a teenager and sent him on a worldwide market-research tour. It then put that teenager in front of G.B.N.'s top corporate clients to talk to them about what he

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found out. So it employed a radical method to create knowledge, rather than simply digging through a data warehouse of existing knowledge. It was a risky, jazz-like approach.

S&B: *I know of an Italian restaurant in Kyoto, Japan, that closes for two weeks each year so the owner can take the staff on a culinary tour of different regions of Italy.*

JOHN KAO: That's the same intent. On a larger scale, Meiji Seika, a major Japanese confectionery firm, sends its executives on confectionery eating and purchasing expeditions to places like Belgium. At Coca-Cola, Mr. Ivester himself makes field trips.

S&B: *How does a company decide which ideas to fund?*

JOHN KAO: That's where it is essential for the various stakeholders in the company to get involved in the collaborative process of decision-making. In a large pharmaceutical company, where it's a big bet, you're going to need finance people to be involved in the decision-making because the investment can run into the hundreds of millions of dollars. You're going to have to run scenarios. You might even need agreement from the C.E.O. to make that type of decision. If it's an incremental, low-cost decision in a marketing-oriented company, it may be a very different set of stakeholders a lot further down in the organization.

Let's say you are funding a motion picture, which requires an investment in the \$20 million to \$50 million range. You're making that bet based

on certain assumptions regarding the market, its size, the appeal of what you're funding, the talent associated with the project, and so on. Those decisions are not that different from the ones regarding funding a new car model or a pharmaceutical research project. You have to take into account the size of the market, the likelihood of success, the proposed payback and whether your talent can pull it all off. The only real differences are those of scale.

S&B: *What else do you look at in deciding which projects to fund?*

JOHN KAO: The larger the price tag, the more you have to adopt what I call the postmodern management approach. What I mean by that is that you have to use everything when you make a decision. You need judgment, you need to utilize conventional resource-allocation analysis, you have to work backward from estimations of the market to the current investments and you have to do some benchmarking of your product and its potential against your competition.

However, if that's all there is — if that's the only way you make your resource-allocation decisions — then your process is both flawed and limited. You are not taking advantage of all the tools that exist or all of the potential in your organization.

Now here is where I use my

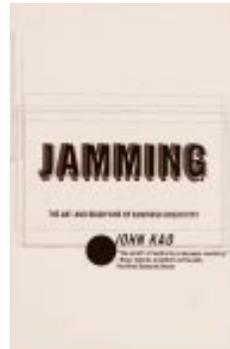
jamming metaphor. You see, the conventional asset-allocation method is like sheet music. It is prescribed, it has right answers and wrong answers and it sounds about the same every time. But jamming is different. Jamming is when you make the music. When you improvise and adapt to conditions. When you are creative. Jamming —

which follows rules but not individual notes — gives you a different result each time, depending upon the players and the conditions in which they find themselves. It is adaptable to changing conditions.

S&B: *The metaphor sounds as if it applies only to companies like software producers or entertainment companies. Do companies in more mundane businesses jam?*

JOHN KAO: One of my favorite companies is Oticon. It is a Danish company that is in the hearing aid business — not the sexiest of industries. It had a No. 1 share in that business. But in the words of the C.E.O., the company got sleepy. It failed to keep pace with the competition and it fell from No. 1 to No. 3 worldwide.

It was also suddenly facing intense competition. Siemens, the big German electronics concern, entered the market and spent more on hearing aid research and development in a year than Oticon's entire market capitalization. Oticon could not keep up



with Siemens by traditional measures. Oticon decided the only way it could compete was by being more creative as well as faster than its rivals.

So what did the company do? It changed from sheet music to jazz. In one quick change of focus, it rebuilt the organization. Now, Oticon's change was very radical. It eliminated all reporting relationships, all job descriptions, its traditional accountability structures. The company also eliminated the functional organization structure. It changed the organization from being built around a traditional flow of processes to one that was structured around a bag of projects and new ideas. People at this company were essentially given full permission to pursue objectives according to the way they saw fit and understood the market.

S&B: *It does sound radical.*

JOHN KAO: It was, but there was still accountability. There were group structures and processes created for approving "skunk works" projects and for moving informal skunk works efforts into more formal efforts. This was done by representative committees of the company. Yet, while there was an approval process, there was also plenty of latitude for these projects.

They did another thing that was interesting. The company moved into new offices that had a completely open plan with modular furniture, and each worker's credenza was put on wheels. Everyone was suddenly together. The result was that an engineer and a technician would sit

down together and the technician could wheel over his credenza full of tools to wherever it was needed to work on new ideas. The traditional assembly method was changed into a musical-chairs arrangement of build-it-on-the-spot.

Now, not everyone was moving around every day. But the point is they all knew that they could move if it was required to fulfill the objectives of the company. They also knew that a microchip designer, for example, could sit next to the marketing people for a few days to work on designs, listen in on conversations and get involved in the discussions. At the same time, next to them both, people could be working on manufacturing prototypes. All of the machinery, in fact, was sprinkled throughout the corporate headquarters.

S&B: *Was it at all chaotic?*

JOHN KAO: When you say chaotic, what do you really mean? It was energetic, yes. Unorthodox, yes. But don't forget, it is a health care company, so that there are very high standards of quality and manufacturing control that have to be met. These standards in no way declined. In fact, they actually improved. And, of course, because it is a health care company, it still must be perceived as a serious company to its customers. So, in that sense, it was not chaotic at all.

But it was suddenly open to new ideas, which were free to bubble up from people anywhere in the organization. What all the changes actually did was to improve the quality and the quantity of the conversations

within the company about fulfilling the firm's objectives. What the changes also did was to create networks instead of hierarchies. People were free to take on multi-job assignments, instead of thinking of themselves as narrow specialists. Some people at the company had two or three different jobs!

As a result, there was knowledge arbitrage going on inside many workers' heads. Because they could find all sorts of different people with different points of view, and they were free to talk to them about anything with regard to the company and its methods, ideas flowed. At the same time, the company made some speculative money available to nurture little projects of an individual nature.

S&B: *What were the objective changes that resulted?*

JOHN KAO: There was an overall and very dramatic improvement in the company's performance. It regained a great deal of market share, even against its giant competitors, though it is not yet No. 1 again. Product development time was cut by more than 50 percent. The company was able to go public. And by opening up the corporate "mind," so to speak, the company was able to develop several new products by mining its old intellectual property assets.

S&B: *Is this an isolated case or are there other companies that have radically changed themselves?*

JOHN KAO: One company that is very interesting is Senco Fasteners, a maker of industrial staple guns,

nail guns and fasteners for use in prefab housing. It is a privately owned company located outside Cincinnati. It has been as aggressive as any company I know in creating a corporate culture that does creative work.

Senco has invested heavily in terms of management, time and energy in developing what they call “Senco Management Concepts.” It is actually one of the few companies I know of that has an explicit epistemology — an attitude and approach to knowledge. Their epistemology says basically that an organization has two states. It has the state of operating to assure its own survival and then it has the state of operating to assure its advancement. Those states require different types of functions.

S&B: *How does that approach work in practice?*

JOHN KAO: First, it works as a conceptual platform for management’s two goals. There is, for example, on the advancement side, something at Senco called the Business Development Information Resource Team. The goal of this team is to look outside the company and to carry out disciplined speculations about the future — to do creative scenarios and analyses and to gather new kinds of cognitive exper-

tise to help the management of the company navigate its way through growth. But on the other side of the company, there are procedures to disseminate basic management concepts to everyone — including people who work on the assembly line — so they can do their jobs better.

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Now, both sides come together as well and everyone knows what the advancement team is doing as well as what the survival team is doing. Communication is open and during my visits to the company, I found that everyone pretty much understands what’s going on. This includes people on the factory floor assembling nail guns, and so on. That gives them a lot of coherence about the company’s purpose. If they were a jazz ensemble they would be very “together.”

S&B: *How do you define coherence, or “together”?*

JOHN KAO: The whole company shares a common frame of reference. Now it has paid off at Senco in different and creative ways. For example, workers are taking the initiative for redesigning processes. Everyone also knows the importance of knowledge within the company. In the executive suite, for example, they have some really sophisticated software to represent in digital fashion the

strategic knowledge of the company.

Down on the factory floor, they don’t need the software, so they have white boards and clipboards everywhere to represent and capture the knowledge they need. They are labeled OFI — Opportunity for Improvement — boards. If you are a blue-collar worker, you just write on the board, “We need such and such a part or element.” Or, you write, “This is my idea to improve the process.” And it is management’s responsibility to provide a response. It may sound simple, but it is a method for harnessing the company’s creativity.

S&B: *So what is the challenge to managers?*

JOHN KAO: The challenge is to manage creative people so that the output is fruitful. The challenge is not to have an open environment and simply let them do whatever they want. I mean you would not let your kids do whatever they want. So the challenge is to create accountability in a non-mechanistic way. You cannot come in with a clipboard and check off boxes and figure out why something has not been done on schedule.

But obviously businesses do not operate like an artists’ commune. Business involves deploying finite resources to achieve goals in a competitive environment to make money. That is something creative people understand. The manager’s job — the impresario’s job — is to preside over the company’s efforts to jam so the business runs really well. 

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