



AN INTERVIEW WITH HOWARD GARDNER

BY JOEL KURTZMAN

WHEN HOWARD GARDNER published “Frames of Mind” (Basic Books) in 1983, it changed the way people thought about thinking and intelligence. Until that work, which was based on detailed psychological research, most academics, researchers and the general public viewed intelligence as rather uncomplicated — something that could be measured with a few simple tests and summarized by a single number. That number, which signified a person’s “intelligence quotient,” was an indicator of an individual’s verbal/linguistic and mathematical/logical abilities, the foundation of all thinking, people believed.

The view that intelligence was this uncomplicated emerged just before World War I. The tests that were then developed to mea-

sure a person’s I.Q., like the Stanford-Binet, were first employed during World War I to find soldiers who could be trained as officers and for special technical assignments. In one form or another, the idea of a single intelligence gained ascendancy.

While not disputing that verbal/linguistic and mathematical/logical abilities are important, Professor Gardner, who is co-director of Project Zero at the Harvard Graduate School of Education and the school’s John H. and Elisabeth A. Hobbs Professor in Cognition and Education, developed the concept of multiple intelligences.

Initially, Professor Gardner’s investigation added five distinct intelligences to a list that began with verbal/linguistic and mathematical/logical. The additional intelligences

were visual/spatial, bodily/kinesthetic, musical, interpersonal and intrapersonal. Recently, Professor Gardner’s theories on interpersonal and intrapersonal intelligences have been popularized as “emotional intelligence,” or E.O. More recently, Professor Gardner posited an eighth intelligence, which he terms “naturalist” — the ability of individuals to relate to nature — and a ninth, the existential intelligence.

Professor Gardner’s theories of multiple intelligences have formed the basis for reforms in education and teaching. The aim of Project Zero is to bring the theory of multiple intelligences into the classroom through new curricula, tests and assessment devices.

For his work, Professor Gardner has received many awards, including a MacArthur Prize, often called a “genius grant.”



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The importance of Professor Gardner's theories, which are spelled out in 18 books, is not, however, limited to education; they also have widespread business implications. According to Professor Gardner, knowledge of multiple intelligences can help companies build better teams, solve problems and make decisions more effectively. Knowledge of multiple intelligences also plays a role in leadership and in developing the right leaders for the right tasks and times.

In his most recent book, "Extraordinary Minds" (Basic Books, 1997), Professor Gardner examines four people of tremendous ability: Mozart, Freud, Virginia Woolf and Gandhi. Using these four extraordinary, but very different, people, he attempts to answer a question once posed by Plato and still asked today: Is there a set of traits that is shared among all great achievers no matter how different their achievements? The book asserts that leaders do share a significant number of characteristics, including the ability to tell stories that engage others and compel them to act or feel.

What follows is excerpted from a conversation about leadership and problem-solving that recently took place with Professor Gardner in Cambridge, Mass.

S&B: *You are an educator whose area of expertise is education, but your contributions to the body of knowledge on the nature of intelligence, the structure of decision-making and the origins of leadership can help us un-*

cover some "higher truths" that are relevant to people in business. I want to explore each of these topics, but let's start with leadership.

HOWARD GARDNER: If I'm known in the business world, it's because I've written something about that. I've done a generic study of leadership focusing on individuals who are outstanding leaders. I believe my study



applies to leadership on a quite ordinary level, from families to small businesses, as well as to that provided by institutions and organizations.

And the basic point is that leadership involves the creation of powerful narratives, narratives that are much more than mission statements or messages. They are actually stories where there are goals and obstacles, where good and bad things can happen along the way and where the people involved feel part of an enterprise

that's trying to end up in a better place.

In order for a story to be effective in the long run, though, it must be "embodied." The individual or institution that bears the narrative must behave consistently with it. Because if you tell one story but you live another — if you don't walk the talk, to use the vernacular — then the story doesn't have appeal.

If you're a very good embodier, though, you don't have to be such a good storyteller because your symbolic behavior really conveys the point. That's interesting in the corporate sense because the more you're trying to create a new business, or change a business radically, the more important is the story you tell. But for an organization that's very well launched, where the story is quite set and you don't need to change it — as in the Army or the Catholic Church — it is only important that you embody the story.

Now, what makes this a non-trivial theory, I think, is my realization that everyone has millions of stories in their minds already and that for a new story to have any impact it has to win a Darwinian kind of contest: It must slay the competing stories. That's very difficult to do, and most of the time it won't work. Either the story will be assimilated into something that is already known or it will be seen as being so at odds with what's already known and believed that it

won't have any impact.

The best storytellers are those who can tell a story that's strange enough to get people's attention but not so strange that the people can't eventually make it part of their own consciousness.

S&B: *Is there a taxonomy of these stories?*

HOWARD GARDNER: No, but I have

a leader. Now, how to connect this to business decisions and devising strategy? Very often, when you're involved in that sphere, you're actually trying to change people's beliefs, their actions and their feelings. By definition, a leader is an individual or institution that significantly affects the thoughts, feelings and behaviors of large numbers of other people or institutions.

And the capacity to bring about

course and measure how you are doing with reference to the goal and the obstacle.

If this is simply an intellectual exercise, though, it doesn't work. People have to be brought into the story viscerally and feel that, yes, this is my story, I want to be part of this.

S&B: *Richard Branson, who created the Virgin Group, has pretty much replayed the story of David and Goliath again and again. He's running an upstart company and he moves into one industry after another, airlines, music, movies and more. People respond to that. So are there certain universal stories that people gravitate to more than others?*

HOWARD GARDNER: I think there's probably a finite number, and, if you look at the ones that are invoked frequently, it would probably be a fairly small number. Certainly the story of the little guy conquering big obstacles is a common one. But it's definitely not pervasive; if you're Microsoft, for instance, that story doesn't work as well.

S&B: *Can a leader change the story?*

HOWARD GARDNER: Yes, but I think there are two things about effective leaders. One, the stories come out of their own lives; they're not artificial. That's where spin doctoring doesn't work. President Clinton is a wonderful storyteller, but he tells too many stories and it's not clear which ones he believes in. He is most effective on issues, like race relations, where it is his story, not one he has appropriated from elsewhere.

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become convinced that what I call existential stories are very important. These stories tell us who we are and what we're trying to achieve. Again, it doesn't matter if it's a family, a business or a country you're trying to lead: People have a real thirst for stories that give them a better sense of how they belong.

I make a big distinction, though, between inclusionary and exclusionary stories. And this is an interesting notion from the point of view of business. Inclusionary stories try to incorporate more and more people; exclusionary ones pit people against one another. I thought, when I began the inquiry, that inclusionary stories were necessarily better, but in fact they can be very risky because you risk losing your core constituency if the story is too inclusive. And exclusionary stories are often very powerful for motivating people.

So these are tools in the hands of

these changes is really a leadership challenge. It's not a management challenge, which is basically maintenance.

S&B: *Can you go into more detail on the stories themselves? Do they, for instance, share certain characteristics?*

HOWARD GARDNER: I can put it in a pretty simple form. First, a story must have a goal that is stated and that is recognizable; a person needs to know whether he or she is getting closer to it or not.

Then there will invariably be some kinds of obstacles. These also must be recognizable. And there must be various approaches for dealing with these obstacles, which can include avoiding them, neutralizing them, finding allies, pushing them off on adversaries or even framing things differently so that the obstacles aren't seen as obstacles anymore.

And then you need to plot your

But leaders also change their stories in line with what they hear from other people, especially their followers. Even if you've got wonderful ideas, they're no good in a vacuum; they need to be responsive to the people you're dealing with.

So, while I tend to talk about a story in a unilateral way, it's really a "multilogue," not a monologue; the other voices have to be part of the story. The more you try to do something innovative, the more ridiculous it is not to pay a lot of attention to how other people are reacting to the story.

But where I part company from those individuals who claim that leadership itself is on the wane or that it's being completely democratized is that I believe only a small number of people are able to articulate a story well and bring other people along. I think it's a very unusual kind of gift — one that Clinton has, and Margaret Thatcher, and just a few other people. And whenever things get tough, if you don't have somebody like that, it's very difficult to move a group.

S&B: *Do some of these stories go out of fashion?*

HOWARD GARDNER: Yes, and new ones come in. Globalization, for instance, brings in a whole new set of stories. And downsizing. How do you tell a good story about downsizing?

S&B: *This involves leadership by institutions, then, as well as by individuals.*

HOWARD GARDNER: Definitely. In any sector there are certain institutions or organizations that will play a

leadership role. I heard a provocative talk about this the other day. The speaker was saying that, if nobody tries to steal your best people, if nobody's copying your practices, you're not a leader. One needs to be able to think about organizations, and units within organizations, as also having leadership functions. And that can change over time. Who is seen as the leader, within an organization or within a sector, will change, and the stories they tell will change. The stories that are inferred from how they behave will change as well.

S&B: *Some of these stories appear to nest within each other. To use a musical analogy, you have to have lots of subordinate stories working in order to have the full direction of the company in harmony, correct?*

HOWARD GARDNER: Yes, and moreover I think that the skilled leader is one who can both articulate and embody a complex of stories that, in the aggregate, are much more satisfying to everybody than just one or two stories. And you can only do that if you really know the minds of the people in that organization.

That's a complex function but it's extremely important, particularly at a time of crisis when you have to ask people to do things they don't really want to do. A skilled leader will know what to say, what not to say and how to say it in such a way that it brings out the best in people. That was the Churchill achievement in 1940.

S&B: *In your research, you have also come up with some very persuasive*

ideas with respect to intelligence that I think bear on the way people make decisions, and how business leaders and others can make the best decisions.

HOWARD GARDNER: Let me approach that from two rather different angles. The first has to do with whether you believe that human beings simply have one way of thinking about the world or whether we have a number of ways. Both language and psychological theory suggest that there's just one kind of smarts and that you either have a lot of it, part of it or not very much, and that there is not a great deal you can do about that.

If you subscribe to that classical point of view, then you would conclude that making good decisions rests on how much of that intelligence you happen to have. This viewpoint still has adherents, but primarily among people who make tests.

If you take a look at all the findings about cognition over the past 30 or 40 years, however, they don't really support this classical view of intellect. They support a very pluralistic view. What that means is that there are probably anywhere from half a dozen to a dozen different ways of thinking — we call them "modes of representation" — that everybody has available just by virtue of being human.

S&B: *Can you describe these modes of representation in more detail?*

HOWARD GARDNER: Let me explain them this way. Everybody agrees that people think. The question is: What do we think in? I believe that we're all

able to think in language and words and that we're all able to think in terms of logic and numbers. And I also believe that we're all able to think in a whole slew of other ways that have often received short shrift in assessment. That is, we can think spatially. We can think in terms of body imagery, kinesthetically. We can think in terms of our own emotional reactions, what Dan Goleman calls "emotional intelligence." We can think in terms of other people and how they conceptualize things.

I recently have become convinced that we also have the capacity to think in terms of large issues, what I call existential issues and what many would call religious and spiritual matters.

At present, I can pinpoint nine different intelligences. But the number isn't crucial. The point is that we all have these different ways of thinking and that no two people will therefore think in exactly the same way. Everybody has a different blend of intelligences in their mind.

S&B: *Does that mean that if two people are viewing a problem, they would assess it, model it mentally and come away with different views about it?*

HOWARD GARDNER: That's very likely. If anybody doubts that, consider a group of people in a car; they are totally lost and you have asked them how they are going to find their way back. If you have four people in the car, you will likely have four different ways of representing that answer. One person wants a map, another wants to try to remember what the route

looked like, the third will look for landmarks and the fourth person will want to ask somebody.

The fact that we all have the same intelligences means that we can communicate with one another. But the fact that we represent things mentally in numerous symbolic systems to one another means that we're not necessarily going to construe things in the same way or see the same options.

People have often asked me how my theories have influenced my own behavior as a scholar, and I think people in business would find what I have to say interesting here. It really hasn't affected my teaching very much because I basically teach graduate students psychology and, even though they may be representing things internally very differently from each other, there are only so many ways in which they can write a thesis.

On the other hand, it influences me enormously at the workplace. Over the years, I've worked with hundreds of researchers. And I used to think — and I imagine a lot of business people could identify with this — that my goal was to find people who were like me. If they weren't like me, I wanted to make them be like me. But now I've totally reversed that. I try to put together teams of people who complement one another, who really do represent the world in different ways. I've found that you actually get much better analysis of problems and, in the near term, much better decision-making when a lot of people who see things in different ways have to communicate with one another.

S&B: *So an ideal team contains balances?*

HOWARD GARDNER: Absolutely, although the kind of team you put together should be determined by what you want to emphasize the most.

S&B: *You said you wanted to approach the question of decision-making from two angles. What is the second?*

HOWARD GARDNER: Well, in addition to the notion that people have different kinds of minds about making decisions, I find it important to think about decisions as being made against the background of certain broad principles. And that ranges from your personal value system to the value system of the group you're working with. In the case of business, it involves the company's implicit values and the kinds of practices that will not be tolerated.

To me, you can't talk about somebody's decision-making capacities apart from their awareness of these guiding kinds of principles; no one reaches decisions in a completely ad hoc way.

S&B: *Are values, then, the larger context for the various modes of thinking?*

HOWARD GARDNER: That's correct. The intelligences themselves are value neutral but how they are applied is not. Goethe and Goebbels, for example, were both brilliant users of the German language, but one used it to write poetry and the other to incite hatred. And certainly in the world of business we know people who are equally intelligent who understand a great deal about the motivations of

other people. And they can use that to build a strong, productive team, or they can use it to hurt people.

Every organization has values, but organizations differ a lot in how explicit they are about them and how flexible they are. A certain amount of flexibility is necessary, of course, but too much flexibility means you have no overarching values at all; your value is complete opportunism.

I mention that because when we talk about people's capacity to make decisions, there are many ways in which you can represent the values of an organization. Some people have a very aesthetic or musical way of thinking about their values, in terms of balance and harmony. And some people have a very logical, analytic way of representing the values of the organization.

S&B: *Are there examples of these? What would be someone who is a musical or harmony-oriented individual?*

HOWARD GARDNER: I was thinking of the kind of language that Ron Heifetz, a colleague at Harvard, uses. He really does seem to think about an organization the way a conductor might, as different parts working well together. I was listening the other day to Robert Shapiro, the chairman and C.E.O. of Monsanto, and he was using a metaphor from biology, the metaphor of self-organization. And I thought about the naturalist intelligence, the kind of intelligence that's central to how the natural world works.

What I'm trying to suggest is that in thinking about an organization and

how it goes about making decisions, people will use quite different aesthetics and metaphors. So an organization will probably want to find individuals who can articulate and present to others the way it thinks

certain people in certain established niches that other individuals can refer to. Consider The New York Times. It wouldn't take long for somebody who showed up there from a very different kind of newspaper to realize

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about things, but not people who will push their presentations and representations so strongly that they're incapable of appreciating other ways in which people represent things.

And there's another element that I think is very important. And that is that, over time, institutions themselves develop cultures. And those cultures often go beyond a single person's mode of representation.

S&B: *People talk about corporate culture a lot, but it's a difficult thing to define, especially for an organization of a few thousand people around the world with various objectives, processes, systems and structures. What is the cultural element?*

HOWARD GARDNER: I find it easiest to discuss culture in terms of an organization that has existed for a while, where there are certain products associated with that organization and

that some things that person had done before couldn't be done now because there would be such strong signals that that was not the way things were done at this paper.

I think at some of the big multinational corporations, the culture is, to some extent, a result of who is attracted to work at that institution. And then I do think that since people communicate with one another, they are able to send out signals when somebody's communication just doesn't make any kind of sense or violates acceptable norms.

But I frankly think it's very difficult to instantly establish a culture, or to convey a culture when people aren't together, where there aren't common things to look at, as in a virtual corporation. And I worry about that. I think that there's a tendency to get very rhapsodic about organizations and the idea of self-organizing,

but I think you can self-organize a disaster too.

S&B: *You're also touching on a concern many companies have today with regard to institutionalizing and passing along their knowledge. Companies have tended to capture knowledge in just one way, so do they now have to structure it in different ways, to fit multiple intelligences, so that it becomes useful?*

HOWARD GARDNER: A single message or a single cultural norm not only can but should be capturable in many different modes of representation. I don't believe that any concept or mission is worth anything if it can only be captured in words or only in a line drawing.

Whatever your mission or message, it must be something that people can embody in the way that they behave, something that can be captured in a work of art, in a logo, in an advertising campaign, in the way people interact with one another. In other words, it should be pervasive.

I think this is one of the very strong arguments for taking a multiple-intelligences or multiple-representational approach to thinking about businesses. It makes a virtue of multiplicity. Someone who cannot recite or draw the message can present it another way.

Another Harvard colleague, David Perkins, talks about what he calls symbolic conduct. What he means is that when somebody in an organization does something out of the ordinary, it's picked up on right away and can therefore convey a pow-

erful message. There's a big difference, for instance, between the new C.E.O. who reads the newspaper in a meeting while everybody else is talking, and the one who asks very few questions but is obviously listening attentively and at the end shows he's heard everything that's been said. Both behaviors are not what people expect. People don't expect someone to be so rude as to read the newspaper during a conference, nor do they expect someone with a lot of power to sit quietly through a meeting. Both actions can resonate, however, because human beings are sense-making organisms, and when we see an anomalous behavior, we try to figure out what it's trying to say. Quite obviously, those two behaviors suggest very different kinds of things.

S&B: *I'd like to go back for a moment to the notion of teams. Is it possible, given the various intelligences you speak of, to construct a team that gives you the optimum mix of modes for a specific task? Could you test for certain decision-making behaviors that are more suited to one task than to others?*

HOWARD GARDNER: I am very leery of tests as a substitute for firsthand knowledge. I certainly haven't heard of any that can take the place of knowledge you have secured yourself or from people you trust.

I'm much more interested in those modes of assessment that help reveal knowledge of a particular business sector. If you know a great deal, say, about the media or about telecommunications, then I think it would probably be useful to prepare

a media-related simulation for somebody you were considering for a team and see what that person would do under those circumstances.

What I don't believe, and this is an anti-Robert McNamara view, is that because somebody is very good in one sphere, say, automobiles, then that person can run the Defense Department, or vice versa. I think the specific knowledge of the domain, or sector, is very important.

But you were asking about how to put together teams. I think that there are three things you have to balance. First, I think it's important that people like each other, or at least respect each other; otherwise, there's too much time spent simply dealing with hurt feelings.

Then I look at two things that come out of my work in education but apply totally in business: a person's intellectual strengths and intellectual styles. Style has to do with a pattern that extends across different kinds of content. Some people are very reflective, some impulsive, some philosophical, some wry and ironic. And I think a mix of that is productive.

But style is not the same as what I call intelligence or representations. That has to do with computational power. The mix of computational power really needs to be determined by the nature of the strategic decision that has to be made. If you're involved in long-term capital management, probably mathematical computational power is very important. It may be much less important if you're trying to decide what kind of best sellers to shoot for in a publishing company.

These are the three different factors, then, that one should pay attention to in constituting a group. And whoever has the role of building that group needs to recognize that you're not going to get it right the first time, that you ought to be prepared to change the constitution of the group.

S&B: *One mode of thinking you haven't talked about has to do with time. Much of what a businessperson has to do involves analysis and computational abilities, but he must also make projections. What would you call that?*

HOWARD GARDNER: In terms of intelligences, I want to use the word space, but I'm using it metaphorically here — some kind of a space in which you're able to conceive contingencies and events and, as in a chess game, project several steps ahead of where you are now.

And this gets back to the different forms of representations. People have different ways of creating those spaces. I happen to be someone who thinks very musically. And so when I'm thinking about things in the future, it's much more the way somebody would think about a composition — how a chord at point A makes a different chord likely at points B or D.

Other people think more in terms of a chess game — a person makes one move, I make another one and so on. But the important thing is not whether you think in terms of music or whether you think in terms of a chess game, or whether you think in terms of a race of some sort, or whether you think in terms of strands

of ropes pulling, but rather that the medium in which you think is adequate enough to include the proper variables and allow you to pinpoint those occasions when it's important to commit yourself and those times when it's not.

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And even though the particular medium in which something is conceptualized may be very different for one person from another, you might still come up with the same conclusion and recommendation.

S&B: *Is it possible for either an individual or an organization to improve its modes of thinking? Can an organization, for instance, diagnose itself, so to speak, and then work toward making itself smarter in categories where it might need to excel?*

HOWARD GARDNER: In a funny sense, the organization actually has a few more options here than the individual, because it can buy things it lacks. It can merge. And we can't do that as individuals. But the fact that something can be purchased doesn't mean it will be used. To make a merger work, one must be able to think at a meta-level, to step back and see a big picture and not be overwhelmed by details of the moment. I don't know if that's a separate kind of intelligence,

but it certainly is a rare kind of capacity.

An interesting analogy — and I go to music again — has to do with being a conductor. First of all, a lot of people think conductors don't do anything but wave their hands, but they do,

take my word for it. And many also think that, in order to be a conductor, you really have to spend your whole life studying music and you won't be respected until your hair is gray, yet most great conductors showed signs of greatness when they were 20. So what is it about the intelligence of certain musicians that not only gives them the knowledge and expertise to take pieces apart, but also the courage and finesse and charisma to get in front of a bunch of crusty old musicians and get them to behave and to perform at their peak? It's clearly a kind of meta-capacity, if you will, which we don't understand very well.

S&B: *What about the individual then? If an individual is in a leadership position and wants to accomplish more, are there ways to train or teach that person, or work on the individual's intelligences?*

HOWARD GARDNER: I think the answer is yes. First, even awareness of

different kinds of intelligence is knowing that, even though you think well in one way, it doesn't mean you can think well in all ways. That's a tremendous step of progress and it prevents all sorts of blunders.

But the right way to think about this is not to think about increasing intelligences per se, because in a sense that's increasing an abstract psychological concept. What you want to do is to strengthen those domains that are important for your professional role but that you're not very good at — a scientist, with his logical intelligence, will want to learn to write, for instance, so he can publish his findings, and later may want to learn to run a laboratory to oversee instead of conduct research. There is no question that in any work domain, people can get better. This depends on how much motivation they have, how good the role models are or the lesson books, and how many resources they and others are willing to put into it. In that sense, it's really very simple.

When you improve performances in a domain, you're working on people's intelligences, but what you really care about is whether their performance is better. You don't really care which intelligence is getting "jacked up."

S&B: *Is the ideal training then customized training?*

HOWARD GARDNER: Absolutely. And this is one place where I think that my ideas in education will inevitably be proved meritorious because now, with technology, with software that is quite sensitive to people's

learning styles and their learning intelligences, we can do a great deal of individualizing in getting people to learn things from geography to calculus. And since we have that option, there's really no point in teaching everybody the same thing in the same way. You can teach people in ways that will make them learn.

S&B: *But you're not suggesting that everybody can learn everything, are you?*

HOWARD GARDNER: No. I'm suggesting that, wherever good teaching is done and effort is applied to learn, people can improve. The decision we have to make as we get older is where to put our energies. As a general rule, I tell people that it's better to develop their strengths and complement them with other people's strengths than it is to spend time getting better at things they're weak at. But that's just general advice. My life has been spent trying to get better at things I'm not good at because I happen to find that an interesting challenge, but that's my problem.

S&B: *Earlier you mentioned the "self-organizing" system, but you mentioned it in terms of naturalist intelligence. How do you mean that?*

HOWARD GARDNER: When I originally described my seven intelligences, which was a long time ago, I didn't include a naturalist intelligence. But I became convinced about five years ago that there was an eighth form of intelligence that has to do with the capacity to be sensitive to the natural world, the world that God

created, as opposed to the man-made world. It has to do with sensitivity to plants and animals, living things, what to eat, what to stay away from, what to chase, what to be chased by. It also goes to sensitivity to the seasons, the clouds, the temperature, the seas and the mountains. It's really being very involved in the world of nature and how it works. By the way, the ninth intelligence is probably the existential intelligence that I alluded to above.

And I think part of the notion of a self-organizing system is that it's a lot like what happens in the natural world: You put a bunch of ants together and, by God, they get their act together to do things you didn't predict.

There is a woman in Australia, Joyce Martin, who is the first researcher I know to really look hard at the naturalist intelligence. But I just read a manuscript of hers, and I said, "You know, I think you're missing the biggest application of naturalist intelligence" — which I think your readers would get a kick out of — "and that is, I think the entire commercial world is based upon naturalist intelligence."

S&B: *How do you mean?*

HOWARD GARDNER: Maybe the word "consumer" is better than "commercial," but what we're doing when we create products is playing up small differences so that people will like our cigarettes or our sneakers or our cars better than somebody else's. People wouldn't even see the differences, or hear the differences, let alone pay attention to them, if we didn't have the kind of intelligence that makes those

fine discriminations. And the job of people in advertising and marketing and sales and so on is to make us think that those differences are consequential.

And so I would say that anybody who works in the spheres I've just described is basically making use of naturalist intelligence in a way that evolution could never have anticipated.

S&B: *What you've broadly described, though, is quite a rich and complex way in which we construct the world around us and then manipulate it, with various degrees of success. This brings me back to the question of how we make our choices, or decisions, and we have here what sounds more and more to me, now, like music. You have these different ways in which people look at the world, but individuals must perform as a group and decisions need to be made for and by the group. So are there optimal ways to make these decisions?*

HOWARD GARDNER: What I think I can contribute here is the understanding that, to get to any decision, people must be clear in their own minds about how they're thinking about it. They must understand their own representations and learn how to map those considerations onto what other people are thinking. They must ask how they can make productive use of the fact that people have different strengths and different styles and different temperaments.

And then, once a decision is made, they must consider how to go about implementing it, how to convince other people of its value. We

might call that the "afterplay."

S&B: *And so we've come full circle to the topic of leadership?*

HOWARD GARDNER: Yes, and what I want to point out here is how some deeply ingrained misconceptions can affect the way in which a person leads and makes decisions.

The work of mine I actually think is most important is "The Unschooled Mind" — but it's not well known and therefore I've just written another book on the topic called "The Disciplined Mind." I wrote "The Unschooled Mind" about 10 years ago, and in it I described what I thought was the most important finding about learning to come out of cognitive science. When we're young, we form very powerful models of the world. While often these models are not particularly productive, and sometimes they're completely wrong, they're very difficult to change because they're so deeply entrenched. Many problems that people run into when they are trying to bring fresh ways of thinking to an issue arise because such deeply entrenched misconceptions get in the way.

Believing in hierarchy, for example, is very deeply rooted. On a basic, and often humorous, level, if you ask 4-year-olds in a very progressive classroom and 4-year-olds in a very authoritarian classroom to imitate what happens in the classroom, both groups will always portray the teacher as being nasty to little kids because that's just such a powerful idea, the teacher as the taskmaster, it's very hard to shake.

Likewise, in business, there are a thousand companies that talk about cooperation and flat hierarchies but that never really achieve such a structure because it's so easy for everybody, the led and the leader, to fall back into a more hierarchical arrangement.

And so the point here for decision-making is to avoid just doing the easiest kind of thing. In my recent work, I argue that if you want to be able to think about something in a non-stereotypical, non-misconceived way, not only do you have to spend a lot of time immersing yourself in the topic, but the more you can think about the topic pluralistically, the better. And that's where multiple intelligence really, I think, has its heyday. If you can think about a decision-making situation in lots of different ways, you're much less likely to fall into a stereotypical or misconceived approach.

Here is an example I use in school. If you only read about wars from the point of view of the victors or the point of view of the losers, you really don't have a sense of what the world is like. But if you read about a particular war in different textbooks, or look at movies about it made in different cultures, you get a much more varied picture of the scene, the strategy, the players and their concerns in that particular conflict. And I think you can see how that would apply easily in a business situation — and how much it would contribute to making a good business decision. 

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