

PACKAGING INNOVATION INTERVIEW WITH JOSEPH COATES

INTRODUCTION: Today is Monday, June 24th, 2002, and my name is Bruce Harte, Director of the Michigan State University School of Packaging. I am here today on the campus of MSU with Joseph Coates, founder of Coates & Jarratt, Inc., where for more than two decades he has led designing and delivering studies on the future of technology, business, and government. Mr. Coates has retired from the company to become a consulting futurist. In the course of pioneering future studies, he has consulted with 45 of the Fortune 500 companies, he is the author of more than 300 articles, chapters, papers, and publications and writes columns for Technological Forecasting and Social Change, Research and Technology Management, and Personnel. Welcome, Mr. Coates, we're glad to have you with us today, and to have a chance to talk with you about the future of packaging.

Bruce Harte: TELL ME A LITTLE BIT ABOUT YOUR BACKGROUND.

Joseph Coates: Well, I'm a futurist and my business is helping organizations, corporations, government agencies, foundations and so on understand the factors, the forces and the trends that will be influencing them over anywhere from the next 5 to 50 years. The time, of course, depends upon the nature of the enterprise. What we try to do in doing that is get people to be aware of the assumptions that they have about the future. If you have a faulty set of assumptions, you are going to be in deep trouble.

BH: WHAT DO YOU THINK IS THE TOTAL ROLE OF PACKAGING IN THE U.S. AND IN SOME OF THE REST OF THE WORLD?

JC: It's obvious that packaging is symbiotic. What happens in products, production affects packaging. What happens in packaging affects products, production and distribution. In general you could say what modern packaging has done as it modernized over the last 100 years has brought us more products, more products, brought them to us in better condition and brought us to them with a degree of safety, which historically was completely unknown. As the skills in packaging enhanced, they have made the whole world open to commerce, products from any part of the world can go to any other part of the world with a very high reliability of that material being safely and wholly delivered. All in all the benefits of packaging tend to be lost because we see packaging everyday, we have very high expectations from it and we tend to only focus on packaging when something goes wrong.

BH: SHOULD THE INDUSTRY BE DOING MORE TO INFORM CONSUMERS ABOUT THE ROLE OF PACKAGING AND THE BENEFITS IT BRINGS TO THEM?

The answer is yes, but not so directly as that. It would be as dull as dishwater if you said now we are going to have lecture for on how packaging is good in your life. The kind of thing that you need to do is identify the heroes of the industry. Who, for example, invented that marvelous egg crate? Eggs don't get broken the way they could in other kinds of shipping. Who has developed the kinds of packaging that give us the various foods, the processed foods, the pre-cooked foods, the frozen foods? Who designed the packaging that allows all kinds of things to be delivered to us safely? Those heroes, so to speak, of the enterprise, ought to be identified and celebrated. People are interested in people. If you can identify the people who have made a significant invention and show how that's influenced people's lives, you will not only catch their interest and attention, but you will capture their children, their young and older children seeing that as a potentially attractive area for them to work in. All in all you need to tell your story better and tell it in an entirely personal way.

BH: I THINK THAT WOULD BE A WAY TO GET PEOPLE INTERESTED.

I think so. There is a lot of exciting stuff going on in packaging, and the more one studies it, the more interesting it becomes. I don't mean study in the formal sense, but the more one sees what's interesting about packaging, the more interest that will engender. And of course, it isn't just the heroes, the one most responsible for some new development that will be aggrandized about that, but it will be the whole team of people who worked with that person to go from basic concept to practical application. Keep in mind no company ever invented anything. When you see the name of a company as having brought you something marvelous, hokum, it's always individuals who do the invention. Those are the ones we want to celebrate. If any of the listeners are interested in getting continuous insight into this, there is a marvelous little publication called Technology and Invention, which is available by monthly subscription for about \$15.00 and it's the greatest buy on the history of things that affect our lives.

BH: AS YOU LOOK AT PACKAGING NOW AND 20 AND 25 YEARS FROM NOW, WHAT ARE SOME OF THE ISSUES THAT WILL IMPACT THE SCIENCE AND TECHNOLOGY AND WILL WE BE ABLE TO RESPOND TO THOSE ISSUES WITH CHANGES AS THEY ARE NEEDED?

You have to respond as the changes are needed. There is no question about that. But the question is what kind of changes? I see several big things driving the future. One is environmental concern, broadly the idea of sustainability. Use the resources we have, but don't prejudice their availability for future generations. It suggests a kind of conservatism. That means, for example that there will be much more recycling. There will be much more reclamation, sending manufactured goods back to the factory to be re-serviced and parts replaced. Most important of all, for automobiles, washing machines, dryers, computers, they will be remanufacturing, sending them back to the factory to be put in tip-top condition. That's going to affect packaging because for the first time, packaging will become a two way street if things do have to go back to the factory. The environmentalism will also affect the nature of the packaging, in that that itself is

going to have to be more recyclable, less of an affront. Packaging is not a big, big factor in the environment in some objective sense. It's got more disproportionate interest than most things because it's visible. We all make it, we see it, we produce it, and if you are a homeowner you are taxed to get rid of it. It's around us all the time. It's the immediacy of that kind of solid waste that makes that a big issue and packaging is, of course, almost totally solid waste. The second thing, of course, that is going to affect us is information technology. That's the thing that's affecting every business, every enterprise, and every family. Some of the things it is going to do to the packaging sector is to open up people's questions and curiosity and concerns. The smart business will have 800 numbers, will have Websites, will be giving straightforward, understandable responses to questions and so on. The failure to do that is going to cause people to go to affinity groups that will be fundamentally hostile to either the company that is using the packaging or to the packaging itself. There really isn't much of a choice. You've got to be more and more open in people's lingo and be straightforward. The information technology will also affect packaging. For example, it's not practical to have something called RFID, radio frequency identification, so that every package and even the product in the package can be questioned, queried remotely as to what it is, where it should be going, where it's from, the schedule that it's on, when it was packaged and so on. We are moving towards a world in which something will come off the assembly line, never be touched by a human hand wherever it's going until it's opened up by the ultimate consumer or user. That's very clearly the long-term trend in packaging and the logistics, which is the movement of packaging. That's going to be a big, big factor. A third big factor is the changing nature of families and household, as they change in size, number of people, age, the number of people in the household, it's going to create very interesting new demands on all kinds of household goods, but most particularly food. More single servings, more restorable stuff, easier access to packaging, the aging will demand more functional tear strips and so on. And finally, let me just go back a moment to the environmental issues. Another big, big driver is going to be the question of greenhouse warming. There is no doubt now that it's real. The scientific community is virtually unanimous on that. But the question is how strong will the affects be and as they become stronger, we may find the things in our world being marked and rationed in terms of the amount of energy they consume and also in terms of the amount of carbon dioxide they produce, carbon dioxide being the principle source of the greenhouse gases.

BH: DO YOU THINK RECLAMATION WILL CREATE A NEED FOR MORE TWO-WAY OR RETURNABLE PACKAGES?

I think so. If not returnable packages, who is going to store 20 large cartons or 100 or 1000 large cartons, they may have to be designed differently so they are collapsible. They may be particularly valuable because they will have a structure that particularly accommodates a particular product. But all that detail could be worked out. The important point about reclamation is sending large and expensive stuff back. To give you a sense of my thinking, I think it will be, let's

say anything that weighs more than 25 pounds and costs more than \$200.00. That might be a good candidate for either reclamation or remanufacturing. The problem with computers is really pathetic because let's say last year you bought one set up for \$1100.00 or \$1200.00, if you tried to sell it today you'd be very lucky if you get \$200.00, probably happy if you got \$150.00. So vast mountains of computer technology are going into the waste heaps and a number of them contain materials that are very unfriendly to people and animals and plants. We really need to do something about the computer problem. If they were designed not on the model of Microsoft, Microsoft is adopting the old automobile strategy, which ought to be passé, namely the annual style change. You can't be with it unless you buy our latest product. It's fundamentally anti-social. If we had legislation that made it illegal to be anti-social, Bill Gates would be in the slammer in perpetuity. We can design these things to be upgradeable, replaceable, and restorable and so on and we may have to do it by legislation.

BH: WHAT DO YOU SEE SUSTAINABILITY MEAN IN TERMS OF A PACKAGING SYSTEM?

That's a good question. Look at what happens to packaging now. It's manufactured, so sustainability says that process should not create waste, which fundamentally alters the environment negatively. It's distributed to a user; somebody is going to package something, that's generally no problem. There may be some losses along the way, but we know how to handle that. It then goes to a consumer or user and then when that consumer or user unwraps and gets at the product, then what happens to it? It's mostly likely thrown away, destroyed. That's the place for the sustainability to come on in a big way. Can it be designed in such a way that it becomes more attractive to recycle? Why it isn't attractive now? Many things are not fully attractive for recycling because they contain gums, glues, and adhesives, other materials built into them that just literally gum up the works. So can you move to other ways of sealing the package, closing it? Then there is the question of can you make a secondary use for it. What's a secondary use? Toys are one. Children love to play with boxes. When you get to the global market, then secondary use is going to become a lot more important because in those less wealthy countries things are not so much thrown away, but people do want to use them over and over. So again, the secondary use has become more important. I don't think there is a need for anything that is particularly radical. I think what the need is for is better and more careful use of the skills and talents we already have for packaging in general.

BH: WILL IMPROVEMENT IN TECHNOLOGY AND THE INFORMATION TECHNOLOGY CREATE EVEN MORE DISCREPANCY IN PACKAGED GOODS AND THE USE OF PACKAGING BETWEEN THE HAVES AND HAVE NOTS OF THE WORLD?

Let me come back to that, but a moment on the point that you just previously made. If you look at packaging today, when you see something in the consumer market from a supplier, there's a pretty fair chance it's full of exploded

polystyrene, those little peanut foams. When they get dumped in the trash heap, that's a total loss. Nobody is salvaging them. Those peanuts could be replaced by paper. That's what people used to pack with, and that paper would be fully recyclable. So these are the little kinds of adjustments that need to be made and why are the peanuts so popular to use? Because you have automated machinery that will fill the box and all its space with them. These are the kinds of marginal issues we need to address. Back to the affects of information technology, I think that there's not going to be any system, which says, you must use our system to deliver these goods; otherwise you don't get them. What systems are going to have to be is capable of being delivered anywhere, however developed or however sophisticated that market is. The most sophisticated markets from Omaha to let's say Calcutta, middle class, is going to be the same. The RFID's will work just as well in those two places. On the other hand, if you are delivering something to a smaller town in Bangladesh, you are going to have to have everything written, typed, marked on so that it can be dealt with in the more traditional way after some point, like when it comes off the boat or when it comes off the airplane. I don't see a sharp either or, I see a steady transition.

BH: WHAT IMPACT DO YOU THINK GLOBALIZATION WILL HAVE ON PACKAGING IN FIVE, TEN OR FIFTEEN YEARS FROM NOW?

Overwhelmingly positive. Globalization is going to force worldwide standards, which are for size, content, material, durability, strength, and all those things that make for a good and sustainable package. That's not going to come out of the United States. In spite of whatever egomania we have, the United States is not a leader in the world community in dealing with sustainability or environmental solutions. It's going to come out of Europe. 350,000,000 people in the European Union, and they are going to be laying down standards and those standards are going to push the rest of the world into metrication. If an American firm wants to market in Europe, it can't go very much longer with sending off American built stuff and just mark the metric numbers on it. It literally doesn't fit. Globalization is going to promote those standards and those same standards will then operate across all the rest of the world. That's going to be a benefit, because the more standardization there is, the more uniformity there is, logistics becomes cheaper. The farther something travels, the higher the cost of the logistics. Logistics is a two-bit word for moving goods. The other affect of globalization is that it opens up markets. Now, combine globalization with its hand maiden, information technology, and you can shop in ten different countries for something now, find what you want and have it delivered in a highly reliable way through packaging. It's going to expand markets and while the largest part of the big goods, the heavy goods market will be dominated by big American and European companies, Japanese companies and later Chinese companies, hundreds of thousands of small items will now be opened up to small businesses to market. It's really going to be a godsend to small businesses. How the balance works out is an interesting thing to speculate about, but let's not do that now.

BH: IN TERMS OF SMALL BUSINESSES, WILL IT HELP TO CREATE NEW BUSINESSES?

Oh, sure. Every business, if it pays attention to its customers, will find a new opportunity. Not today or tomorrow, but sometime in the next year or two because customers come back to you with problems, with complaints, with questions. If you pay attention to that, some of those have imbedded in them the potential for a new product or what often tends to be missing from American business, a collateral service. The service sector for physical goods is boom time today. Take your computer again, what happens when it doesn't work? Nine out of ten people are just absolutely flabbergasted in total ignorance about why it doesn't work. So there is the growing service sector. Not the stupid things, the call in numbers to the manufacturer where you could get gray-haired waiting for them to answer but neighborhood people, service people who come in and help you answer your problem to deal with it. Take that for any kind of commodity or product, that collateral service support is going to grow both inside the original providers company and then outside as ancillary. So big time, promoted by both globalization and by information technology.

BH: WHERE DO YOU SEE THE USE OF E-COMMERCE AND THE INTERNET FOR BOTH BUSINESS-TO-BUSINESS AND BUSINESS TO CONSUMER TYPE SELLING OF PRODUCTS?

The apparent rise and decline of e-commerce in the past few years is absolutely something that had to happen. Large numbers of people are going to jump on a bandwagon, which the wheels are not square, and they are going to get bounced around and knocked off. Enthusiasm tends to draw in lots of people who haven't thought it through. Many people saw e-commerce as a competitive alternative to standard business. In fact it's not. In almost every sector, e-commerce becomes the compliment to a standard business, so you deal with Macy's as a general service department store. If you get your jollies out of walking around Thursday evening or Saturday afternoon shopping, you'll do it. But if you prefer to deal with a catalog, you could have done it but now you will do it on Internet. The e-commerce is largely in business to customer, largely a competition right now between the Internet and catalogs. It hasn't yet really seriously reached the Internet and the actual shop. But that will come. So we are seeing a natural process that gets overblown by the business press. They love to say boo-hoo and they love to deplore the down side and so on. Exactly what one would hope is happening is happening. Companies are learning to embrace e-commerce as a part of their whole marketing strategy. This is going to again satisfy customers, particularly people who are pressed for time. Who isn't pressed for time? And particularly people who have some limitation on their mobility. Older people, handicapped people, they can have the 5000 choices that you would have if you walked into Macy's. So great, they can also reach out to things that they otherwise never would have thought of looking for. Now when you get to business-to-business e-commerce, that's just the most exciting thing that's happened in 25 years. Let's say I'm a medium sized company and I have normally 25 suppliers to the various things I need and I do a lot of stuff on

contract. For this particular raw material I need, it's some exotic stuff, I normally go to one of three companies. Today on an e-commerce Internet, I would hire a company; find me everybody who can compete for this product. My three might swell to 13. I tell each of them, my service provider here, tells each of them what we are up to. We are going to do a bid for a certain amount of material and so on, and would you like to participate? Out of 13, 11 say yes and two can't be bothered yet. Those 11 then get instructed on how to participate in the e-commerce bidding. The bid date comes and we are all around our office, the service provider has all the computer hook-ups going. The bidding starts, it starts way up high and just drifts down very slowly. We are getting into the last three minutes of the bidding and zoom, the bids decline precipitously, people get a call, you at Acme, and you've got 90 seconds for a final bid. You are number two in the bid. Number three, you are third in the bid, and you've got 65 seconds to make your final bid. What it does is it pushes the bidders to an unprecedented degree of awareness and knowledge about what they can really bid or not bid. Suppose you got stung, you come in second and the company that came in third, by the way, you get all of this bidding in real time as it's going on and suppose you missed it by 1½%. You are never going to engage in e-commerce competition again until you've gone back and you know exactly down to the fraction of a percent how low you can go. All of this is going to tighten up the competition business to business and make it therefore better all around, for the company that's running the bid and ultimately for consumers. You can't go too low if you've done the work before hand, that's the beauty of it. Let's say you know two weeks in advance that you are going to participate, you get your guys working out against that bid, you know the bid, the conditions and you will be right down to a gnat's eyelash.

The other side of this, going back to the environmental issues, let's say a company ends up with 45,000 pounds of some waste product that it doesn't use, it can't use. Either that company itself or a service provider will take all the specs on that waste product and hunt the galaxy for someone that can use. So on the notion of sustainability, you cut waste disposal to an absolute minimum by finding somebody who can use that. It might not be something as small as 45,000 pounds. It might be 30 tons of some specialized steel that's left over from a big construction job. People are now setting up these kinds of markets, and they are absolutely marvelous in bringing new degrees of approaching 100% consumption and reducing the percentage of waste. Suppose you are Acme and you've got some guy in the company and you say Charlie, go find out who might want to buy this. He may spend some reasonable time on it. But instead of going to Charlie, your internal employee, you go to Smith and Jones and Smith and Jones has this as their business and you say to Smith and Jones find some people who are interested in bidding on this. That's the way they earn their living. They are likely to do a far better job than Charlie does. They know more, they have more skill and their universe of possibilities is far wider.

BH: WHAT KIND OF ADVICE SHOULD I BE GIVING MY STUDENTS ABOUT PACKAGING IN THE FUTURE?

Number one that's totally new to you, who should they want to be like? Who are the heroes, the creative people, and the top performers in the whole packaging sector? My favorite example of beautiful packaging is the egg crate. A dozen eggs, you drop it, you push it off the counter, or bang it around in carrying it home, nothing breaks. What genius invented that marvelous little thing? Who are these geniuses? Who are the leading people? Who is it that that student wants to emulate in his career? Now, that's all neglected. But then getting down to the more traditional kind of components, I think what needs to be done is to carry over to the students that packaging is always part of a much larger system. The payoff comes in understanding that larger system. So, if you are packaging in pharmaceuticals, packaging in food, packaging in lumber, packaging in delicate machinery, you have to understand that part of the system of packaging and it's use in order to really be able to optimize on the kind of confidence that you are bringing towards that client. You've got to get the client away from the notion of thinking solely in terms of cost because if you can jump out of the passion for cost reduction and take a bigger bite at the client's system, the client is really looking to cut costs in the delivery of that product. He really doesn't care, although he says he does, about the cost of the package. He's concerned about the total cost of delivery. So if your students learn to take that subsystem view, they may come up with some really creative stuff. My example is in a different sector, but it's very clear. I was listening to a German paint manufacturer a year ago talk about his experience where the automobile company he was supplying was driving price down, down, down, down. They finally reached the limit. This was madness for them and they decided that they needed an entirely new strategy. They recognized that the automobile company wasn't really interested in the cost of the paint, what they were interested in was the cost of painting the car. They switched their whole research plan around and developed a major improvement in the car painting process that dropped it from three painting rooms to two painting rooms. In other words, instead of three times painting, paint twice. This was an enormous savings for the client. That's the kind of shift in thinking that students ought to automatically come out of your program with taking the systemic view.

BH: WILL THE MERGER AND CONSOLIDATION THAT WE'VE BEEN GOING THROUGH CONTINUE FOR THE NEXT SEVERAL YEARS?

Consolidation cannot continue to the point where everything is United Products. Each sector has to stop. Eventually some form of either European trade constraints or U.S. monopolistic anti-monopoly laws will come into play. But within those frameworks, I think that the consolidation has very real economic advantages. However, it also has social disadvantages. The big consolidators almost always want to enjoy the benefits of scale, the bigger better. Now, that's not all that bad, because what that automatically does is create niche markets for new highly creative people. One of the things we need to keep the creativity in all industrial processes going are these niche markets. Big companies, as a generalization, do not have an outstanding history of creativity. Now people say well, think of AT&T, think of Dupont, yeah, but think of the 50 other companies

where they have not been primarily creative. What they tend to do is buy up the creativity. As the consolidation makes them more conforming, it's going to create the niche small businesses, they will prosper, they will develop and they will eventually be bought up at great fortune to themselves. You can't form a niche business unless you're ready to take a big loss. The really successful entrepreneur has on average failed five times. So it isn't a matter of the first time out you win. Any potential entrepreneur knows they have lost five times; I'm never going to loose, well, maybe twice.

BH: ARE THERE ANY OTHER COMMENTS YOU WOULD LIKE TO SHARE?

You ought not loose sight of the fact that packaging is great stuff. It really has enormously enhanced the quality of our lives over the last 100 to 125 years. The other thing though is the sticky points, the annoying things, and the incidental things that are not well thought through. Going back to your students, you are a business-to-business enterprise and your students ought to be made aware of the absolute need to always jump over their potential employers interest and look at the ultimate consumer. That's a constant source of innovation and invention. The things that could go wrong, the new needs, the things that don't make it back because when a business deals with another business and that second business deals with consumers, the flow of basic information back is twice distorted. It's distorted by the consumer and then distorted by your client business. You have to have some mechanism for jumping over your client business and getting better insight into the ultimate consumer.

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