

Dr. Deming: 'Management Today Does Not Know What Its Job Is'

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In his last interview, Dr. W. Edwards Deming shared his thoughts on quality, management, innovation, and more.

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Perhaps no one worked harder or enjoyed his job more than Dr. W. Edwards Deming. Less than two weeks before his death late last month at age 93, he was conducting one of his four-day seminars in Los Angeles. Always learning, Dr. Deming continued to integrate new ideas into his inspiring presentations. On a sunny Saturday morning last Oct. 23, sandwiched between his seminars in Detroit and Richmond, we had a chance to meet for a few hours at his home in Washington. Seated at a small circular table in

his modest kitchen, we chatted over his breakfast of Quaker Oats granola with milk and cream, toast, and tea.

Though Dr. Deming's legacy will be that of the man who transformed Japan into a formidable business competitor, a sometimes gruff taskmaster who wouldn't visit a company unless he could talk to the man at the top, I was taken by his patience, warmth, and caring nature....like the wise great-grandfather he was.

While he focused intently on his topic throughout our discussion, afterward we spoke of family and travels, and he offered to find time for us to talk in the future. His passing makes our get-together that much more meaningful and his timeless words even more valuable.

IW: *Things are so much different now than when you were formulating your 14 points for transformation of American management. Are you saying anything now that you weren't saying before?*

Dr. Deming: No. The 14 points are good enough for me.

IW: *What can you say to IndustryWeek's readers that they might benefit from and apply to the way they are running their businesses?*

Dr. Deming: Management today does not know what its job is. In other words, [managers] don't understand their responsibilities. They don't know the potential of their positions. And if they did, they don't have the required knowledge or abilities. There's no substitute for knowledge.

IW: *What is their job?*

Dr. Deming: What should be the aim of management? What is their job? Quality is the responsibility of the top people. Its origin is in the boardroom. They are the ones who decide. Quality means what will sell and do a customer some good--at least try to. The customer is the one who supports us. We have to present to him something that he needs, in a way that he can use it. Study his needs, get ahead of him. The customer invents nothing. The customer does not contribute to design of product or the design of the service. He takes what he gets. Customer expectations? Nonsense. No

customer ever asked for the electric light, the pneumatic tire, the VCR, or the CD. All customer expectations are only what you and your competitor have led him to expect, He knows nothing else.

IW: *What then is the source of innovation?*

Dr. Deming: The source of innovation is freedom. All we have—new knowledge, invention—comes from freedom. Somebody responsible only to himself has the heaviest responsibility. “You cannot plan to make a discovery,” Irving Langmuir said. Discoveries and new knowledge come from freedom. When somebody is responsible only to himself, [has] only himself to satisfy, then you'll have invention, new thought, now product, new design, new ideas.

IW: *How does a company, a research manager, a manager of people create an environment where there is freedom?*

Dr. Deming: Give people a chance to make use of their diverse abilities, capabilities, family life, education, hopes. Help them to accomplish their aim.

IW: *One of your more controversial ideas is eliminating performance evaluations.*

Dr. Deming: Well yes, because you cannot measure performance. Appraisal of people is ruinous. You cause humiliation, crush out joy of learning, innovation, joy on the job. Most of what anybody does is governed by the system that he works in. You are not evaluating him, you are evaluating the interaction with him and the system, the rules and constraints he works in.

IW: *I like one of your quotes, which is “Reward for good performance may be the same as reward to the weatherman for a nice day.”*

Dr. Deming: That's about right.

IW: *What is the alternative?*

Dr. Deming: The alternative is joy on the job. To have it, people must understand what their jobs are, how their work fits in, how they could contribute. Why am I doing this? Whom do I depend on? Who depends on me? Very few people have the privilege to

understand those things. Management does not tell them. The boss does not tell them. He does not know what his job is. How could he know? When people understand what their jobs are, then they may take joy in their work. Otherwise, I think they cannot.

IW: *Quoting from your book [The New Economics (1993, MIT Center for Advanced Engineering Study)], you say, "You can learn a lot about ice and know nothing about water." What does that mean?*

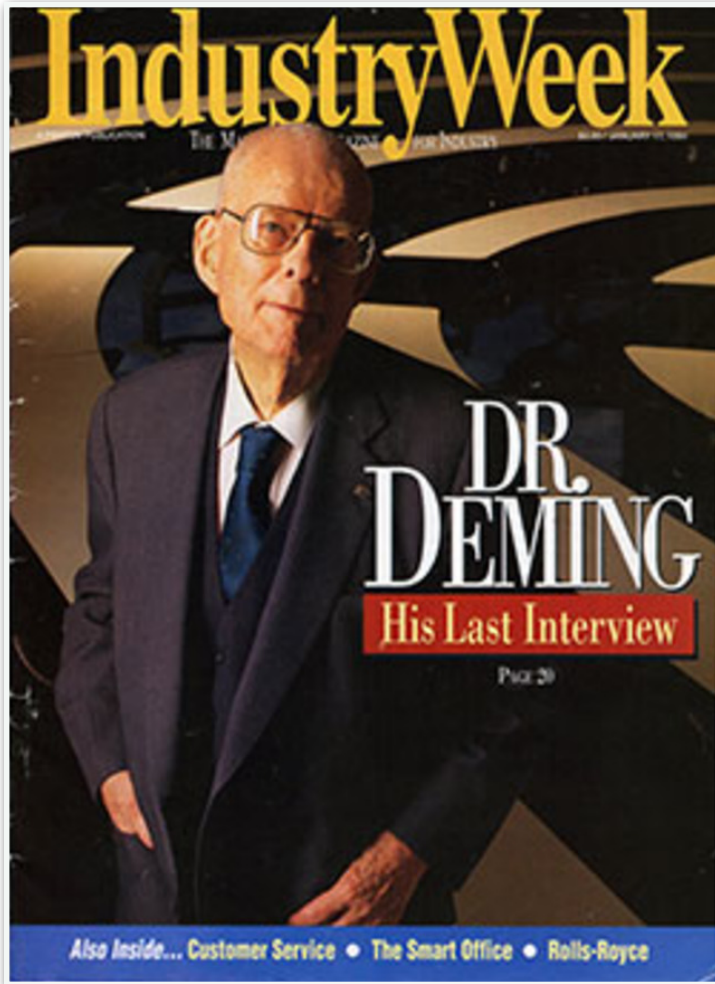
Dr. Deming: It means you can understand your present job and understand it very well. But what is the result of hard work and best efforts? What they do is only to dig deeper the pit that we are in. But they will not dig us *out* of the pit, only dig it deeper, make it more difficult to get out of. To get out of the pit we require an outside view. No chance from the inside. A system cannot understand itself. Understanding comes from outside. An outside view provides a lens for examination of our present actions, policies. Outside view is the aim of my chapter four [The New Economics] on profound knowledge. Knowledge from outside is necessary. Knowledge from outside gives us a view of what we're doing, what we might do, a road to improvement, continual improvement.

IW: *Is that view provided by other people?*

Dr. Deming: It's a very good idea. Knowledge will not come from a committee inside. How could a committee produce new knowledge? The view must come from the outside. A committee in a company can hardly stumble onto it. You enlarge the committee, bigger and bigger. That still doesn't do it. Enlarge the committee, make the committee everybody. Popular vote. Will popular vote provide the right answer? Maybe, by accident. How else could it? It's frightening. Popular vote does not solve our problems. Popular vote makes everybody responsible for the results. Let's work on it, do our best, within a framework. We could do that. Far better, more trustworthy, is an outside view. A new way of looking at things. It is only by that outside view that we get ahead, I believe.

IW: *You are referring to your system of profound knowledge.*

Dr. Deming: Yes. By profound knowledge, I mean knowledge from outside.



IW: *Your system of profound knowledge has four components: appreciation for a system, knowledge of variation, theory of knowledge, and psychology. Please elaborate a bit on each of the four components.*

Dr. Deming: Well, the theory of psychology. How could anyone learn about psychology of people, of individuals, without knowledge of variation? What do the variations mean between people, between groups? How can we capitalize on those differences? How can we assist people, because they have those differences? A good manager of

people capitalizes on the family background, abilities, capabilities, and hopes of his people. He tries to give everybody a chance to take pride in his work, joy in his work. Why is it that your company is not as good as the people in it? Because the management of the company may not be good at finding the right job for the right people, or because interactions between people are not good. A company could put a top man at every position and be swallowed by a competitor with people only half as good, but who are working together.

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IW: *One of the components of your system of profound knowledge is theory of knowledge. Please comment on that.*

Dr. Deming: Any decision that management makes, that anybody makes for himself or for other people, is prediction. The simplest plan is prediction, with a chance to be wrong. How may I get home tonight? I predict that my automobile will start and run, or that the bus will come, or that the train will come. I make plans. Those plans are predictions. Management is prediction; our lives are prediction. We predict what will happen. We try to choose a course of action that will react in favor of us. That's our aim. We predict the consequence of actions.

Psychology and System Results

IW: *Please comment on appreciation for a system, another of the four components of your system of profound knowledge.*

Dr. Deming: Psychology and action. What happens to bearers of bad news? There's a psychology behind this -- don't bring me bad news. Bring only good news. Harold F. Dodge of the Bell Telephone Laboratories, around 1934, showed that the number of defective items in a lot depends on the size of the workload that you hand over to the inspector. Give it to him in large doses, he finds some defective. He finds more defective if you present the work in smaller workloads. That's the entwinement of psychology with the system results.

IW: *Theory of variation--you touched on it in terms of psychology. A manager must understand that there is a difference between people. But is that what you mean when you cite it as one of the components of profound knowledge? What about statistical variation?*

Dr. Deming: It's extremely important to understand that there are two kinds of variation. The variation that comes from common causes and the variation from something special.

IW: *How do you recognize the difference between the two?*

Dr. Deming: That's a function of the control chart. The control chart is a gift from Dr. Walter A. Shewhart, who invented it while working at the Bell Telephone Laboratories around 1924. What happens within the control limits belongs to the system, a common cause. A point outside the control limits would indicate a special cause. The usual procedure is that when anything happens, [we] suppose that somebody did it. Who did it? Pin a necklace on him. He's our culprit. He's the one who did it. That's wrong, entirely wrong. Chances are good, almost overwhelming, that what happened, happened as a consequence of the system that he works in, not from his own efforts. In other words, performance cannot be measured. You only measure the combined effect of the system and his efforts. You cannot untangle the two. It is very important, I believe, that performance cannot be measured.

IW: *Is confusing special-cause variation with common cause variation a basic mistake that American industry is making?*

Dr. Deming: Yes. Attributing non uniformity to a special cause, when actually it came from a common cause, and vice versa. What we want is to make the frequency of both mistakes zero. It can't be done. Our goal must be to minimize the economic loss from both mistakes.

IW: *Two words that are popular today in describing changes in American industry are downsizing and reengineering. What do these words mean to you?*

Dr. Deming: Desperation. Management doesn't know anything else to do. They don't have the knowledge to manage with. All they can do is sack people. Crude. A crude way to do it. You only dig yourself into another pit.

IW: *What is the role of government?*

Dr. Deming: The responsibility of government is equity. If we do not keep equity in the forefront, we will destroy our society. Of the people, by the people, for the people. Sounds great. Doesn't mean a damn thing. The top priority of government is equity. Accused and the accuser both have a right to be heard. This is very inefficient, wasteful, you might say. But we dare not have it any other way.

IW: *How does that apply to government's role and interaction with American business?*

Dr. Deming: The main function of government is equity, and business must work within that framework.

IW: *ISO 9000 seems to be the ticket to participating in the new world economy. Where is ISO 9000 going?*

Dr. Deming: ISO 9000, 9001, 9002 are conformance specifications -- conform to requirements. Of course we must conform to requirements. But that's not enough; that won't do it. One must seek the nominal value of anything, what the best way is, not just pass the course. To meet specifications, do what is required -- that is not enough. You have to do better than that. Achieve uniformity about the nominal value, best value. Shrink, shrink, shrink variation about the nominal value. That is where you get your payoff; that is where you get ahead.

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IW: *What about the Malcolm Baldrige National Quality Award and companies striving for the award. Does that equate to being on a mission to improve quality?*

Dr. Deming: No, nothing could be worse. The evil effect of the Baldrige guidelines on American business can never be measured. If you had the Baldrige guidelines in front of you, you would see it asks for data, figures on what cannot be measured. The effect of training, for example. You may spend \$20,000 to train six people in a skill. That benefit will come in the future. We'll never be able to measure that benefit. Never. So why do we spend that money for training? Answers are guided by theory. We believe

that that training will have its effect on future output. And though we cannot measure that effect, we believe that it is positive. In other words, we govern our actions, our life, by theory. That's good. Without theory, we learn nothing. Theory has temporal spread. That is, the theory that we can hold on to must fit without failure events of the past and predict events of the future.

IW: *Where are American business schools falling short in design of their curriculum, the things they are teaching?*

Dr. Deming: I'm afraid that what they teach is continuance of our present methods of management, which are failures. They teach how to fail, how to continue to fail.

IW: *What should they be teaching?*

Dr. Deming: I think the teaching ought to be on how to improve. Improvement, understanding of people, understanding of product. In other words, it would require what I call profound knowledge, of which I mean a view from the outside.

IW: *Is there anything else that you would like to say to the management of American business?*

Dr. Deming: Yes. Quality. Quality is characteristic of a product or service that helps somebody and which has a market. Without the market, we don't stay in business. Sometimes the market has to be created. But, the market itself is not enough. For example, today, where are the makers of carburetors? Gone. Every engine had a carburetor. How could it run without one? The maker of carburetors made better and better carburetors, lower and lower cost, and went out of business. What happened? Came the fuel injector, which costs more than a carburetor, but does the job of the carburetor and a lot more. The fuel injector came in, carburetors went out. Carburetor manufacturers made a good product, better and better carburetors, lower and lower cost, happy customers. But that is not a sound basis for a continuance. You must take account of possible changes. The function of the carburetor, as everybody knows, is to put a stoichiometric mixture of fuel and air into the combustion chamber. That is its function. Now what is the best way to accomplish that? Maybe by a carburetor, maybe not. Fuel injection provides a better way. Fuel injectors took over the market.

Carburetors went out, no matter how good they were. In due time fuel injectors will go out with a new kind of engine. Don't ask me what it might be; I know not. But you must think of function, not particular products.

IW:*You are an amazing person. How do you keep going? What's your secret?*

Dr. Deming:I love my work -- continue learning, advancement in presentation, advancement in understanding.