

THE
DEMING
LIBRARY

Cultural Transformation
DISCUSSION GUIDE

VOLUME 24:
CULTURAL TRANSFORMATION:
A NEW WAY OF THINKING

VOLUME 25:
CULTURAL TRANSFORMATION:
CONTINUAL IMPROVEMENT

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The familiar, the way we have always done things, seems natural and appropriate and comfortable. Reports of changes and new practices by competitors in other countries are not welcome. They force us to consider new methods. Although we may understand and even say we accept the new ways of managing, most of us are not aware of our underlying beliefs and values. We will have to examine and give up these sometimes unconscious ideas to make the change to a new culture, a new way of thinking.

For more than a decade we have watched organizations struggle to introduce quality management programs. The successful ones report that along with new thinking about management methods came new beliefs about people, a general atmosphere of trust, more productive relationships, and expanded possibilities for the individual and the organization. Cooperation became the principle and continual improvement the aim. The old beliefs about people and relationships had to be recognized as ways that served well in another time and a different organization - not as rules of human nature. By bringing to light what we have subconsciously believed and then giving up what doesn't work in the complex high-performance organization, we are able to begin the difficult but necessary shift to quality management, to a quality culture.

Clare Crawford-Mason, Senior Producer
Lloyd Dobyns, Reporter and Narrator

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THE **DEMING** **LIBRARY**

VOLUMES 24 - 25

OVERVIEW

This is the story of the ZYTEC Corporation from the point of view of 15 old ways of thinking – how management and workers had to slowly change beliefs they were hardly aware they had. The clash of values became apparent as they changed from a controlled quantity culture to a cooperative quality company.

Few corporations in the United States have fully transformed themselves to quality management as a way of life. The change is difficult and takes many years. Several of our largest companies have been reported on for several years – Motorola, Ford Motor Company, divisions of General Motors, Xerox, Procter & Gamble, and the Japanese auto transplants – as leaders in quality management. Many of their suppliers have been forced to adopt quality programs, but we don't know of another small company that has accomplished on its own what ZYTEC has.

Located in Eden Prairie, Minnesota, ZYTEC is a privately owned manufacturer of power supplies. It was purchased in 1984 from Control Data Corporation by Ronald D. Schmidt, John Steel, and Larry Matthews, all high-level managers. Schmidt became CEO, president, and chairman of ZYTEC, which had severe quality problems. By 1991 ZYTEC had 700 employees and sales of \$79 million. Also in 1991, on its second try, ZYTEC won the Malcolm Baldrige National Quality Award. Now, a decade after its leaders decided to gamble on the Deming philosophy, the company continues to be successful in a fiercely competitive international market.

An unexpected and important part of the story told by top management and employees is the struggles that individuals had examining their attitudes, beliefs, and values. They were forced to look at the ideas underlying familiar ways of doing things and then discard them with no guarantee that the new ideas would work. A rigid by-the-book style of management had to give way to continual investigation of assumptions about literally everything in the policy manual. No one had been aware that this was going to be the process to successful production of quality goods and services. Studying the application of Dr. Deming's 14 Points in all parts of the company, in every process, and eventually testing every existing practice against the principles of Profound Knowledge, teams of managers and employees began a step-by-step, but radical transformation of both behavior and beliefs.

Today, the company's vision for the future, its stated mission, what it values bear little resemblance to the organization that was a division of Control Data Corporation.

In the story of ZYTEC's cultural change the videos examine old beliefs, devils, we call them, that get in the way of the new quality system and set them aside new beliefs that make a successful quality program possible. The new system requires a conscious effort to examine currently held beliefs related to any question and a readiness to discard those beliefs if they are no longer true. This change of attitude can be seen in the statements of ZYTEC people as they describe their experiences.

The manager's need to control other people, to minimize all risks, and discourage failures was practically an article of faith for CEO Ronald D. Schmidt. Driving other people to get the job done and accepting no excuses was part of the territory. Schmidt reports that to remake himself into a coach and relinquish control so others closer to the work could manage the process was difficult. He says it was a change from "a controlled environment to a commitment environment." The customer, rather than the boss, became the person to please. With trust between bosses and employees, everybody began to move in the same direction.

ZYTEC's quality control department of 60 inspectors shrank to only 13 as the company concentrated on eliminating mass inspections. About half were inspectors on the line that could rejoin the manufacturing force and do value-added work. Employees on the line inspect their own work. Line workers stop the line if necessary. Management asks why, not to judge but for information.

This is cultural change. The culture of the new organization is indistinguishable from the quality management program. Indeed, the successful quality program expresses the vision, mission, and values shared by management and employees. New practices and methods, guided by the theory of Profound Knowledge and expressed in the 14 Points, are how the organization improves and moves through cycles of continual improvement.

ENTERING THE DEMING LIBRARY

The Deming Library, like any documentary or exploration, has turned out to have a life of its own. We had no idea how much material would be required when we set out to explain the management philosophy of Dr. Deming to Western managers in 1985 with Volumes 1 and 2.

As of this writing, almost 10 years later, there are 25 volumes of the library, four volumes about implementation, and three hours of a PBS documentary, *Quality... Or Else*. Add to this two books by Lloyd Dobyns and Clare Crawford-Mason and two books by Dr. Deming, as well as 10 or more videocassettes in various stages of production.

We are pleased that each volume and book remains current and each has become an essential building block in understanding how to manage a complex, high-performance organization.

Chronological Order

The order in which the volumes were produced followed the learning curve of Crawford-Mason and Dobyns and Dr. Deming's ability to clarify his thoughts.

Studying the more than 30 videocassettes and books in chronological order is only one way for an organization to begin to understand how to produce better and better goods and services for less and less effort. You can begin with Volume 1 and continue through 25 plus if that pleases you.

But don't assume you must follow someone else's way into the Deming philosophy.

An Alternate Approach

The volumes numbered in the twenties emphasize that producing quality is a way of thinking, not a list of things to do, and that it is a new system of managing for the improvement of systems and processes and cannot be grafted on to the old system of managing for results.

If you and your organization are starting from scratch, here's what we think is the most effective way to help people from the boardroom to the shipping dock become quality literate.

(This does not include special cases; for example, when you have to interest the CEO. In that instance we recommend that you start with Volume 3 where former Ford CEO Donald Petersen tells how Dr. Deming changed his way of thinking and allowed him to turn Ford around.)

First, look at *Quality... Or Else* as an easy-to-understand, popular, three-part story of how the world has changed; how we cannot survive if we don't change; and how some people in manufacturing, education, government, and services have used the new philosophy to meet new standards. A set of instructor and student manuals comes with this series. These can be used to make an organization quality literate in the shortest possible time. The manuals will make it easier for your people to understand all the volumes as well as Dr. Deming's philosophy.

Next we suggest you look at *The Prophet of Quality*, which is about Dr. Deming, his philosophy, and why it is so difficult for Western managers. Then we suggest that you look at Volumes 24 and 25 (1993) about how ZYTEC, a Minnesota computer hardware corporation, transformed itself between 1984 and 1991 to become a world-class producer and a winner of the Malcolm Baldrige National Quality Award.

The ZYTEC story makes clear something that we only understood after long tutoring and many conversations with Dr. Deming: that the initial steps are to clarify the aim of the organization, describe its vision for the future, name its guiding principles and values, and build consensus. ZYTEC also illustrates how people, from the CEO to the factory floor, struggled and resisted

changing beliefs they didn't know they had until the Deming philosophy brought them to light. They finally changed, and it paid off.

Now might be a good time to make your first run through Volume 21: *A Theory of a System for Educators and Managers*, a new volume. This, like many of the videos, will have to be viewed several times. But after a onetime run-through, you will know much more about systems than the people at ZYTEC did as they struggled in the late 1980s.

Then you might try Volumes 7 and 8, the famous Red Bead Experiment and its lessons, which tells why the results come from the system rather than the individual. Then go on to the Funnel Experiment in Volume 9, which explains why you must have what Dr. Deming calls Profound Knowledge to change the system – without this theory you may make things worse.

Then view Volumes 14, 15, and 16 which explain Profound Knowledge in detail. The ZYTEC managers think, in retrospect, that the company's transformation would have been easier for them if they had known about Profound Knowledge. Dr. Deming did not explain these concepts which underlie the famous 14 Points until the early 1990s.

Next you will wish to discuss accepting this philosophy. The witness of Ford executives in Volumes 4, 5, and 6 helps do this.

The History

In Volume 1, Robert Reich and Dr. Deming talk about the New Economic Age. In Volume 13: *America in the Global Market*, Lloyd Dobyns reports why organizations must change and the benefits of the new philosophy. Next is an inspiring visit to the Vernay Laboratories, which tells how it implemented the 14 Points (Volumes 10 and 11) and then an in-depth discussion of Point 4, moving to a single supplier (Volume 12: *The Dangers of Buying on Price Tag Alone*).

More about the people aspects of Profound Knowledge is covered in the General Motors tapes as they examine the replacement of performance appraisal and systems of ranking with personal development plans. These reports also discuss the important advantages of internal cooperation over competition, leadership for organizational transformation, and the experience of managers as teachers and coaches (Volumes 17, 18, 19, and 20).

Baldridge Award

If you are interested in the Malcolm Baldridge National Quality Award or your customers are asking you to use its criteria, it is essential that you look at Volumes 22 and 23. Some people may even want to begin their study of *The Deming Library* here. This positive evaluation of the Baldridge guidelines and criteria is essential because the Award does not have a philosophy or system of management, and trying to apply its criteria without a quality culture in place can be catastrophic.

Remember to provide books – ours, Dr. Deming's, and others – because some people learn better by reading. Remember that to absorb the practice of continual improvement and create a new culture means looking at these videos again and again. Learning the Deming philosophy is a long-term project. Many firms, after the first viewing of the Deming tapes, show a brief excerpt whenever a group assembles for a staff or project meeting and discuss what they have learned.

Don't hesitate to plunge in. We didn't know learning about this new way of thinking was long-term when we began. It took us several years to realize it was a change of culture, a transformation – not just a program. We approached this project as skeptical journalists and have been repeatedly surprised by the power of this new way of thinking.

Here are some additional suggestions:

1. Begin with *The Red Bead Experiment and Life* (Volume 7) and *Lessons of the Red Bead Experiment* (Volume 8). The Red Bead Experiment convinces people that the Deming method will help because the focus is not on the faults of employees, but on the improvement of systems. After the Red Bead Experiment's dramatic demonstration of how powerfully systems affect individual performance, students are ready to view *The Funnel Experiment* (Volume 19) for an understanding of how tampering with a system only makes things worse. With some awareness of the properties of systems, students are prepared to consider an expanded discussion of *The 14 Points* (Volume 2) with more appreciation of their implications.
2. Begin with theory by viewing *The Prophet of Quality* or studying Profound Knowledge (Volumes 14-16) because this is the conceptual structure which supports the Deming method. Then go on to the Red Bead and Funnel Experiments (Volumes 7-9) and *The 14 Points* (Volume 2). Now include in this theory group *A Theory of a System for Educators and Managers* (Volume 21). Volumes 22 and 23, *Understanding the Baldrige Award and Putting Deming and the Baldrige Award Together*, present another approach and a review of Profound Knowledge and the 14 Points. Finally, Volumes 24 and 25 about cultural transformation in the ZYTEC Corporation discuss the conventional beliefs and attitudes that block acceptance of new thinking.
3. A more historical approach begins with *The New Economic Age* (Volume 1) or the PBS documentary series, *Quality ...Or Else*, which explain how the world has changed; how we must change with it; and what some people in manufacturing, government, education, and services have done to meet new, higher standards. Lloyd Dobyns' discussion of *America in the Global Market* (Volume 13) brings additional historical perspective to bear on our current situation. Next, continue the study of the Deming philosophy by viewing *The Prophet of Quality* to understand the background and to consider a summary of Dr. Deming's ideas. From this point proceed either to The Red Bead and Funnel Experiments (Volumes 7-9) or *A Theory of a System for Educators and Managers* (Volume 21).

4. After study of the following programs in whatever order, students may turn to specific subjects:

The Prophet of Quality (2-Part Introduction)
The New Economic Age (Volume 1)
The 14 Points (Volume 2)
The Red Bead Experiment and Life (Volume 7)
Lessons of the Red Bead Experiment (Volume 8)
The Funnel Experiment (Volume 9)
Understanding Profound Knowledge (Volume 14)
Competition, Cooperation, and the Individual (Volume 15)
The Quality Leader (Volume 16)
A Theory of a System for Educators and Managers (Volume 21)
Cultural Transformation: A New Way of Thinking (Volume 24)
Cultural Transformation: Continual Improvement (Volume 25)

Experiencing Change

For an understanding of how much our thinking must change and how deep the commitment to change must be, particularly among top management, we suggest the Ford Motor Company story (Volumes 3-6), the Vernay Laboratories story (Volumes 10-12), and the ZYTEC Corporation experience (Volumes 24 and 25).

Dealing with Resistance to Change

Sooner or later you will run into resistance to change. Continual improvement is not an easy concept, and there is frustration and disbelief in trying to understand and apply it. *The Prophet of Quality* discusses the beliefs and attitudes that interfere with acceptance of the new management philosophy and provides a good introduction to this topic. The Vernay Laboratories story (Volumes 10-12) encourages people by showing them that their feelings are not unique, and if they will just stick with the Deming method, it does pay off. Also, *Cultural Transformation: A New Way of Thinking* (Volume 24) and *Cultural Transformation: Continual Improvement* (Volume 25) tell how the ZYTEC Corporation worked for nearly a decade to change totally the way in which they did everything.

Repeated Study

The Deming philosophy runs counter to traditional management thinking and, as Lloyd Dobyns says, cannot be fully understood the first time it is presented. We suggest you consider viewing *The Prophet of Quality* and Volumes 2, 8, 19, 14, 15, 16, and 21 (*A Theory of a System for Educators and Managers*) more than once. We predict that you'll learn something new every time you view them.

Other Topics in *The Deming Library*

Volumes 17-20 treat the shift of General Motors' Powertrain Division away from annual performance evaluations to a personal development program (Volume 17) and examine the evidence that a cooperative work environment stimulates higher performance and results in more personal enjoyment than competitive conditions (Volume 18). These programs might be viewed following the tapes that deal with change: the Ford Motor Company story (Volumes 3-6) and the Vernay Laboratories story (Volumes 10-12). Volume 18: *Competition Doesn't Work: Cooperation Does* is a companion to Volume 15: *Competition, Cooperation, and the Individual*.

Profound Knowledge for Leadership (Volume 19) explains the leadership needed for the transformation of the organization from competition to cooperation and from managing for results to managing for continual improvement of processes and systems. In this and *Leadership for the Transformation* (Volume 20), top managers of General Motors discuss their experiences of change and their new roles as teachers and coaches who begin to learn with other employees.

The Deming method does not have to be learned in order, but it has to be learned.

We encourage you to show *The Deming Library* in the order that best meets your needs. Should you find a sequence you believe works particularly well, we'd appreciate hearing about it so that we can tell other viewers. This is, as we've said before, like studying a language. You don't have to learn the parts of speech in any particular order, but you do have to learn them all eventually.

This guide is designed to help you start a general discussion. The idea is to raise questions that participants will try to answer – relating the principles to their experiences and your organization. For this reason, the discussion leader is not limited to these questions. We encourage the leader to help participants raise their own questions about points made in the tape.

Always remember: Be sure people in the group understand this is a discussion and not a quiz.

Following are Dr. Deming's 14 Points. Familiarity with them will help in your discussions.

1. Create Constancy of Purpose.
2. Adopt the New Philosophy.
3. Cease Dependence on Mass Inspection to Achieve Quality.
4. End the Practice of Awarding Business on Price Tag Alone. Instead, Minimize Total Cost, Which Is Often Accomplished by Working with a Single Supplier.
5. Improve Constantly the System of Production and Service.
6. Institute Training on the Job.

7. Institute Leadership.
8. Drive Out Fear.
9. Break Down Barriers Between Departments.
10. Eliminate Slogans, Exhortations, and Numerical Targets.
11. Eliminate Work Standards (Quotas) and Management by Objective.
12. Remove Barriers That Rob Workers, Engineers, and Managers of Their Right to Pride of Workmanship.
13. Institute a Vigorous Program of Education and Self-Improvement.
14. Put Everyone in the Company to Work to Accomplish the Transformation.

VOLUME 24: CULTURAL TRANSFORMATION: A NEW WAY OF THINKING

THE 14 POINTS

Approaching a New Way of Thinking

1. Dr. Deming says, "The worker is not the problem. The problem is at the top! Management!"

Why is management, not the worker, the problem?

2. John Steel, V.P. Marketing and Sales, says, "If you start to read and understand what Dr. Deming is saying, the first thing you have to do is 'tape erase' a lot of the things that you were taught, and learned, and applied in your previous business life."

Why does learning something new often involve discarding something you believe?

The Old Way of Thinking

3. Ron Schmidt, CEO, President, and Chairman, says, "You know, we'd grown up in business-you'd paid for performance, management by objective. Those were key things. Those were kind of the buzzwords at that point in time. And he'd come along and say, 'No, you do it all entirely differently.' That was pretty tough to swallow. It took us awhile."

Why was it difficult to accept Dr. Deming's new ideas?

4. Pat O'Malley, Unit Manager, says, "Everything was quite rigid, you know, a set of rules, and you followed the rules, and not a lot was expected of each individual. It was the old hang-your-brain-at-the-door and come and do what you're told and go home."

What kind of organization is Ms. O'Malley describing?

The Route to Transformation

5. Lloyd Dobyns: "In this cassette and the next, we'll show you how one company used the Deming system to achieve quality, then win the Baldrige Award. What was involved was a change in attitudes, values, and beliefs – a complete change away from the mass production system that had worked so well in the past. To make that change you need to understand the four parts of Profound Knowledge and know how they work with the 14 Points. They are practical applications of Profound Knowledge."

How are the 14 Points "practical applications of Profound Knowledge"? (See the 14 Points on page 10.)

QUESTIONS

PROFOUND KNOWLEDGE

- **Systems**

- **Variation**

- Theory of Knowledge**

- **Psychology**

The Evolution of Management Style

6. Lloyd Dobyns says, "America started as a nation of farmers and ranchers. Everyone worked, and the guiding philosophy was if you didn't work, you didn't eat. Children learned to work by watching their parents. Management was minimal and direct."

How would you describe this kind of management? ,

7. Lloyd Dobyns: "Industrialization made it only slightly more difficult. You could still see where work was done, and in the mill towns, everyone in town understood that raw materials went in one end and came out the other as finished goods. The manager inside could see the whole process, and if management wasn't as simple as it was on the farm, it was still direct."

What had changed from the farm situation? Why were more managers needed?

The Challenge of the Complex Organization

8. Lloyd Dobyns: "Corporations now are increasingly complex and abstract But unlike the farm or the mill, where what you were doing was obvious, the work done here is not obvious. Only a few people in the plant can see the whole process, and all of the work is not necessarily done here anyway. In this high-tech work, the tolerance for error grows smaller almost by the day. Customers demand higher quality, and governments impose stricter regulations. For the workers, it is much more difficult to understand where their work fits, not only in the plant, but in society as well. Management is much more complex and difficult, and one of the new and necessary jobs is showing the worker where in that system he or she fits."

What has changed from the earlier industrial situation? Is it more difficult to know where one fits in a complex organization? Is it important to know where one fits in at work or in society?

Management of Systems

PROFOUND KNOWLEDGE

I. Appreciation for a System
All processes, employees, suppliers, and customers
form an interdependent system
that works toward an agreed aim
for everyone's gain.

9. Lloyd Dobyns: "Rather than managing specific function we must now manage systems that include suppliers, people, processes, machines, and customers. Everyone in that system has to know exactly where he or she fits. Manager must also be aware of the expanded system in which they operate, including investors, government, local communities, and competitors – to name only a few."

What is a system? How is a system different from a "specific function"? How does one know where one fits in a system? Can you know where you fit, if you don't know why you are supposed to do something?

A System of Management

10. Lloyd Dobyns: "The Deming quality management system takes all of that into account, but it is not esoteric or arcane. Many parts of it have been tried individually by other people, but the strength of what Dr. Deming teaches, is that he has put it all together in one place, providing a clear and coherent system of management."

What is a "system of management"?

The Imperatives to Change

11. Ron Schmidt: "Some other countries came in and start doing things a lot better, particularly in the manufacturing area, and we had to respond to that."

Dale Janssen, Senior Mechanical Engineer: "Our competition was not Minnesota; our competition was worldwide, and there were a lot of things that we could do, and we had to do, if we wanted to keep the business going."

Why should Zytec have had to consider doing things differently? How does one learn what to do differently?

Zytec's Origin: First Steps – a Vision, a Mission, and Values

12. Lloyd Dobyns: "Zytec was created when Control Data Corporation sold its power supply division to three of its own managers – Ronald Schmidt, John Steel, and Larry Matthews. They knew they had to improve the quality of the power supply units, and Schmidt wrote down the aim of the company – to make ever-improving products for customers in a worldwide market.

"That is the critical first step. What is the aim of the company? Then what is its vision; that is, what does the company see as its ideal future, what does it want to do? Finally, what are its values; that is, what principles will guide it, what is its philosophy?

"Once those decisions are made and written, that statement of mission, vision, and guiding principles must be given to every employee, and every employee must understand it. That written statement will guide everything done by everyone from then on. Zytec did that and adopted quality in 1984 because when it started it had no choice."

Why are the statements of mission, vision, and guiding principles "the first steps" of change? Don't the managers of most organizations know these things about themselves? Why not? Why must all employees understand the mission, the long-range vision, and the values of the organization?

Zytec's Problems

13. Ron Schmidt: "We knew we had to change, and we didn't know exactly what to do, and we knew that the Japanese had done very, very well. We knew Deming was given the credit."

Dale Janssen: "We had problems with almost every product. Our quality levels, I would say, were probably in the 80 percent, and that just wasn't acceptable."

John Steel: "We were shipping late, if we shipped at all, and when we shipped the product, the customer was dissatisfied with the quality we were shipping."

What causes would you assign to Zytec's early symptoms of trouble?

Seeking Help from Outside the System

14. Lloyd Dobyns said, "A group of 19 managers and workers attended a four-day Deming seminar."

Dr. Deming: "Now, what's the leader's job? Find out who is in need of special help. Try to see that he gets it."

Where does Dr. Deming direct people to look for most causes of trouble?

15. Lloyd Dobyns: "Some of them had studied *Out of the Crisis*, his first book, but the seminar made it clear they'd have to adopt all of the 14 Points, not just the ones they liked."

Confronting New Ideas

Ron Schmidt: "And we just decided we'd take a leap of faith and see if any of these 14 Points . . . Some of them, well, some of them are just common sense and make a lot of sense. Some of them, whoo! But there must be something there."

Why do you think Ron Schmidt expressed difficulty accepting some of the 14 Points? Does a "leap of faith" sound like a good business practice?

Application of the 14 Points

16. Vickie Martin, Sales Representative: "I was on one of the three teams that Zytec established early on to try to get our arms around these 14 Points, and understand what they meant to us. And do our policies and our practices and procedures really meld with these 14 Points?"

Pat O'Malley: "It wasn't an easy change. I mean from one day to the next, we were in turmoil."

What were Martin and O'Malley struggling with?

17. Mary Moudry, Assembler: "It's the first time that I'd seen managers squirm, and it made me feel good to think that, hey, you can squirm, too."

What was Moudry's perspective on management? Is this familiar to you?

Months of Study

18. Vickie Martin: "We must have spent between six and 12 months just coming to some consensus in our own groups as to what the points we were assigned meant."

Pat O'Malley: "It was, how do we start, where do we start? And finally, by just taking tiny, tiny steps we learned that each step counted, and you just kept chipping away at the big, big projects."

Variation in Ways of Learning

Profound Knowledge

2. Knowledge About Variation

Two causes of outcomes:

- 1. Common causes, built into the system**
- 2. Special causes, outside the system**

Lloyd Dobyns: "If you remember variation and psychology from Profound Knowledge, you know that different people learn in different ways and different ideas persuade different people."

What were Martin, O'Malley, and others doing in their discussions of the 14 Points for six to 12 months? Why is time and discussion necessary to bring about effective change?

19. Pat O'Malley: "What convinced me was when I went to the Deming seminar. And listening to Dr. Deming, he made so much sense."

Larry Matthews, V.P. of Engineering: "Like the sole-source engineering, you know, you only use one supplier. I've believed that for years."

Pat O'Malley: "Deming was speaking the way a line person would speak. Give me an opportunity to fix my problem, rather than have somebody far removed from the problem assuming that they knew exactly what the problem was, and they could fix it."

Vickie Martin: "What a valiant supporter of the little people, the nonmanagement people he is."

Douglas Tersteeg, Director of Quality: "When you boil it all down, there are just two basic principles at the heart of all of this, and one is the Golden Rule that we all learned back in kindergarten: 'Do unto others as you would have them do unto you.' And the other is: 'When I get up tomorrow morning, I'm going to do things better than I did them yesterday.'"

What is the significance of the different responses to the Deming philosophy from these individuals?

The Problem of Examining Old Beliefs

20. Lloyd Dobyns: "The Deming quality management system forces each person to examine his or her beliefs because no one can manage, work, or cooperate with others in this new system

unless they understand and believe the same principles that Dr. Deming believes. This is not something you do **in addition to** the old way; this is what you do **instead of** the old way. Do you find this an easy idea to accept, that you may have to replace everything you did in the old way with new methods? Why?

21. Lloyd Dobyns: "We have identified 15 commonly held beliefs that we call devils. They get in the way of the new quality system, and you have to adopt new beliefs that make the quality management system possible. It is easy to say that, but it is very hard to change what you believe."

Why is it hard to change what you believe? What is the purpose of our beliefs about management or anything else?

Examination of Beliefs in Continual Improvement

22. Lloyd Dobyns: "One old belief was that you didn't have to be aware of or question your basic beliefs at all. Now you not only have to be conscious of them, you have to question and re-examine them to see if they continue to be true."

Why didn't you have to be aware of your beliefs in the old system? Why should you be conscious of beliefs and ready to re-examine them in the new system?

THE 15 DEVILS:

Old beliefs that are obstacles to the acceptance of the new quality management philosophy

Old Belief

Competition motivates people to do better work.

For every winner there's a loser.

Please your boss.

Scapegoating pinpoints problems.

Focus improvement on individual processes.

Find the cause, and fix the problem.

The job is complete if specifications have been met.
Inspection and measurement insure quality.

Risks and mistakes are bad.

You can complete your education.

Bosses command and control.

Bosses have to know everything.

Short-term payoffs are best.

New Belief

Cooperation helps people do more effective work.
Everyone can win.

Please your customer.

Improve the system.

Focus on the purpose of the overall system, and how the processes can be improved to serve it better.

First, acknowledge there is variation in all things and people. See if the problem falls within or without the system.

Continual improvement is an unending journey.
A capable process, shared vision and aim, good leadership, and training are major factors in creating quality.

Risks are necessary and some mistakes inevitable when you practice continual improvement.

Everyone is a lifelong learner.

You don't have to be aware of your basic beliefs.

Do it now.

Bosses help workers learn and make improvements.

The team with a good leader knows and can do more.

Significant achievement in a complex world takes time.

You must be conscious of your beliefs and constantly examine and test them to see if they continue to be true.

Think first, then act.

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Profound Knowledge and the 14 Points, – Tools for Thinking

23. Lloyd Dobyns: "The old and new beliefs are a simple, direct way to think about the transformation – the total change, if you like – that has to take place. Profound Knowledge, the 14 Points, and the old and new beliefs are different means to get you to think about the new system."

Working on Cultural Change

Lou Schultz: "You have to change the culture. You have to change the environment in which the people work. And that's where I really began to appreciate the importance of Profound Knowledge and the 14 principles."

Why is a total change, or transformation, called for? How do Profound Knowledge and the 14 Points help you to think about the new system? How do the 15 devils or old and new beliefs help?

24. Lloyd Dobyns: "As the people at ZYTEC learned, you have to make all those changes while you continue to work. Dr. Deming says to think of it as 'open for business during renovations.' And the renovations are severe."

What does he mean?

PROFOUND KNOWLEDGE

3. Psychology Understanding the actions and reactions of people in everyday circumstances.

Cooperation, the New First Principle

25. Lloyd Dobyns says about our conventional thinking, "We thought we knew as well as we knew anything that competition brings out the best in people. Now we have to learn that what brings out the best, most effective work is cooperation, not competition."

What are some reasons for our strong belief in competition?

The Limits of Competition

26. Lloyd Dobyns: "It is possible, as in a tennis game, to have cooperative competition. One player will win; the other will lose. However, they will cooperate and use the same agreed rules. The aim is not only to win, but in non-professional matches to get some exercise and have some fun. If one player is clearly superior, then there is no fun, and winning is all but meaningless. What you must avoid is a win-lose competition that has no other aim."

Is there more than one kind of competition? Do you agree that we should avoid competition that has no other aim than identifying a winner and a loser? Why? How do you feel about giving up belief in competition?

27. Lloyd Dobyns: "If you can understand that cooperation is more important than competition, then you can get rid of another deep-seated belief, namely, for anyone to win, someone else must lose. It's not true. Everyone can win, but it's hard initially to accept that."

Ron Schmidt: "You play sports when you're growing up, and you win. You always try to beat somebody, and it's hard to go through the transformation to talk about win-win with everybody you're dealing with."

Should you try to achieve win-win relationships with everybody? Are there exceptions to the principle of cooperation?

The Wages of Fear

28. Lloyd Dobyns: "One reason to replace competition with cooperation is to help drive out fear, the eighth of Dr. Deming's 14 Points. Several of the new beliefs are aimed at getting rid of fear because fear never causes anything positive. Fear always causes people to try to avoid something negative, so by definition, fear cannot make anything better and will almost always make it worse.

"Salesmen fearful of not meeting a quota may file optimistic, even fake sales reports. The factory expands for a nonexistent market. Soldiers fearful of a bad annual performance appraisal tell officers what they want to hear and deliver exaggerated body counts. We continue to fight a war in a way that guarantees that we cannot win."

What are your experiences with the effects of fear? Do most people admit their fearfulness? Why not?

29. Dr. Deming: "Fear. Wherever there is fear, you'll get wrong figures. This is bad management to let this happen."

Have you any experience with "wrong figures"?

Blame the System, Not Individuals

30. Lloyd Dobyns: "Fear is reduced where everyone, including customers and suppliers, wins because instead of blaming people for problems and making them responsible, everybody works together to improve the system and eliminate problems."

Why isn't some individual in the last analysis responsible for every problem? Do you believe that "the system" is responsible for the output?

Seek Trust Above All

31. Ron Schmidt: "Trusting your suppliers, single sourcing parts rather than have multiple suppliers and playing them against each other, completely 180 degrees contrary to everything we'd grown up doing, and those were kind of hard to swallow. It took a long time for everybody."

John Steel: "I was taught at the University of Minnesota scientific management where industrial engineers studied the jobs with stopwatches, and then you hired foremen to beat the employees into the defined time standards. That was the way to manage a manufacturing operation."

Why did it take a long time to change ways of dealing with suppliers? What was implicit in the training that Steel received? What are both Schmidt and Steel saying is the basis of the new system? Is trust important in a complex organization? Why?

Thinking Ahead of Acting

PROFOUND KNOWLEDGE

4. Theory of Knowledge

**Theory: A belief or hypothesis
about how and why things work.**

Theories help management predict.

Management must be aware of their beliefs and theories, and challenge them.

32. Lloyd Dobyns: "The old way was 'do it now.' The new way is to think about what you're going to do and why you're going to do it. Think first, then act."

In the new system of management what does one think about before acting?

Bosses as Coaches

33. Lloyd Dobyns: "That's somewhat easier because bosses no longer give commands and control everything, they help workers learn and make improvements."

What are some of the conditions in the new system of management that help people to think better?

34. Ron Schmidt: "A manager is supposed to control, otherwise, you're not a manager. And if you give up control, gee, that's a terrible thing."

Lou Schultz: "You have to sit back and give people a chance to make a mistake, and not get upset, but give them coaching, give them some direction till the next time they can make a better decision."

John Steel: "You start to understand that Dr. Deming's challenge to us was to open yourself up to trust the employees; to delegate; to give them the best tools; to get out of their way instead of trying to micro-manage them; to lead instead of trying to direct their every behavior; to give them the tools to do the job."

Lou Schultz: "It's really tough. It's hard to change. And, you know, I'm supposed to be out helping others do it, and I have trouble myself."

What is the essential and desired result when a manager coaches and gives "some direction till the next time they can make a better decision"? Who finds this change more difficult to accept, the manager or the employee?

The Middle Manager Problem

35. Douglas Tersteeg: "The middle managers are the ones that seem to have the most difficulty in accepting this change to empowering the work force because they view it as an erosion of their authority."

Ron Schmidt: "And their whole life they were trained to go beat up on people. Don't give me any excuses, get it done, and just go out there and make it happen, and then you come along and say, 'Oh, you're going to be a coach now. You know, you've got to coach your people.' Tough transition, a very tough transition to make."

Why might the middle managers feel more threatened by change than either top management or workers?

A Way to Think, Not a List of Things to Do

36. Lloyd Dobyns: "If the quality management system were only a new list of things to do, then middle managers could do them easily. But it's a change of beliefs and attitudes and habits."

Ron Schmidt: "We developed our own course on our culture to tell people why we were changing, and how you were going to change, and to give them some tools to deal with making change because change is difficult for every one of us."

What would you include in a training course designed to facilitate cultural change?

New Thinking

Robin Stegner, Material Control Manager: "I understood what Deming was trying to accomplish when he was describing that people need to be leaders of teams rather than supervisors of employees."

Pat O'Malley: "It's a real win-win situation rather than a win-lose situation of the past."

Ron Schmidt: "We are a different type of company. We've gone very much on the continuum from a controlled environment to a commitment environment."

What are the attitude changes indicated in these statements? What are the essential characteristics of a "commitment environment"? How does it differ from a controlled environment?

The Customer, Not the Boss

37. Lloyd Dobyns: "In the old controlled environment, success came if you could please your boss. In the new cooperative environment, success comes if you and your boss and everybody else can work together to please the customer."

How would you describe success in the new environment?

Building Trust First

38. Lloyd Dobyns: "At ZYTEC, engineers meet every week to discuss technical improvements, but the way to make things better for the customer is to build trust between managers and workers and, thus, make it easier for the workers to share ideas. And that's drastically improved."

What distinction is Lloyd Dobyns making? Is building trust more important than technical improvements? Why?

First Reactions to Change

39. Ron Schmidt: "We've asked them to take on a lot more responsibility, and, initially I think, we scared the devil out of them."

Dr. Deming: "People are afraid of change. What would it do to me? Where would it leave me?"

Mary Moudry: "They put a big sign saying, 'Sign up for this if you want to be involved.' Well, we, none of us wanted to be involved because we didn't know what it was. It was like eating oyster stew the first time, you know? You don't know for sure if you are going to like it or not, and we didn't even want to try it."

Would you agree that fear is present at all levels of most organizations? Why is there more fear associated with proposals for change?

40. Lou Schultz: "There is fear that's so inherent that people have because they bring this baggage with them from previous managers."

Overcoming Resistance Through Trust

Ron Schmidt: "You have to have the trust factor between the company and the employees; otherwise, it doesn't work."

Mary Moudry: "Where before, they would be right on us telling us what we were doing wrong; and how we're doing it, and how we should have been doing it."

Lou Schultz: "And it's very difficult to get that out of their minds, that these people may be different, or this management team; that it's okay to take a risk."

Larry Matthews: "It takes a long time to do that, for people to really trust management, that they'll take their ideas or use them."

What do these people seem to say is the most critical change in the transformation to a new system of management?

The Leader as Model

41. Ron Schmidt: "I think you can transmit values by the way you act. You have to set the tone, and I think that it falls down to somebody like me as a CEO of a company. Your integrity, I think, permeates your organization, and people test you to see how serious you are about your integrity. And if you pass those tests, then I think it just becomes second nature for everybody."

They understand that, 'Gee, he means what he said,' and that's pretty easy to tap into, and it just kind of goes from there, I think."

What is he saying? What are essential qualities of the leader in the new system of management?

42. Mary Moudry: "What really surprised us, I think, is our big bosses were down not once every three months, or every four months, but down once a week and sometimes oftener, and they were talking to us, and finding out... using our names, and knowing who we were, and being part of, feeling more like a family, more like they cared about us."

What other quality is apparent in the new relationship between management and employees?

43. Ron Schmidt: "We needed everybody working in the same direction, and we needed to tap everybody's knowledge and brain power to be successful."

How is this different from the old way of managing? What must top management do to get "everybody's knowledge and brain power"?

New Freedom to Know Less

44. Lloyd Dobyns: "In the old system, bosses had to know everything, but in the new one, a well-led team will know and be able to do more."

Where does the extra knowledge come from in the new organization? Why can a well-led team be more effective than the old-time boss?

People Making Continual Improvements

45. Larry Matthews: "I'm really interested in seeing how much the people are really starting to think for themselves and making improvements themselves, as opposed to somebody in management or somebody else trying to make the improvements."

What does he mean?

Zytec Education and Training

46. Lloyd Dobyns: "At Zytec, before you're trained in job skills, you take an eight-hour course in the company's mission, vision, and guiding principles. You have to know what the company is doing before you know whether you want to help do that."

Joleen Amberg, Training Technician: "Today what we're going to do is spend a lot of time on Zytec's philosophies, values, and really what makes the essence of our culture. Some of us call it culture training. The Deming philosophy makes up the foundation of all of our principles."

What is the connection between a culture and a philosophy? Which informs the other?

47. Lloyd Dobyns: "After the first eight hours on ZYTEC's culture, employees study quality specifics – customer service, statistics, problem solving, that sort of thing – then 20 hours on the Deming philosophy. Within the first three years, employees must complete 140 hours of training."

Empowerment: Possessing Tools

Ron Schmidt: "We had to give them the tools, whether that be skills, or knowledge, or equipment, or whatever. And once we did that, and they really took us seriously and trusted us, they really stepped forward very, very well."

Continual Learning

Douglas Tersteeg: "If you're going to hold the line on the quality race, you've got to constantly be training your people into concepts of broad scope, you know. There's not this program of the month; it's ongoing."

What are the qualities of ZYTEC's education and training program that impress you? What does Tersteeg mean by "it's ongoing"?

48. Lloyd Dobyns: "The old belief is that your education ends with a diploma or degree of some kind. The new belief is that your education never ends. You must always learn."

Why is this necessary now and in the future?

The Use of Statistics

49. Lloyd Dobyns: "One of the things everyone at ZYTEC learned was how to use statistical process control – or SPC – giving them a way to collect reliable data on which to base decisions."

Why is it important for everyone to have these skills?

Ron Schmidt: "Our controller, who was a reasonably confrontational person, in one of our meetings said, 'You know what I like about SPC is it takes the personality out of the discussion.'"

What does he mean? How are discussions about data different from exchanges of opinion?

50. John Steel: "Dr. Deming is on this crusade for using data to make decisions as opposed to emotions."

Ron Schmidt: "If you can get the personality out of it, then you get it out on the table, and you deal with it. But if it's a personal attack on me, then, boy, 'To hell with you! I ain't going to help you!'"

Robin Stegner: "So you don't have to connive or scheme to get something into your budget that you believe you need. The data will present whether or not you need a new piece of equipment to become more efficient or to improve the quality of your work."

What are the advantages of getting personality and politics out of resource discussions?

Authority and Responsibility

51. Lloyd Dobyns: "Once they have the information, they need the authority to make a judgment and, if necessary, take a calculated risk. Management has to push responsibility down to where people and teams do the work."

Why can management be more confident about pushing authority down in an organization where people have learned to make decisions based on appropriate data?

52. Ron Schmidt: "We've given more authority to all employees relative to what they can do on their job, and we're asking for more responsibility from the employees."

Douglas Tersteeg: "If you want quality, you've got to put it into the hands of the people that are closest to the process. Dr. Deming is absolutely correct."

Robin Stegner: "What Dr. Deming tells you is to ask the people doing the job because they're the ones who know the most about it."

Larry Matthews: "The more brains you get into a program, and the more cooperation, and people thinking about it, the better."

Why can authority be handed down but responsibility from other people must be asked? Are you persuaded that the people closest to the job know most about it?

On Ending Inspection

53. Lloyd Dobyns: "One of the early steps Zytec took was to adopt point 3 of the 14 Points and end mass inspections, eliminating another old belief that says inspection and measurement insure quality. We know now that the Deming management system in all its parts insures quality."

Douglas Tersteeg: "My objective in life is to eliminate my job, and we've come a long way. When we started we had about 60 people in the quality department, and we're down to 13 people. Of those 50 to 60 people, about 30 of them were line inspectors, and they were the first to go."

We put them back into the manufacturing force doing value-added work, and that was a major milestone in our journey toward implementing Deming's 14 Points."

Mary Moudry: "We got told that we were going to do our own inspection, and that was something we weren't used to doing. And if we got something that was bad, we were supposed to turn around and say, 'Hey, you gave me something bad here,' and fix it ourselves, rather than have somebody at the end of the line say, 'Hey, this is all bad, you've got it all done wrong.'"

What is the fundamental reason for eliminating mass inspection? What are some other reasons that are apparent from these statements?

54. Faye Lalim, Assembler: "When we say something's not working, they know it's not working."

Douglas Tersteeg: "You give them the responsibility and commensurate authority, and you don't micromanage them."

Mary Moudry: "We have to take responsibility for it ourselves, kind of like, you know, when you get your teenager and kick him out of the house, kind of like that way."

Faye Lalim: "If we have a problem, we shut the line down to take care of it before it gets any farther than where we're at at that time."

What beliefs are apparent from these statements?

Communication for Useful Information

55. Lloyd Dobyns: "When a line is shut down, it shows up immediately on a lightboard at headquarters, and a quick phone call tells them why. But it's only information, not judgment."

Mary Moudry: "Managers listen to the floor people, and floor people are even listening back and forth to each other and to the manager. I think there's more teamwork, definitely more teamwork."

Douglas Tersteeg: "And before, where the plant seemed to be somewhat cluttered and dull and drab, all of a sudden, you've got all of the folks that were out there on the floor... [taking] responsibility to look after cleaning up their area, doing audits, improving safety, and housekeeping. It started happening."

Robin Stegner: "When I was in the warehouse, the processes were not very accurate, and we were struggling to discover why, and I went out and asked a woman on the floor to show me a certain part. And the box was located on the lowest shelf where it was so dark and poorly lit that she used her lighter to... read the part number. And she said, 'What we really need is just better lighting.' And almost immediately, the quality of the work started to go up, and everyone had just

kind of assumed that warehouses were dimly lit, and that's the way it was. And it took one of the employees to say, 'It doesn't need to be this way. We can make improvements.'"

What is the essential quality of the communications between employees and managers described in these statements?

Fruits of the New Way of Thinking

56. Lloyd Dobyns: "Another improvement from an employee was this Daisy Wheel that stores parts for circuit boards directly over the machine that puts the parts on the boards in the right combination. Before, the parts had to be handpicked from shelves and carried to the machine."

Jeff Thomsen, Test Technician: "We all enjoy working as a team. It's difficult at first because we all have different ideas and different ways of achieving something."

Claudith Washington, Director of Personnel: "Differences in personalities, but people really work toward getting the final objective accomplished, whatever that may be."

Is an organization composed of people with diverse backgrounds and experiences likely to be more effective than one with a homogeneous work force? Are many points of view likely to produce better solutions in a good team?

57. Robin Stegner: "And so, as a manager, there is a lot of pressure removed because you don't always have to be the one to come up with the best way, or the right way, or the most efficient way. You can look to your team to help you do that."

What are the benefits to the manager in the new management system?

58. Dale Janssen: "We involve every line operator in the quality of the product."

Douglas Tersteeg: "And it goes back to what Deming said, you know, 'Put everybody to work to accomplish the transformation.'"

Does everyone in the organization contribute to quality of the product?

Improvement, Not Perfection

59. Ron Schmidt: "We're not perfect by any stretch of the imagination. So we still struggle with all of this stuff. It's just the degree at which we struggle is a lot less than it used to be."

Lou Schultz: "The leader today has to be the one out in front of the horses that's leading the way, breaking the trail, and that way they're all going the same direction; they're all pulling together; everyone's in sync and in harmony."

Quality, a Way of Life

Ron Schmidt: "You can't look for a quality program. It's a way of life, and you've got to commit yourself to the way of life. And it's not for the faint of heart because, boy, there are a lot of detours, and stumbling along the way, and you've got to commit yourself to change and just keep plugging away at it day after day after day."

What does Schmidt mean by "it's a way of life"?

60. Lloyd Dobyns: "Quality comes from the top. It requires a mission, vision, and guiding principles so everyone knows what needs to be done and why. Quality requires Profound Knowledge and the 14 Points and giving up old beliefs for new ones so that the people doing the work have the understanding, the authority, and the responsibility to get it done. That requires trust between everyone, and building that trust is a key element. As we said at the beginning, the principles are exactly the same whether you're in manufacturing or service."

How would you set about building trust in your organization?

VOLUME 25: CULTURAL TRANSFORMATION: CONTINUAL IMPROVEMENT

QUESTIONS

The Experience of Continual Improvement

1. Vickie Martin: "Things can't stay the same. Expectations are always being ratcheted up. You have to constantly meet higher and higher demand. It's a necessary part of doing business."

Do you agree? Why has continuing improvement become a necessary part of doing business?

2. Douglas Tersteeg: "Around ZYTEC change is a way of life. Don't get comfortable with where you're at because six months from now, you'll come back here, and you won't recognize the place."

What does he mean? What is happening at ZYTEC?

3. Ron Schmidt: "It's a never-ending journey, and we're part way along in the journey. And we feel pretty good about that, but we also realize we've got a long way; we've got a lot of improvement we could do."

How do you feel about a "never-ending journey"? What does this mean?

Risk-Taking Rewarded

4. Robin Stegner: "One of the real upsides to continuous improvement at ZYTEC is that if you try something, and you outgrow it, you're never penalized for that. For example, in the warehouse we came up with a procedure where we wanted a machine that would give sequential serial numbers, and the machine cost about \$300. Well, within six weeks of buying the machine, we figured out a better process that we didn't need the machine. Now in another company, people might have accused the warehouse manager of poor judgment in investing \$300 in a machine he only used for six weeks, but at ZYTEC we all said, 'Isn't that terrific that in only six weeks they figured out a way to eliminate that step in their process.'"

Does this mean the ZYTEC managers don't care if people buy equipment and don't use it? How would you describe what it is that people at ZYTEC are encouraged to focus their attention on? What is rewarded?

5. Lloyd Dobyns: "The old belief was that risks and mistakes are bad. The new belief is that risks are necessary and mistakes inevitable when you practice continual improvement. It is possible for workers to take reasonable chances and make mistakes only where management practices quality methods and is using the 14 Points, Profound Knowledge, and the new beliefs. Everyone has to be involved in continual improvement."

Why are risks necessary in continual improvement? Why are mistakes inevitable? How does one take a "reasonable chance"?

Seeking Process Improvements

6. Pat O'Malley: "The greatest change, I think, with the quality culture along the way is we used to be reactive. Something would go wrong, and we would put a Band-Aid on it, and we'd go on our way, and pretty soon it would hit us again. It's taught us to be more proactive and to look at the problems and solve them so that next week, it's not a problem again, or three months from now."

What is the difference in thinking between fixing things when they go wrong and being "proactive"?

7. Lloyd Dobyns: "The old belief was that your job was to find what caused the problem and fix it. We now know that doesn't work until you know whether what caused the problem was a common cause, likely to recur, or a special cause that may never recur."

Consider again the meaning of common and special causes. Can you usually look at the single occurrence of a problem and know if it is a common or a special cause?

8. Lloyd Dobyns: "You also have to get beyond the old belief that solving problems and meeting specifications is enough, and realize that continual improvement means exactly what it says no matter how upsetting that may be."

What has meeting specifications to do with continual improvement? Why can't a final improvement of a process be made once and for all?

The Meaning of Continual

9. John Steel: "This whole concept of continual improvement, I wouldn't call it exactly disturbing. The concept of continual improvement, however, is exhausting. It's a never-ending race."

With whom is the race of continual improvement? Who sets the pace?

10. Robin Stegner: "I always say that the flip side of continual improvement is the implication that you're not good enough."

What does she mean? Could you feel good about working for continual improvement where the job is never done?

11. John Steel: "And those of us who like to see things wrapped in the nice, neat, little packages; and a finish line; and a victory stand; and nirvana achieved have to understand that that will never happen again."

Is this difficult? What are some rewards of practicing continual improvement at work and in everyday life?

Short- and Long-Term Results

12. Lloyd Dobyns: "When continual improvement is your aim, short-term thinking has no value because big payoffs in a complex world can take time. Continual is forever. But that doesn't mean that you'll have to wait forever to see solid results. ZYTEC began to see almost immediate results in several areas and dramatic improvement in some." What kinds of results would you anticipate? Is it possible to think both long- and short-term?

ZYTEC's Results

13. Douglas Tersteeg: "Every Monday morning we roll that number. This past Monday, 95 percent made it through. So from 35 percent defect internally to five percent in five years. That's dramatic."

Ron Schmidt: "We've cut design cycle times; we've cut manufacturing cycle times, design by about 50 percent over about a four-year period. But we've had major improvements in almost all sections of the company."

Douglas Tersteeg: "We went from a half-a-million dollars of material that was defective and a cycle time of about 50 days to get it sent back, to under \$5,000 and a cycle time of one day."

Are these significant improvements?

Constraints of Old Structures

14. Dale Janssen: "The old structured ways of, well, it takes two weeks to do this, or whatever, is completely gone. We do things tomorrow instead of next week."

What does he mean? How can structure interfere with timeliness and the ability to improve?

Ron Schmidt: "At one point in time, we were having our printed circuit boards built in Mexico, and the cycle time from when we would bring material out of our warehouse, kit it up, send it to Mexico, if I remember correctly, was like 82 days before it got back, into a product, and we shipped it."

Why did ZYTEC continue so long with an 82-day cycle time for this operation?

Focusing on Improvement of the Total System

15. Lloyd Dobyns: "Because of continual improvement, that work and those jobs were brought back to Minnesota from Mexico, and the cycle time was cut from 82 days to four."

Why wasn't this improvement made under the old system of management?

16. Ron Schmidt: "So we've made dramatic changes in the cycle time to do most everything. You just don't focus on improving manufacturing, you focus on improving your total company."

What does he mean?

Data for Decisions

17. John Steel: "The vice president of manufacturing pointed out to me, using data, that it was now taking me seven days to get the order from the customer into his manufacturing plant. So the cycle time for me to get the order from the customer into his manufacturing plant was more than two times longer than it took him to build the product once I had the order in the plant. And that was one of the 'Aha' moments for me."

What was the significance of data contained in the report Steel received? What did the data reveal that Steel had not seen before?

Uses of Goals

18. Claudith Washington: "We were at about 55 days to hire an individual. And last year, we got it down to 35 days, and this year we're looking at 25 days, which may be the impossible dream."

How is the target of 25 days being used? Does it matter that 25 days may be impossible? Should anyone be blamed if the target is not reached? What is learned if the target is reached or is not reached?

Statistics Used in Many Areas

19. John Steel: "And really, it took a couple of years to understand that the tools which are very effective, so many of the SPC tools that Dr. Deming gave us that have been very effectively applied in manufacturing, apply equally well in marketing and sales."

What is he saying about the uses of statistical tools?

Importance of Managing Unmeasurables

20. Lloyd Dobyns: "Dr. Deming estimates that the application of specific statistical tools will account for about a three percent improvement on the factory floor. The rest of all improvement comes from the human side of his management system – the changes in beliefs and attitudes; the creation of trust, cooperation, and teamwork; a new willingness to take risks and make contributions. Those account for 97 percent of the quality gains."

What is he saying? Do you find it easy to agree with this? Which is more important, things measurable or the changes in beliefs and attitudes? Why are trust, cooperation, and teamwork important?

21. Lou Schultz: "Dr. Deming went over to help the Japanese, get them started up. They are, today, very good at using various statistical methods and tools to improve processes. They're beginning to sense maybe they're missing something, and they're starting to come over and work with us to learn about the Deming philosophy as being taught today, and what they call 'the human side' of management."

Dr. Deming: "Important acts of management are to halt the losses from styles that do damage that cannot be measured: ranking people, management by results, incentive pay, short-term thinking, failure to operate as a system."

How can the unmeasurable effects of various practices cause losses and interfere with the success of the total system? Why hasn't more attention been given to this in the old system of management?

Performance Appraisals and Rankings

22. Ron Schmidt (speaking to Dr. Deming): "One of the ladies who was a line manager in manufacturing, we were talking about performance appraisals: And I asked her what her thoughts were after listening to you in the seminar about performance appraisal. And she said, 'I agree with Dr. Deming because if I have a new manager, I find out what his hot buttons are; and I just play to those so I make sure I get a good rating. And, it's meaningless.'"

Dr. Deming: "Yeah. Try to make sure to get a good rating. That's the aim. Never mind the job."

Why does that worker feel the performance appraisals are meaningless? Do you know what your boss's "hot buttons" are and act to please him or her? What happens if an employee works for a good rating, rather than doing a good job? Can these be different aims?

23. Lloyd Dobyns: "Performance appraisals and personnel rankings have become such a part of our lives, that giving them up is one of the harder parts of the Deming philosophy for people to accept. When it is accepted, there's usually a change in personnel development methods."

What are some reasons that performance appraisals and rankings may not motivate people to perform better?

24. Pat O'Malley: "In the past, the management just would give performance appraisals, and that was it. And now with the task evaluation, you have some of your team members in there being part of the evaluation, you know, so it's a team effort, too."

Larry Matthews: "We call it the performance approval and have the people themselves write that, how they plan to improve themselves as opposed to the manager trying to plot that out and telling the employees. Really get the employees more involved in doing that themselves."

What might be the benefits of this approach to managers, workers, teams? What is the purpose of evaluating a team instead of its individual members?

Interrelationships of the System's Parts

25. Lloyd Dobyns: "There's a better way to think about improvement. Rather than focus on each process or each person, think about the system as a whole and how all those processes can be improved to work together."

What can be improved by focusing on the interrelationships of processes as they serve the purpose of the organization?

Transformation and the Baldrige Award

26. Lloyd Dobyns: "To adopt a quality management system you need to understand Profound Knowledge and the 14 Points, and you need to understand that this is not going to happen in 30 days. As an example, Zytec started in 1984. It did not feel confident enough to first apply for the Malcolm Baldrige National Quality Award until 1990 and didn't win until '91."

Is this a long time for a cultural change? Could it be done more quickly?

27. Ron Schmidt: "You have to have your quality culture in place and started before you can measure yourself against the Baldrige criteria, in my mind."

Why would it be necessary to have a quality culture established before attempting the Baldrige Award?

The Deming Philosophy and the Baldrige Award Contrasted

28. Lou Schultz: "It doesn't tell people how to do it, and that's where Dr. Deming's philosophy is important to provide guidance to people."

What is the value of the Baldrige Award?

29. Ron Schmidt: "I look at Baldrige and Deming as two different things. Deming's philosophy to me is a kind of road map to do a transformation. Baldrige criteria, to me, are wayside stops on the transformation that measure you and say, 'How are you doing?'"

What does he mean?

Zytec's Perspective on the Baldrige Award

30. Lloyd Dobyns: "Schmidt wanted to apply for the Baldrige Award to create a little excitement in the company, but he didn't want to confuse people if the Baldrige criteria were incompatible with the Deming method."

What were Ron Schmidt's priorities? Do you agree with him?

31. Dale Janssen: "I think the Deming philosophy is a method of operating, how you want to operate your business, and I think the Malcolm Baldrige is a way of checking out that you did do what you thought you wanted to do."

Customer Satisfaction, the Acid Test

John Steel: "And you will not score well, or do well, or be able to answer the questions, the insightful questions in section seven very well if you don't have healthy leadership; and healthy personnel practices; and healthy manufacturing processes; and healthy application of benchmarking; and statistical process control. It all comes to pass in section seven, which is Customer Satisfaction."

What does he mean? Do all areas of improvement ultimately focus on customer satisfaction? How does the Deming philosophy prepare applicants to score well in these areas?

Use of the Deming Philosophy

32. Pat O'Malley: "I didn't see that we had to do anything special to win the Baldrige, or to apply for the Baldrige."

Larry Matthews: "I think that's what really helped in winning the Baldrige, the fact that we were using the Deming principles, and we could put that down on paper and demonstrate we had the process."

What is he saying?

33. Pat O'Malley: "It would be kind of like if you had a classic car, and you wanted to enter it in a contest, you'd polish it up and shine it, and then you'd go out and win the contest. It was just ... we kind of put a spit shine on what we were doing."

What do these statements tell about the ZYTEC approach to preparing for and competing to win the Baldrige Award?

The Baldrige Application (1990)

34. Lloyd Dobyns: "The spit shine went on the Deming method ZYTEC already had in place, but filling out the Baldrige application itself was not that easy."

Ron Schmidt: "Just going through the process was difficult. We don't have the luxury to be able to set up a team and say, 'Okay, you're going to work on applying for the Baldrige for the next year,' like some of the larger companies did. We did this, myself and my staff wrote the application."

Vickie Martin: "It really makes you tear apart your processes much better, and it shows the gaps where you don't have things covered as well as you should and where improvement is needed."

Ron Schmidt: "It's an excruciating process. The first year, I was not talking to my staff when we submitted it at six o'clock on that last day you could get it in."

How would you feel about investing substantial time and effort to compete for a prestigious national award in addition to your regular responsibilities?

Benefits from Baldrige Feedback

35. Douglas Tersteeg: "The greatest benefit, of course, of the Baldrige is the feedback that you get. That journal or that document, 30- or 40-page document, that we got back that listed our areas for improvement was a godsend. Many of them we suspected, but now we knew for sure."

The Second Application (1991)

36. Lloyd Dobyns: "After using the Baldrige feedback to improve, Zytec applied again in 1991, and talked with all employees to get them ready for the examiners' visit."

37. Larry Matthews: "I think the key in the Baldrige was that we had people involvement. The auditors go around and talk to the people, and they were involved in the processes."

Douglas Tersteeg: "And you could feel the momentum as they started to interview employees. You could see the body language of the examiners. They became more and more enthusiastic that, yup, this is real."

What were the examiners perceiving?

38. Larry Matthews: "And I think that's what Deming principles bring you, to get every person involved. Develop the trust with people so they feel like they are involved."

What did Zytec learn from the Baldrige experience?

More on the Baldrige Experience

39. Lou Schultz: "We felt something was different, but we didn't know what it was. And it wasn't until later on when we were out in the manufacturing floor that we figured it out. People were all happy."

Jeff Thomsen: "I like the work environment here at Zytec."

Lou Schultz: "When you create the environment that the leadership of Zytec has done, the people are happy, and they want to do the work."

Jeff Thomsen: "They allow you to make decisions to help improve the process and the overall product."

What experiences might be responsible for the feelings expressed by these people?

40. Douglas Tersteeg: "And truly, what won us the Baldrige was the people out here in Eden Prairie."

What does he mean?

41. Faye Lalim: "We knew what we were striving for and it took a lot of people to participate and make it work."

What does she mean?

42. Pat O'Malley: "I think we all felt the sense of being one big team."

Robin Stegner: "It was a much more personal validation that all of this hard work is paying off for us."

Melody Mork, Assembler: "Hallelujah, we've done something good!"

What is the source of these expressions of satisfaction? What kind of acknowledgement seems most important to these people?

A Tangible Benefit

43. Lloyd Dobyns: "Winning the Baldrige and the Minnesota State Quality Awards is paying off for ZYTEC, especially in sales."

Paul Pasqua, National Sales Manager: "It immediately gives you a tremendous amount of credibility in the call. It makes you, even if you've never shipped them a product, you're a high-quality supplier automatically."

John Steel: "It makes it very easy for those customers to put the next product, and the next product, and the next product into ZYTEC. And make no mistake about it, we have incredible competition out there in the marketplace."

Lou Schultz: "We realize that it isn't something that you can step up to the plate and write your application for the Baldrige Award and win, and quit, that you've hit a home run. That's just one more step."

What seem to be the important rewards of winning the Baldrige Award? What does Schultz mean by "just one more step"?

Termination of Sales Quotas and Incentive Pay

44. Lloyd Dobyns: "In 1992 after winning the award, Steel and the others finally did away with incentive pay and quotas in the sales department, the last place they were left."

John Steel: "I come and Paul Pasqua, our national sales manager, comes from the school that says you must have quotas, and you must have incentive compensation for sales representatives."

Paul Pasqua: "There was a certain amount of fear that the salespeople had about if they didn't sell, then they would not make the money, and they might not be able to make their house payment or their car payment."

What beliefs does this indicate the salespeople had?

45. Vickie Martin: "It was a little frustrating when you were doing a lot of things right, and for reasons totally out of your control or out of Zytec's control, shipments would be down; a customer has problems on their end that they wouldn't be ordering as many; or they'd have to stop the line for some other reason. There went a lot of your pay."

What is Vickie Martin listing?

46. Paul Pasqua: "The other thing that we find that not having quotas is that it gives no salesperson an incentive to sandbag or lie about the orders that are coming down the pike, and, therefore, our whole forecasting system works better."

What benefits of discarding quotas is he expressing?

47. Vickie Martin: "So you're able to stay forward focused on bigger issues and make sure that your customer is well served at all times."

What is the primary focus?

48. Paul Pasqua: "We're able to put two salespeople on an account, and they're not worried about who landed what first, or who did the most work, or who did the least work, and things like that."

Who benefits from cooperation?

49. John Steel: "The sales representative quickly found out that his or her path to success was being a team member as opposed to a selling Rambo."

Are you persuaded by these statements that a sales force can perform better without individual incentives and quotas?

Advice to Prospective Baldrige Applicants

50. Lloyd Dobyns: "By the time Zytec won the Baldrige Award, people at the company had been working on the Deming quality management system for seven years. They didn't apply for the Baldrige to achieve quality. They'd already done that. They applied to get a little excitement into the process and to see how they were doing. What should you do to put a quality culture in place?"

Larry Matthews: "Take the Deming points. Break those up into various categories like we did, and assign people. Get all levels of people involved in the company on working with those points, and getting the people to help you implement the points."

What points is he referring to?

51. Ron Schmidt: "If you want to have an organization rise up to the heights, you can't do it the old way."

Larry Matthews: "Don't try to do it yourself."

Vickie Martin: "Have high expectations. Listen to everyone."

Larry Matthews: "Get the full spectrum of people down to the direct label people, all the way through your organization."

Vickie Martin: "Listen well to your customers. Listen well to your coworkers and all employees."

Mary Moudry: "They have to be ready to take and give criticism, to accept it, and to learn to be a team member."

Ron Schmidt: "You have to get everybody committed, and everybody using their knowledge together as opposed to just a few people telling people what to do."

Vickie Martin: "Use every opportunity to understand where improvements can be made."

Ron Schmidt: "I'm not smart enough to be able to have all the answers. I can't go back."

What advice are the Zytec people giving? What do you think are the most important lessons in all they have to say? How would you describe the changes that these individuals have experienced?

The Zytec Experience Assessed

52. Lloyd Dobyns: "What is required is a personal and cultural transformation, and a lot of attitudes and beliefs have to change, and that is never easy. Profound Knowledge and the 14

Points require a new level of thinking and a new set of beliefs because, no matter how hard you try, behavior cannot change until attitudes change."

How can you best approach attempting a change of attitude? What is necessary to change an attitude?

Continual Means Never-Ending

53. Ron Schmidt: "But we haven't made the transformation today. Okay? You need to understand that. We still struggle with a good share of this at this point in time."

What is he saying? When is a transformation complete?

54. Dr. Deming: "Never finished. Improvement always possible. And should be the aim, it should be everybody's aim. But that spirit must be led, it's not spontaneous, won't accomplish itself. The organization must be managed."

What does he mean by "that spirit must be led"? What then is the most important task of management?

55. Ron Schmidt: "You just have to keep slugging away at it, keep doing it. It's not easy."

Lloyd Dobyns: "We suspect that sometimes you get tired of hearing us tell you how hard it is going to be. We sometimes get tired of saying it. But we've never found one senior manager who was trying to adopt the Deming quality management system who said it was easy or fun. It is worthwhile, and if you want to survive in an increasingly competitive international market, as the ZYTEC Corporation did, then it's also necessary."

Does the satisfaction expressed by the ZYTEC people outweigh their admissions that the transformation to the Deming quality management system promises unending hard work? How can the Deming method promote survival in the global marketplace? Why are well-managed, successful businesses important to the individual, the community, and the nation?