

“Does anybody give a hoot about profit?“

Deming Speaks to European Executives

Introduction

On the afternoon of 11 July 1990, Dr W Edwards Deming gave a short presentation to some 25 executives from major European companies. The meeting, held at the Queen Elizabeth II Conference Center in Westminster, London, was jointly organized by the European Federation for Quality Management (EFQM) and the British Deming Association (BDA). This article provides an edited transcript of that presentation and the subsequent Question and Response Session. This article was first published by the BDA in the booklet, “Deming Speaks to European Executives” [1].

The transcript was originally prepared by Henry R. Neave, Director of Education and Research of the British Deming Association (BDA) and W Edwards Deming Professor of Management in the Business School of the Nottingham Trent University in Great Britain. Prof. Neave assisted at all of Dr Deming’s celebrated four-day seminars held in Britain and elsewhere in Europe from 1985 through to Dr Deming’s death in December 1993. His popular and comprehensive book on the Deming approach, “The Deming Dimension” [2] was described in 1998 in a publication of the American Society for Quality as “The best overall theoretical yet practical explanation of the Deming philosophy”.

Where appropriate to enhance readability, some rewording and reordering have been carried out, and a few references added. However, most of the material appears here exactly as it was said on the day.

The presentation was structured around Dr Deming’s paper “A System of Profound Knowledge” (May 1990) [3]. This is re-

produced in a separate BDA booklet bearing that same title, and page references here relate to that edition.

The delegates were addressed in the morning by Peter Bonfield, Chairman and Managing Director of ICL (at present chairman and CEO of British Telecom). Dr Deming’s session was chaired by Patrick Dolan, Secretary General of the BDA, and the speakers and delegates were welcomed by Kees J van Ham, Secretary General of the EFQM.

Presentation Session

Dr Deming: I feel that I don’t belong here. There is such power in this room. Think what you could do for the world — provided what? Provided you knew what to do. How would you know? How would you know?

We’re talking about quality. Everybody has the answer: everybody knows just what to do. We find answers in speeches, in letters to the editor, in books. Let’s review some of those suggestions (prescriptions) for quality; some are good, none are sufficient, many of them do more harm than good.

Automation; Gadgets; Computers: no question about it! New machinery. One of our biggest companies in North America invested \$45,000,000,000 in new machinery. How does it work? You should follow me around: then you’d see. But you’ll have to admit that the Chairman had faith in the future. It was not an investment for quick profit: he had faith in the future, he believed in the future.

More inspection: intensify inspection — that’ll do it! Quality audit; Audit trails: tighten up! Some people establish an Office for Quality; they create a Vice-President in

charge of Quality. That’ll do it! No question about it. SPC; MBO; Ranking of people, teams, plants, divisions; Best efforts; Hard work. And there are others, of course; I’m just enumerating a few, to show there are some.

I decided some two years ago on Deming’s Second Theorem:

“We are being ruined by best efforts.”

Ruined by best efforts, doing the wrong thing, with hard work, putting forth best efforts, everybody putting forth best efforts. I’ve enquired of 50,000 people (as a rough estimate) at my seminars: “Who here is not putting forth his best efforts? Let him stand.” No-one has stood up yet!

At this year’s conference of the British Deming Association in Birmingham, someone enquired of me: “You’ve told us Deming’s Second Theorem. But what is Deming’s First Theorem?” My reply was that I hadn’t thought what it should be. But I began to worry about it. And during the night, a few weeks later, I decided.

Deming’s First Theorem is:

“Nobody gives a hoot about profit.”

I mean long-term profit. We talk about it, but we don’t do anything about it. Let’s talk about it today. (I am, incidentally, assuming that there’s no harm in profit.)

Where does quality come from? It comes from the top. I was very pleased this morning to hear the talk by Mr Bonfield. He’s at the head of his Organization, and he’s leading quality — he’s a leader. Where does the power of a leader come from? It comes from knowledge, I believe. He has power by virtue of his position, of course. But stronger power comes from knowledge. I didn’t come here to evaluate anybody, or

to pass judgment; but I saw a leader here this morning.

Two weeks ago, I was talking with 120 hourly workers (as we call them in North America). They thought that a leader was a man on a horse, the reins in his left hand and a sword in his right, leading his people, charging up the hill or down the hill: that was their idea of a leader. But we need more than that in a leader.

Let's think again of those wrong answers on how to achieve quality. Some of them are positively harmful. The worst one of all is ranking — toughen up the annual appraisal of people! The ranking of people, teams, plants, divisions, with reward and punishment, is wrong. What's wrong? Failure to appreciate variation: fundamentally, that's what's wrong. The source of the problem is failure to understand a little bit about variation; just a little bit would do.

What's missing here, from all this? There is a missing ingredient. And I have no name for it except **Profound Knowledge**, a System of Profound Knowledge for management of industry. And by "industry" I mean service, banking, hotels, restaurants, financial services, insurance — anything. It is a System of Profound Knowledge for management in industry, education and government.

The System of Profound Knowledge appears here in four parts:

Appreciation for a system: (see below)

Some knowledge of variation: In an hour, I can only use words without any explanation and hardly any examples: there's not time — it's an impossible task.

Theory of knowledge: Theory of knowledge: by which we know that experience, in the absence of theory, teaches nothing. An example teaches nothing. Suppose you study a company. You'll learn nothing without theory; for all people can do then is copy. Thousands of people go to Japan and come back to say that they didn't learn anything: they saw a few things different in Japan, but "it's mostly the same there as what we have at home". Why do they say that? Because they had no questions to ask. If we have some theory, then that theory leads to questions, by which we learn. Either the theory seems to hold, or we may have to abandon it, or modify it. Chantecclair, the rooster (from Jean de la Fontaine's fables), had a theory. He crowed in the morning, flapped his wings — and, behold, the sun came up. He understood it perfect-

ly. There was only one little trouble: one morning, he forgot to crow — but the sun came up nevertheless. So he had to modify his theory; but he learned. He learned by observation because he had a theory. He learned that his theory was wrong, and that he'd have to modify it. Without theory, we have no questions, we learn nothing. Without theory, an example teaches nothing: all people can do is copy, and then they wonder what's the matter.

Psychology: Psychology is an important ingredient, I think, of this System of Profound Knowledge. For example, if psychologists understood variation (only just a little bit, what we learn from the Experiment with the Red Beads [3, page 3]), they would never again participate in improvement of instruments, questionnaires, or other ways to carry out annual appraisal of people. Does that mean we don't want to know how our people are doing? Not at all. We just know the impossibility to rank them — the impossibility to rank them with meaning. Is it any different from throwing dice? That, at least, would be fair.

I'd like to talk about a system. (I'll call it a system: you may have another word for it.) What do we mean by a system? I'll define a system as a network of components, parts of the Organization, functions, activities, that work together for the aim of the Organization. There must be an aim. We must know what is the aim of the company, what is the aim of the organization. For without an aim, there is no system.

If economists understood a system, the theory of a system, and the role of cooperation in optimization (which I'll come to), they would no longer teach and preach salvation through adversarial competition. They would instead lead us into optimization, by which everybody would come out

ahead. The fact is, I believe, that if any two or three or any number of people had a monopoly, a stranglehold, on any service or product, they would be fools to set the price any higher than that which would optimize the whole system (including themselves) if they really cared about profit. But then again, remember Deming's First Theorem: does anybody give a hoot about profit? I think that, within 30 minutes, you'll agree with me that nobody really cares, not really, not enough to do anything about it. Worry, yes; best efforts and hard work, yes. But best efforts and hard work do not produce desired results without knowledge; there is no substitute for knowledge. A flow diagram will help; and it doesn't need to be too complicated. Figure 1 is a flow-diagram of a system. I will take manufacturing as the example, though this would apply just as well to a hospital, to education, to banking, to anything.

In the case of manufacturing there will be supplies coming in from various sources; I've called them A, B, C, D. They go through various stages. They come out as a product, which might be semi-finished; the point is that it's different from what went in: there has been a change of state. The product goes into distribution, it goes to one or more customers. Then we do consumer research to try to discover what improvement or innovation in product or service might help the customer in the future, and will entice him to buy. That may call for different inputs, and design or redesign of product or service.

I believe that this diagram (Figure 1) made the difference in Japan. I'd been to Japan twice, in 1947 and 1948, at the invitation of one of General MacArthur's people. Then, in the Spring of 1950, there came a letter from Mr Ichiro Ishikawa, who was Presi-

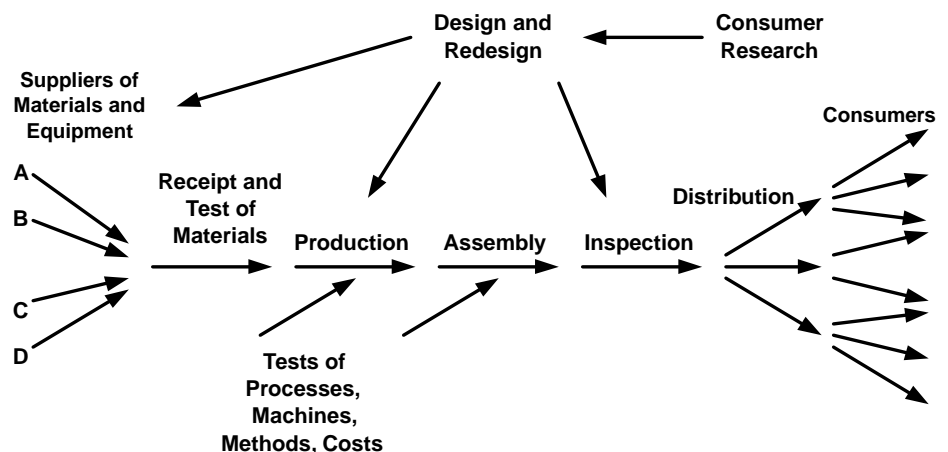


Figure 1: Production Viewed as a System

dent of JUSE (the Union of Japanese Scientists and Engineers), asking me to come and help Japanese industry. I was able to go in June 1950, and I was there through July and August.

It is important to see that top management invited me: Mr Ishikawa was also President of the great Kei-dan-ren, the association of top management. He was highly respected, unselfish, brilliant. He invited me, and I took that to mean he was interested. He was. I knew that I would accomplish nothing unless he brought top management together. He did so, at a dinner meeting in the Industry Club in Tokyo on a Tuesday night. He brought together the 21 top people of Japan. My diary has just four sentences in it, because I did not realize then how highly important this was to be: I was just trying to do my job. But I know now that all I was trying to do depended on that evening. I had little idea what to say. I tried. If you read the report written by the Japanese, I think you will find that the greatest way I accomplished anything there was through that diagram, Figure 1 — and the fact that I had faith in them. I knew that they could do it. I told them that I thought I knew what they should do, and that I could help. I was back in six months, back in another six months, back the year after that. Every one of the 21 people in top management was there every time, at every conference. They went straight to work. I told them that, within five years, manufacturers the world over would be trembling and would begin to scream for protection. Several people in top management told me later that I was the only man in Japan who believed it. They beat it by a year. I know it: I was part of it.

Let me tell you what Dean Seebass of the University of Colorado has said: I did not export to Japan any American practice. I took to them something new: it's still not known in the Western world. The Japanese learned it, and went to work. And Figure 1 was the most important force, because through it they saw manufacturing as a system, the whole operation as a system. They already had knowledge, great knowledge, but it was in bits and pieces. Some of the bits and pieces were in conflict with each other. They had knowledge; but they did not see it as a system.

One need not be eminent in any part of Profound Knowledge in order to understand it as a system, and to apply it and to make it work. One need not be eminent, but he must understand a system. By "system" I mean components that work together for

an aim. And the aim is a value-judgment. The aim of a system is not a theorem: you don't derive it from axioms and corollaries. The aim that I'd propose for a system is gain for everybody — stockholders, employees, suppliers, customers, the community, the environment. Everybody should fare better, everybody in the system should be ahead, his quality of life should improve: that's what I mean by the aim of a system. Remember that without an aim there is no system. And the aim of a system must be clear to everybody in it. If we understand a system, and work on it, then everybody will gain. Everybody will take part in the aim, and will be a beneficiary of the aim. A system is not just composed of divisions, teams, plants, people: these must work together to be a system. If we take Figure 1, but put rings around the various people and groups (Figure 2), to separate the people and divide up the company into components that are competitive, then you will not have a system: it will destroy itself. But that's what we have, that is what we have.

By the way, if you break up this system into parts, all competitive and in conflict, you lengthen the time it takes from inception of new product to get it into the hands of the customer — everybody dragging his feet, interfering with everybody else in that chain of events, in conflict with all others. The cost of the delay we cannot measure.

Look out for innovation. The copying machine is an example. The Halogen-Xerox people, working 24 hours a day, developed a copying machine based on the photovoltaic effect. They engaged a marketing consultant to look into the possible market for a copying machine, on the assumption that they could successfully develop one. His report was: "It's an interesting device,

but of little commercial value."

Dr Neave read yesterday a report to Western Union, a telegraph company of North America, from 1876. They were thinking of going into the telephone business. A consultant advised them that the telephone had no future. It was an interesting device, but they should forget it. This telephone has too many shortcomings to be seriously considered as a means of communication. Whereupon they forgot it. Think what they could have done. The Halogen-Xerox people continued in spite of the sad, unattractive market that somebody predicted for them.

The Japanese learned what a system is, the whole system, and optimization of a system. They learned it: it's not difficult. They made it work. Again, I did not export American practice. What I took to Japan was new knowledge, profound knowledge — and it came from the outside.

Optimization of a system should be the basis for negotiation between any two people. They should form a system. Any two people should regard themselves as components of a system; any two divisions, or three, union, labor, and management, should regard themselves as parts of the same system. And the aim is optimization, in which everybody gains. This should be the rule for negotiation between competitors, between countries. Everybody would gain.

Let me add this: He that goes into negotiation with the aim to protect his rights is licked. The aim should be overall gain by which everybody comes out ahead. He that goes into it with the idea just to defend his rights does not understand a system.

Let's look at the diagram in Figure 3. It has a scale showing degrees of interdepen-

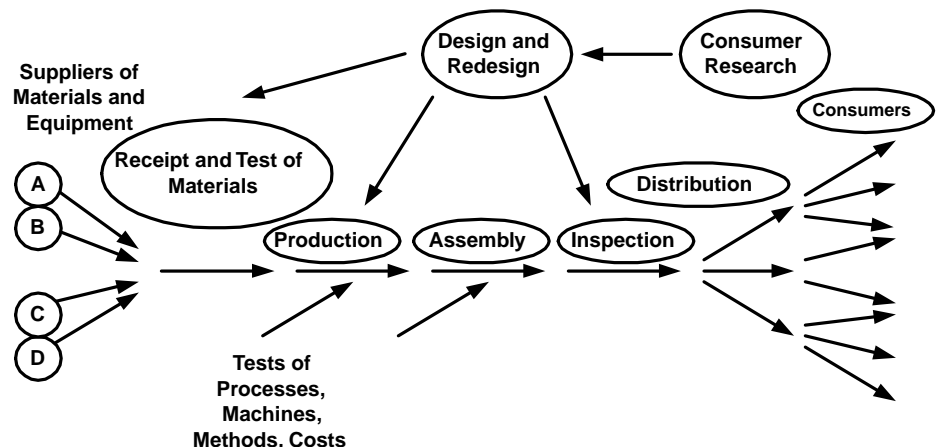


Figure 2: Production Not Viewed as a System

dence: low at the left, high at the right.

A bowling-team has low interdependence (while they are playing): the team is rated just by adding up the scores. (When they are not playing they will, of course, cooperate and work together, with everybody trying to help everybody else to improve.)

We have on the right of the diagram examples of high interdependence: a business and an orchestra. I don't care which is more to the right: interchange them if you like — they're complicated. But what is the difference between the Royal Philharmonic Orchestra of London and some other orchestra that is not as good? Same music, same specifications, not a mistake from either orchestra, everything just right. What's the difference? Just listen to the difference. One is managed better than the other. The players of the Royal Philharmonic Orchestra of London are there to support each other: every one of the 140 supports the other 139. They're not there as prima donnas.

You could have the best engineer, the best man in finance, the best man in manufacturing, the greatest man in distribution, in all this world: but you would not have a company — unless they work together. Having the best is not the answer. Sure, they must have some competence. But the answer lies in management, and whether people understand their jobs as part of a system. In an orchestra, the players are not there as prima donnas, each to play as loud as he can, to play his own solo. Each one is there to support the others. And one orchestra is better than another if the people there, the players, support each other better. That takes management. The conductor of the orchestra is a manager. The players understand that they are there to support each other. And you'll sometimes find some players doing nothing, just sitting there counting, playing nothing — but they're supporting the others. A business is not just an organization-chart, with all departments striving for individual goals: sales, profit, productivity. They all need to work in support of each other.

What I'm trying to explain is that the performance of any component is to be judged in terms of its contribution to the aim of the system, not for its individual production or profit, nor for any other competitive measure.

Think of the companies that are dashing themselves on the rocks by introducing competition between their components. I do not mention names of clients, but I can



Figure 3: Various Degrees of Interdependence of Elements in a System

criticize them without name. You may find, you do find, in a company two divisions, competitive, in conflict, because they are judged and rated on some competitive measure such as sales — as the result of which both divisions have a full line, all the way from smallest to largest, each one trying to outdo the other. The losses are incalculable. Can you blame them? That's the way their job is defined. Can you blame someone for doing his job?

Just an example: It would be poor management to save money on traveling expenses without regard to the physical welfare of the travelers.

Here's a little anecdote. I would be in New York on Monday. A woman called me from Chicago: she wished to see me. I'd be glad to talk to her. Her purpose in going to New York was to attend a meeting that Monday afternoon and to deliver a paper, to tell people there in New York what she was doing in Chicago, and to try to learn from them. For that she needed to be alert (I should think).

She told me that her flight would arrive in New York at 7 o'clock in the morning. Seven o'clock in the morning. My head did a little arithmetic. There's an hour difference between Chicago and New York. Now, she'd have to be on board the airplane at 04.30 New York time in order to arrive at 7 o'clock: that would be 03.30 Chicago time. It would take her two hours to get to the airport (whether Midway or O'Hare). So she'd have to leave home at 01.30 (Chicago time). She'd have to get out of bed at 00.30. Why bother to go to bed? She'd be up all night.

As I said, the purpose of her trip was to deliver a paper at a meeting in the afternoon and to learn what they were doing in New York. She'd be totally physically unfit for the job. She'd have to hold her eyelids open with tape, or with toothpicks. Totally unfit. My point is this. Any other flight would cost \$138 out of her own pocket. Also, if she were to come the night before, the company would not pay her hotel bill — and a hotel in New York is pretty expensive. Can

you blame her company's Travel Department? The Travel Department saved \$138 on that night-coach fare. Can you blame the Travel Department for saving money when that's their job? That's their job: to save money — never mind the traveller. The Travel Department will get a plus, but the traveller six minuses, for she would be totally unfit for her job. Can you blame the man in the Travel Department for trying to save money? That's his job. He has to eat, buy clothes, pay his rent.

Delegate: Dr Deming, could I ask you a question? Taking your system model of a manufacturing business, could I ask you your views on introducing the owners' of the business into the system? What lies behind my question is that, many of us believe, we in Western manufacturing are at a disadvantage because the job of the analysts in the City of London, and the other stock exchanges of the West, is to maximize short-term (speculative) profits for investors. In Japan, investors see themselves as owners, as part of the system, so they take a long-term view, and they encourage the managers in the businesses to get the products right and to take the time to do it. I'd be very interested in your views.

Dr Deming: Short-term: that's the problem. May I put it along with some other problems? Remember again that a system is a network of components that work together for an aim, each contributing the maximum for the overall aim of the system. And each component is not to be ranked, rated, judged, on any competitive measure. His job, anybody's job, is contribution to the system.

Now, let me try to put this together. Consider somebody (or a company) who decides to become selfish, only concerned about himself — see Figure 4.

It's impossible. He cannot do this, he cannot draw a ring around himself. For he is influenced by many forces that are part of the system, e.g. ranking — ranking people, plants, divisions, with reward and punishment: reward at the top, punishment at

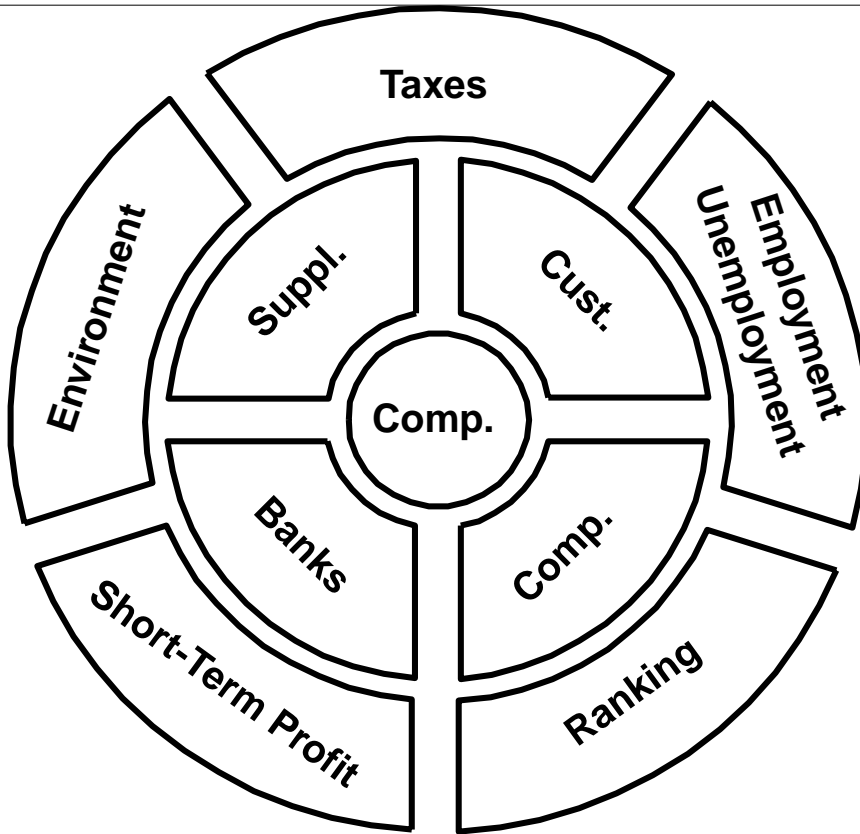


Figure 4: Impossibility of Isolationism

the bottom. As I said, the fundamental flaw is lack of understanding of variation. And other forces: taxes, reports, the bank working on short-term profit, the educational level of people, the environment, the competition, the amount of employment and unemployment in the country, customers, suppliers. You cannot do this: you cannot draw a ring around yourself. You have to draw it without a ring. Whether you like it or not, they are all part of the system, and we need to optimize the whole system. Now, the bigger we make the system (not only this company: let's include suppliers and customers), the better will be the chance for greater gain to everybody; but also, the more difficult is the problem of management.

How far can we go? As we expand, as we include more activities and more companies, the more difficult it is to manage, and the more knowledge is required for management of the system. How far can we expand? Let's take short-term thinking, and some other evils in the system. Let's talk about them separately. In the first place: it is wrong, a wrong theorem, that "if you cannot measure it, you cannot manage it". The most important losses and gains cannot be measured, yet they must be managed.

Let's write down here some of the gains and some of the losses.

Gains from:

- long-range planning
- education
- training
- morale
- loyalty

Losses from:

- short-term thinking
- emphasis on short term gains
- ranking (people, teams, plants, divisions)
- annual appraisal of people
- bonuses
- incentive pay
- MBO
- Quotas for production, for sales,
- uncoordinated business plans

These are heavy gains and losses: their magnitude unknowable, most of them not even recognized, not even under suspicion; these are the ones we must manage.

I read in the newspaper just two days ago about the numbers of people admitted to be chartered accountants. Your profit and loss statement says nothing about those gains and losses just mentioned. The profit and loss statement contains the easy figures: it doesn't include the difficult ones, the important things. But those are the ones we must manage.

Think of the losses. Think of the mismanagement that I've heard about, some that has taken place just in the last six months. Are we deteriorating or improving? What about making hospitals, and services by physicians, competitive? What about the universities? What about schools? Schools in some parts of the United States are ranked, and the money they get depends on their rank. So they become competitive — anything to get more money. Are some universities in this country being subjected to that kind of thing? And hospitals? I hear about it. I'm alarmed. Why introduce conflict? Conflict means we break up the system into components, and the components then become competitive, whereas they should be managed for optimization. I'll express it now as: "Knowledge about chaos that comes from putting together random forces, each of small magnitude."

It is very easy to put them together in a way that produces chaos: worker training worker in succession (off they go to the Milky Way!); executives working together, doing their best, under stress, working without guidance of Profound Knowledge; committees in industry, education, and government, working without guidance of Profound Knowledge; Congressional committees in our country, e.g. the Federal Reserve Board deciding the prime rate of interest; our Anti-Trust Division, or your Monopolies and Mergers Commission, operating without guidance of Profound Knowledge; our United States Council of Economic Advisors to the President, working without knowledge, working without Profound Knowledge. Look at the evil results. Let our President give a speech, for example (they probably wrote it for him): "It's about time we evaluated the benefits of education, considering all this money we're spending." Evaluate it? Such nonsense! You cannot measure it. And you cannot evaluate this meeting this afternoon. Years from now, it will mean something. But you will not be able to evaluate it today, nor tomorrow, nor for years. The things we need to know cannot be evaluated, yet they must be managed.

Chairman: It is almost 40 years to the day,

I think, when Dr Deming first spoke in Japan at the invitation of JUSE, and that's why he's saying we won't be able to evaluate the importance of this meeting for some time.

Dr Deming: There are some frightening paragraphs in the paper [3, page 14]. If I could only show that they are wrong, I'd be happy. Unfortunately, they're correct, I believe.

“Enlargement of a committee does not necessarily improve the results ... “

How could it? How could it? Enlargement of a committee is not going to produce knowledge. That's not a way to acquire Profound Knowledge.

Some of the corollaries are frightening. Is a popular vote going to make things better? How could it, without knowledge? And where's that knowledge going to come from?

Here's another [3, page 14]. So far as I've been able to observe.

“... Profound Knowledge must come from the outside, and by invitation.”

I know of no exception: that doesn't make it right, it does not establish a theorem, it's simply an observation. It must come by invitation. It can be implanted, but you don't get it by enlarging the committee, nor by popular vote.

I will tell you that my time is up. Is that what you were going to tell me, Mr Dolan?

Chairman: That's what I was going to tell you, Dr Deming.

Dr Deming: I know it, and I've known it for a long time! I'm so fortunate to know Mr Dolan. I think he knows the right people, by which he can somehow arrange to assemble this group today. I'm very privileged.

Chairman: We'll have a short break.

Dr Deming: Break?

Chairman: Short break?

Dr Deming: No break! ... Oh, all right. Let's have a little break, so we can discuss — and cuss!

Question and Response Session

Chairman: Dr Deming wishes to summarize the main issue he addressed before we broke, and then he will deal with questions.

Dr Deming: I drew a system, a flow-diagram, devoid of complications (Figure 1). Then I put rings around different components (Figure 2). Now they've become competitive, in conflict with one another. That comes from MBO, performance appraisal. Certainly you need to know how people are doing: of course you do. You'd better know how things are going. Yes, but you don't rank people, because ranking (people, divisions, plants) breaks up the company into components that are competitive. Then you don't have a system: so you have no chance to optimize. Nobody could measure the losses, the cost. But we have to manage them: we'd jolly well better manage these things. It's only a matter of survival, I'd say.

I'd be pleased if you'd ask questions, or remind me of a point or two as we move along. Let's make it public. Let's say we just came here to chat. We have to make the best use of this time: it's precious. I wanted to have this be a conversation; I didn't mean to do much talking. I'd like questions, comments, doubts: they all help everybody. It's so easy to get a wrong impression.

Delegate: What are the reasons for the Japanese readily accepting your approach of optimization of the system, whereas the Europeans and Americans are struggling and not succeeding with it?

Dr Deming: A Japanese is never too old or too successful to learn. They're in a learning mode all the time. That's the only explanation I can offer.

Some people say that they listened and learned because they were in a crisis. We're in a worse crisis. At one of my seminars, somebody from the aircraft industry said: “We and our competitors in the United States have 70% of the world's market for aircraft. Where's the crisis?” My answer was: “You and your competitors are not in a crisis. But on you falls the heaviest responsibility of anybody here to improve. You have a chance to improve, for you're going to be here a while. You have an obligation to improve, and to help the whole world to improve.”

The Japanese were in a crisis, and they knew it. We're in a worse crisis, for it's not visible. A fish does not know that it's in water: it doesn't give a hoot about water. A duck doesn't know that it's raining. We're in a worse crisis. Its effects will take some time. But if we don't get busy on it, we'll be overwhelmed; we don't have forever. It will take time and patience. And I

don't know of any group in this world with the power that is in this room. Think how you could help the whole world. What you've got to learn to manage is these things. I know the visible figures are far easier to manage: easier, not easy — there's your problem.

Delegate: A lot of commentators believe that international long-term success of Japanese companies derives from the Darwinian struggle raging in their home market. If this is a valid statement, is it compatible with what you are saying?

Dr Deming: It is not a valid statement; no, no, not at all. The Japanese know something about cooperation. They could not live on that island (well, island sprawl) without cooperation: it's natural to them.

Let me tell you another little anecdote to illustrate (it's in my book [4] as it was originally told by G. Ouchi [5]). There was a meeting of a trade association with representatives from the United States and Canada. They were meeting in one of those beautiful resorts north of Miami. They met for three days. Just think of it: three days. First day, all day — till noon! Think of it. What a day! Then they went out fishing. Second day, all day till noon. Had lunch, went out for golf. Third day, all day till noon. Then out for hound-racing. Dr Ouchi was the keynote speaker the first morning. He has nothing against golf — he plays a little himself now and then. Nothing against fishing: he likes to go fishing. Well, he told them something: “While I was in Tokyo a month ago, I attended meetings of your direct competitors, 200 companies working together — in cooperation, making sure that no company went out of business. It would not be good to put people on the street: that would not be good for the country. They worked to find jobs for all those people. They worked on design of product, export policy, how each one could best fit into the system, every one of the 200 companies, the tiny ones, the giants. They worked 13 hours a day, five days a week, for a month. They came out with optimization of the whole system by cooperation; they all gained — everybody came out ahead. And the country gained.”

But it seems we can't learn it. We in North America just can't think that way (I hope you don't mind my relating to North America). Cooperate like the Japanese? How would you like to play poker with me when you've forgotten all the rules? But America has not forgotten the rules — they never learned them. They don't know coope-

ration. Oh, there are thousands of examples of cooperation. One example is the time: it's now 15.37 and 43 seconds, 44 seconds, 45 seconds ... , based on Greenwich Mean Time, used the world over. There's the date: 11 July, fixed by the international date-line. There's the metric system. I could go on and on. Here's this little magnifying glass with a light-bulb in it. If I need batteries, I buy two AAA batteries — and I can buy them anywhere in this world. And they'll fit. Standardization. There are lots of examples of cooperation by which everybody wins. We could sit down here and write down 100,000 examples of cooperation. We use cooperation, but we don't understand it as a system, as a way of life. The Japanese have learned it. They grew up that way; they know nothing else. It's easier for them. Do we have a chance? Can we learn?

Delegate: Could I ask you a specific question about that meeting of 200 companies in Japan? Who organized that meeting? Was it MITI?

Dr Deming: It could have been MITI (the Ministry of International Trade and Industry). I don't know. I could ask Dr Ouchi. I ran across him not long ago: I asked him how many times he went through the calculations, when he was trying to find out the optimum distribution for everybody. He said he didn't remember: he said that may be he never did know. He drew up a table: the 200 companies in one direction, options in the other direction. They tried to choose options which would give maximum benefit to everybody. It's so easy; you could illustrate it with some figures. I won't take time to make up some right now; I don't have any in my pocket. So easy to see. It's a game that you can play in the fourth or fifth grade. Take a loss in your competitive position, and yet get a whole bagful of money out of it by optimizing the whole system. Maybe they ought to teach that game in the schools.

Delegate: Perhaps the greatest leader ever seen on this planet was not able to guide his disciples into interaction with other human beings without competition, political infighting, conceit, selfishness. How can mere managers achieve this state of supportive harmony that you advocate?

Dr Deming: Well, we know now what our job is! It's worth thinking about it. I've thought about it, too.

Delegate: How does Taguchi's philosophy fit into your own theory?

Dr Deming: It's all I've been talking about!

Taguchi used the loss function (Figure 5) [2]. The loss function will be a parabola at the bottom. It can be steeper on one side and not so steep on the other side. But the two halves will be parabolic at the bottom. So we don't need to have precise optimization. Don't worry, we'll never have it. If we had it, we'd not know it. If we move away from optimization, right or left, a little bit, then the loss is imperceptible, too tiny to measure. We only need to come close to optimization.

But when we fail to do that, we lose — everybody loses. That was Taguchi's theorem. I was there, in September 1960, when he read his paper in Tokyo. This is exactly what I've been talking about. "How does Taguchi's philosophy fit into your own theory?" It's the same thing!

Delegate: The Japanese system is successful, and it is based on competition and ranking ...

Dr Deming: It is not! No, this is misunderstanding. The Japanese system is based on cooperation, not on ranking. Read the paper by Dr Yoshida [6].

Do you know the difference in pay between somebody that went through university in Japan and somebody that didn't get into university? It's something like three dollars a month. It's trivial.

Sure, the Japanese have examinations in education. But a Japanese child is never humiliated — never, either at home or in school. His teachers are supportive; the Japanese support people. That is why, when a Japanese child fails, he feels he's let down his family, he's let down all his friends, he's let down his teachers. That's the reason for their high suicide rate. That's not good; no, no. But it's because people supported him: he feels he's let them down.

That's a big difference.

Think of the thousands of children in North America (I can speak of our cities). School's out at, say, 4 o'clock in the afternoon. Thousands of them have no place to go to. Home? What's home? There's nobody there. Often there's nobody that can read. Empty: not a shred of newspaper. A Japanese home is crowded with books, and every Japanese child has a home (apart from obvious exceptions: there'll be orphans in anybody's country). In our country, there are thousands of boys and girls that don't have a home, a single-family home. Maybe just a place to sleep in, or a floor to sleep on. Nothing more. Think of the contrast.

When I came home from school, my father was waiting for me, to go over the lessons of the day. He helped me. I remember his words. For example, the calculation of interest: "Add the interest, subtract the payment." To save my soul from Hell, I couldn't get it straight! But he pressed it into me. I got it. And other mathematics. He was so interested. And then Latin, and Greek. He went over it all with me. What a difference! I'm very thankful, very thankful.

Delegate: In your table of gains and losses you include the ranking of plants as a loss. But, of course, benchmarking is a useful tool, isn't it?

Dr Deming: Benchmarking? That's not ranking.

Delegate: But, once you benchmark, you automatically make a ranking. For instance, we have several factories and, in order to give a positive aim, a target, we issue a kind of ranking which is a benchmarking. I can't see any negative approach in that. It is being positive. It is a kind of positive race toward a target. Do you understand

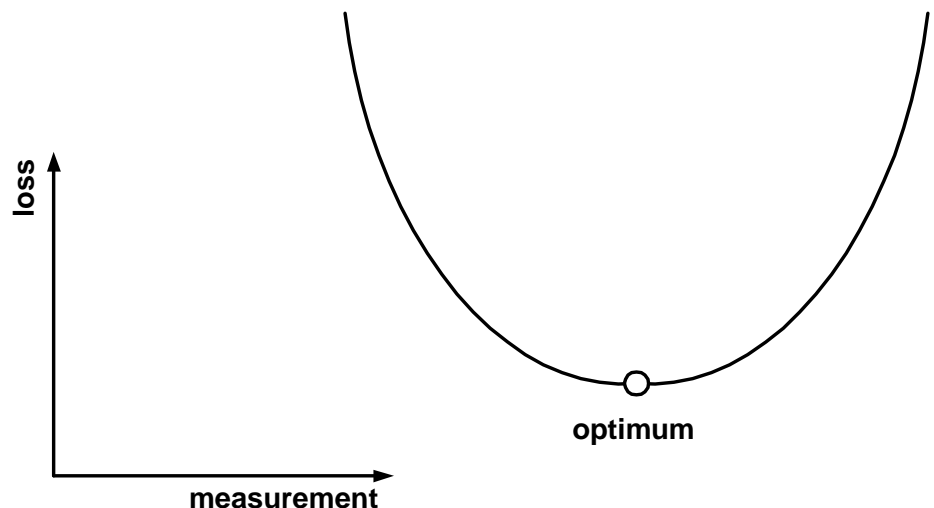


Figure 5: The Taguchi Loss Function

this?

Dr Deming: No, it is not. Of course it's not. It's destructive — that's my message — destructive. Read the paper by Nolan and Provost [7]. It's a matter of understanding variation.

You see, I don't know what we're going to do about this. There are, say, 26 of us here. With any measure whatever, one of us will be highest and one will be lowest. What are we going to do about it? We'll have to repeal a lot of laws: that's one of them! It doesn't mean a thing — of course not. As I remarked when we went over it, there's no substitute for knowledge. No substitute for knowledge. This group can accomplish nothing without knowledge. We've started on it today.

Delegate: I understand that benchmarking is one of the tools developed in Japan by Tsuda. (I ask; I am not sure.)

Dr Deming: I don't believe it. I think this is a misunderstanding. I know him well: he's a brilliant man. I don't think the Japanese do that. How could they? How could they? They're supportive.

Chairman: I think, Dr Deming, it may be that benchmarking is used not to rank but to see where you might improve. Certainly some people, as Peter Bonfield explained, use benchmarking to find out what is the best their competitors have achieved in various areas, so they learn what is the gap between what they're doing and what they might do.

Dr Deming: Well, I think it's a waste of time. In any case, there are some things you can't benchmark. But that's not what I'm talking about here. Think of the man-years that are wasted in worrying about competitors, getting figures on the competition, showing trends — the competition going this way, we going that way. Think of all the time lost. All that effort could be put to better use. People worry about the competition. Better to forget them; they have their own problems. And the competition is part of the system: what is best for you is best for them. Now, if they are lousy, there isn't much you can do for them. As Albert Poulitz said on just about any day of his life (I worked for Mr Poulitz thirty years in consumer research): "Nothing can do you so much harm as a lousy competitor." Isn't that right? Nothing can do you so much harm. How could you include him in your system if he's lousy? It would be pretty difficult. He could do you a lot of harm. He's part of the system that you work

in. Yes, we've got a lot to learn.

Delegate: Dr Deming, if you reverse that and say that a good competitor is a good part of the system, is that the explanation for Japanese success: that their companies have, within Japan, a lot of good competitors?

Dr Deming: Yes, a good competitor is a help to you. They have some good competitors. But they also work together, as Dr Ouchi told us.

Delegate: If MBO is bad, should a company set a budget?

Dr Deming: They'd damned well better set a budget! But MBO asks somebody to do what is outside the system. It comes from failure to understand a stable system. Anybody can make anything happen — if you don't count the cost. Figure 6 shows a stable system. Its ability, its capability, is defined by the lines.

MBO consists of asking for the point, the target, which may well be outside the system. Anybody can make it happen. He'd better make it happen, or he won't have a job. He makes it happen — at impairment or destruction of the company in some other part. It'll happen: it's his job to make it happen. If you want this result, the only safe way to get it — the only way you can afford to do it — is to improve the system so that you include this result. This is management's job. It's all right to have a numerical goal, but only the method will get you there: it's only the method that counts. Anything else will mean loss. All you have to do is walk around and see it. Think of the losses from MBO — because people do not understand variation and do not understand the capability of a system. They've never heard of it.

Now, of course, a manager has figures: he knows how things are going. Those are the visible figures. Of course, he should know that he has a system. His job is to try

to discover who is outside the system, in need of special help — and he has the figures to do it with. And he uses the figures to try to help him improve the system. He should carry on a conversation of, say, four hours at least once a year with every one of his people — not for judgment, not for criticism, but to talk about the work, personal problems, whatever is bothering them. Sure, he knows how things are going; but he doesn't do it to rank people. That all comes from misunderstanding. People play tennis: you win, I lose. We knew at the outset that there will be one winner, only one. Play poker: there'll be one winner. Horse race: one wins. Beauty contest: one wins. But we carry this into industry, and into education, to our detriment. It's limiting: it limits the winners. Management is not playing games: management is serious. Mistakes count; we can forgive mistakes, with everybody doing his best under stress, under great push. Yes, but there's no substitute for knowledge. We can forgive ignorance, but we can't doubt the penalty.

Now, one more? Or doubts, emotions?

Delegate: I'm taking more than my share, but I would like to ask one more question on the 200 companies, and the optimization of their overall system. You said, Dr Deming, that a fourth grade student could do the arithmetic to optimize the system. Yet the economists in most of our Western countries seem unable to set an industrial strategy of optimization. If a fourth-grade student could do the optimizing, why is it that the economists can't?

Dr Deming: I don't know. They've taught us competition; they've told us that cut-throat competition solves problems. No, it creates problems. It's destroying us. And nobody has any fun out of it. Man is entitled to joy in his work, and joy in learning.

Chairman: I'm afraid, Dr Deming and gentlemen, that our joy in learning has come

● Target, Objective

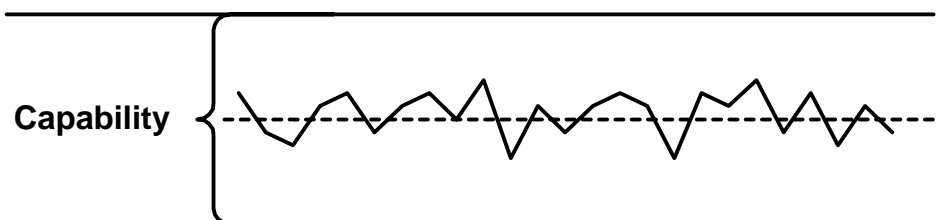


Figure 6: Target Outside of Stable System

to an end because 4 o'clock, the deadline, is reached. I hope that today has whetted your appetite for learning and for understanding many of the things which Dr Deming has been talking about. Thank you, Dr Deming, for sharing with us your learning from the last forty years and more. Thank you very much.

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