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Interview with Hajime Karatsu

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Hajime Karatsu

(Interviewed on 18 March, Tokyo, Japan)

Video Roll # 18

Q. Would you spell your name in English.

KARATSU: After the Second World War, I joined the NOn, Nippon Telegraph and Telephone Public Corporation. And for the purpose to studying of the microwave links. That was the high technology at that time. But at that time, the service quality of the telecommunication network, NOn, was quite poor. Quite a few time missed a connection and quite high noise and so on.

Therefore, NOn decided to improving the quality of the telecommunication network. For us, it was quite fortunately three experts of the quality control joined into with the Occupational Forces and they issued order: "Y ou should introduce the quality control to the Japanese industry."

Then we studied statistical quality control for the purpose to improving the quality of the telecommunications network. And we planned first QC seminar at the year of 1948. That was in three years before the arrival of the Dr. Deming. That was the very first time we studied QC in Japan. Shall I continue?

Q: Let me ask, if I may: 1948 was a very long time ago.

KARATSU: Yeah.

Q: And Japan's efforts in quality have been extraordinary. We, in the United States, look at you and think it's almost magical how wonderful the Japanese products are. Why have Japan's quality efforts been so very successful?

KARATSU: Well, at the time, Japanese people lost every kind of their confidence, self confidence. Then we make an effort to do, following the way developed in the United States. Everything should be imported from the United States. Of course, the management system, quality control, and the technology and so on.

And honestly, we followed the way developed in the United States. Therefore, Japan was something like the testing field of every kind of the technology developed in the United States. But some technology imported from the United States was false. Some of was true. Through our experience in Japan, what is false, what is true, what is discriminated, separated.

And, of course, the QC was quite effective way to improving the quality. There we honestly followed the way developed in the United States in the field of quality control.

Q: What's interesting, though, is that, in the early 1950's, two Americans -- Dr. Deming, Dr. Juran -- came over and Japan listened. But the United States at that time did not listen. What were the differences? Why Japan, yes; United States, no?

KARATSU: Well, at that time, United States was something like the oldest thing developed in the United States should be affordable (?) by the Japanese. Then, of course,

Dr. Deming came to Japan, at the year of 1950. Following Dr. Deming, Dr. Juran came to Japan.

And, of course, I attended the seminar held by JUSE -- Japan Union of Scientists and Engineers. And also, we made the effort to introducing the quality method to Japanese industry.

At that time, I was the employee of the Nippon Telegraph and Telephone Public Corporation, as the inspector of the quality of the product. Then I went to everywhere -- all Japanese factory -- and you should introduce the QC. And, gradually, Japanese company make the effort to introduce the QC.

But it is quite important thing was happening in Japan. That was the Japan industrial standard rule that was issued at the year of 1951 by the MIT -- Ministry of Industry and Trade. Started to make an effort to introducing the QC method to Japanese industry. For the TIS Mark (?) system was started as a qualification by the government of the product.

And forgetting the certification by the Japanese government to showing the JIS Mark, they should introduce the QC to the factory. Then Japanese company make effort to introduce QC -- everywhere, everything.

(OFF CAMERA DISCUSSION)

KARATSU: That is kind of important, TIS Mark system.

Q: *Let me ask you the same question.*

KARATSU: Yes, yes.

Q: The question is that, in the early 1950's, with Americans doing the teaching -- in the United States and in Japan -- Japan listened and learned and America did not. Why was this the case?

KARA TSU: Well, at that time, United States was some -- in those days, the United States was more like God for the Japanese. So whatever God says must be obeyed. That was the way of thinking, or the mindset, of the industrial people in Japan. Therefore, we believed in whatever the United States said. We followed whatever America advocated.

The new management, technical management was tested in Japan. So Japan was more like a testing. So of all those, which were imported to Japan, some of them were false, some of them were real, true. So we tried harder to look for something true and something real, putting the false aspect aside.

And quality control was included in something which was true. Quality control is ... to manufacturing, production. So whether it is false or truth, is proved through the production at the factory. It is easy for us to have people to tell which is wrong as a result of the production. That is why the management of Japan decided to be devoted to quality control.

The second point I would like to make: in those days, right after the Second World War, the quality of the Japanese made products was very poor. So the Japanese government introduced the concept, or the system of JIS -- Japan Industrial Standard -- to improve the quality of Japanese products.

And the government allowed the manufacturers to put JIS mark when the products are approved by the government. But in order for them to be approved, they have to introduce

the quality control system. In order to apply for JIS, in order to be qualified for JIS, the manufacturers of Japanese companies have to, had to introduce quality control system.

There's the major reason for the second reason why quality control concept has spread in Japan.

Let me make the third point: quality control concept, exported from the United States, uses very difficult, sophisticated statistics. Statistics is one of the very complicated aspects of ... matics. So this is very difficult to be established or to be incorporated into a field of manufacturing.

Therefore, we Japanese tried to modify what we learned from the United States regarding this statistics to simplify them so that the workers, blue collar workers in the factory can understand. This is another reason why quality control is successful in Japan.

The Japanese people are very good at modification of this kind. Characters we are using in Japanese language, were originally exported from China. But what we imported from China were semantic characteristics.

Then we had to learn thousands and thousands of Chinese characters in order to make sentences, in order to write sentences. Therefore, only the noble people, only limited number of people with high education could write and read this very complicated characters. Therefore, the Japanese people codified phonetic writing. Just like alphabets.

The Japanese invented the Japanese way of writing using only 48 phonetic, symbols could write and read Japanese sentences.

Likewise, very complicated statistics which we imported from the United States was modified -- just like alphabets, just like 48 phonetic symbols, we created in Japan.

Everybody could understand the modified version of their statistics of the quality control system.

This is the secret or the key of the great success of quality control.

Another thing, if I may add, is contribution of Dr. Juran. What Dr. Deming taught us was very difficult, complicated statistics. But Dr. Juran instantly understood what we modified in Japan.

And during their visits to the factories, and the manufacturing site, Dr. Juran did a very good job to teach the more details of the quality control system, .. , markets in Japan.

Dr. Deming was very good at concept -- introduction of the concept. But Dr. Juran made even a greater contribution to help the people in the fields understand -- or how they implement the concept. In that sense, both Dr. Deming and Dr. Juran did have a very important role to play.

Dr. Juran was awarded Second Class of the Order of the Sacred Treasure. And this is the very highly regarded order. Dr. Juran visited Tokyo to receive the Second Class of the Order of the Sacred Treasure.

At that time, I had dinner with Dr. Juran with my wife. And I played a small role so that he could receive this Second Class of the Order of the Sacred Treasure, which is very, very rare for foreign people to receive. My wife was brought up in the United States, and her native language is English. And my wife and I had a wonderful time with Dr. Juran. My wife could speak English fluently and could ... with Dr. Juran.

This is a very short story, and my personal memory with Dr. Juran.

Q: If I may, I'd like to go back to a discussion of the Japanese quality revolution. What role did the leadership, the senior managers of Japanese companies play in the quality revolution?

KARA TSU: In Japan, the organization of the companies gives a feeling of the family. The company is more like a family in Japan. This is something quite different from labor/management relationship in the United States.

If something is wrong with our company, its president's responsibility, but also, the workers, employees are expected to assume responsibility for the bad performance of the company. Like in soccer team or football team, all the workers are expected to work jointly.

When you lose in a soccer game, you would not single one player out and would not blame him for their bad performance. And in order to make the team or the team work very effective, the manager's role is very important. Team play is very important in Japanese companies, like in soccer and football team.

In that sense, quality control had a very important role to play. I went into Great Britain, some time ago, and talked about the quality control. And I was talking about the fact that we learned this team-work concept from the British Navy. We experienced Japan's battle with Russia, and the Japanese Navy defeated the Russians.

But the Japanese Navy was brought up, in a sense, by the British Navy. The team spirit of the football was handed down to British Navy, and that's what we learned -- our concept of teamwork -- from. When your battleship is on the verge of sinking, it's no use of pointing someone out, or blaming someone for some accident. Everybody is expected to work in a team to help the battleship out.

So all the employees of Japanese companies are crew members of a battleship. We are in the same boat.

With this way of thinking, management and employees, workers work very hard, jointly, with each other.

Q: But, even on a battleship, someone must say where is the battleship going to go. What is the role of the captain of the battleship? What is the role of the senior managers in companies in leading the quality effort?

KARATSU: In Japan? We learned this concept of quality and control from the United States. One important slogan we learned from the United States is that consumer is always the king. We do have the same slogan in Japan. The consumers are always right, as we say it in Japan.

Whatever trouble is experienced, whatever claim is brought up by the customers, the company, as a whole, should respond to it, should assume responsibility for the claim. Of course, this claim will be reported to the manager. Quality consciousness is managers -- managers are always quality minded, quality conscious.

Q: The quality effort here in Japan has lasted so far for about 40 years. A very long road that you have come down. If you were to turn around now and look backwards at the road that you have come down, what things might you have done differently in those 40 years that would have made your lives easier and still as productive? Or even more productive?

KARATSU: I look back upon the past 40 years in Japan; I remember we have taken several steps. In the very beginning, to eliminate defect, to eliminate bad products,

there is the main issue. For that purpose, we introduced group activities of QC Circle.

I remember it was 1967, Dr. Juran visited our company, Matsushita Communication Industrial Company. Dr. Juran visited us to see what's going on in our QC Circles. Dr. Juran was surprised because the workers were involved in the improvement activities, which was inconceivable in the United States.

The first stage of quality control in Japan was done in that manner, involvement of the workers in the field.

The next stage was automatization or mechanization or introduction of robot, because of the increasing wages, or because of the decreasing labor force and increasing necessity for the further improvement of the quality, we had rely on automatic system. And if the defect ratio is very high, robot will stop working.

In order to improve the overall system, we had to reduce the defect ratio. And we had a hard time to seek effective way for producing good quality products. But before we became successful, we introduced robots, automatic system.

So, in order to make the automatic system even more effective, we have to introduce the zero-defect concept. We have to reduce the defective ratio. Robot will not work effectively unless we can achieve the defect rate of 1 %.

We could reduce the defective rate to 3%. That was quite satisfactory, but, upon introduction of the robot, or automatic system, we had to further reduce this defective rate to 1 %. In order to promote automatization, we had to promote the quality control.

And here comes the third stage: quick advancement of the technologies. New technologies were introduced, one after another. When we introduced new technology, that often resulted in increasing number of bad, defective products.

So the thing we really had to consider at this stage was to improve design. Introduction of quality control in the design stage. Prior to that, we were devoted to quality improvement in manufacturing. Now, we were faced with the improvement of the design.

Taguchi Method was born out of this stage. Dr. Taguchi was a good friend of mine when I was working at NOTT. After he retired from NOTT, he went to Bell Laboratories. And at Bell Laboratory, Dr. Taguchi was engaged in the development of new memory chips. In those days, he came up with a new Taguchi Method at Bell Laboratories, and that was very successful.

And at present, when it comes to the improvement of quality or quality control at design stage, we always think of Taguchi Method.

But now let me move on to the final stage, the fourth stage. When we sell the products to customers or after the ... is installed, we feel that we have to increase reliability. How can we increase the reliability? With referring to the reliability issues, we can not improve the reliability by simply doing quality control in the conventional manner; we have to consider after fail to service or maintenance.

So in order to reduce the failure rate, once that product is installed at the field, we have a wider range of works to do.

And that is the major challenge we are now facing in Japan.

(END OF TAPE NUMBER EIGHTEEN)

Hajime Karatsu

Video Roll # 19

KARATSU: To be honest, I was serving as an executive for Matsushita Communications Industrial. So came to work for the university but four years ago. So when it comes to education on quality control in Japanese universities, I had to meet, the level is quite low, still very low. Quality control education at the university level has yet to be improved in Japan.

Why? The reason is very important. In Japan, quality control was promoted mainly in the manufacturing site. So quality control has been very successful in manufacturing compames.

But academics works concerning quality control is not advanced in Japan. That is why we are now observing a number of problems.

QC activities in manufacturers were very successful. But in medical fields, in administration, government, in these other fields, QC was not very successful; or was not promoted at all.

Because too much emphasis was placed onto the importance of quality control in manufacturers. And we did not spend enough time for studying academic aspects of the statistics of quality control.

Once we can do that, then we will be able to introduce this concept into other fields like government or medicine -- other fields. And I think it is up to the professors of the

universities to do so. The people working for manufacturers just can't do that.

Q: From the point of view of the United States, as we look across the Pacific Ocean to Japan, we have the impression that every company in Japan is doing some form of quality methodology. In reality, how deep into Japanese corporate culture has quality methodology come. How many companies in Japan are doing this?

KARATSU: Let's see -- there will be no Japanese companies which are not familiar with this concept of quality control. One hundred percent of the Japanese companies are aware of that. But when it comes to the implementation or actual practice, the level differs from company to company.

I am sometimes asked to visit company factories, well, I notice some companies are ten years behind, and other companies are really advanced. That's a reality.

Companies which are behind good companies by ten years are so, even these companies can produce good products. You may ask why. But the components, materials, machine tools are very good products have been supplied as a result promotion of quality control.

So even if you yourself are not aware of -- or have not implemented quality control concept, can receive and can utilize high-quality products -- machine tools and components.

So people may take it for granted without relying on the concept of quality control, you are capable of producing good products. The problem occurs when these companies ... foreign countries to transplant their production in foreign countries. Some companies are very successful, and other Japanese companies are not.

The reason for this difference is that the companies which can enjoy very good climate, which can expect to receive good products all the time, and which they have taken for granted, because of the very low crime rate in Japan, because the Japanese people take it for granted, they are not well prepared for bad crimes in foreign countries where they visit or go to foreign countries to live there.

Something like this is happening to some of the Japanese compames.

Q: In Japan, of all countries, there is an example for what can happen, the good things that can happen to companies who practice quality. Toyota, Honda, the electronics companies. What stands in the way of companies? Companies know about quality but they're not doing it? Why are they resistant when they see what can happen, in terms of the world marketplace, when they practice quality methods?

KARATSU: What do you mean by that? Would you explain?

Q: Here in Japan, there are many companies who can serve as excellent examples of the success that can come when they practice quality. And yet you say there are many companies who know about quality but don't do it, don't practice it. What stops them? Why do companies not do it?

(OFF CAMERA DISCUSSION WITH TRANSLATOR)

KARATSU: Let me put it this way: in germ-free society, nobody would get ill. Nobody would worry about disease. But once these people go to another country where there is a

lot of germs -- for instance, the Japanese people take it for granted that water, like you can drink whatever tap water is available. But if these people go to a foreign country, they will get sick easily.

So that most of the Japanese companies take it for granted that good products can be rather easily manufactured, but these companies should also implement good quality. So in Japanese society or Japanese industry can be compared --

Q: ... Dr. Juran and some of his contributions. We know that he came here in the early 1950's for the first time. What are some of the key lessons that Dr. Juran taught, that are still in practice at this time?

KARATSU: The excellence contribution of Dr. Juran is that before he gave lectures, he visited the manufacturing site. That was something wonderful about Dr. Juran. He was always accompanied by the president of the company -- his visiting.

In those days, Japanese presidents did not think that he himself should visit the manufacturing site, but Dr. Juran always made it a rule to accompany a company president when he visited the manufacturing site. There were a lot of surprising things in factories. So that way, Dr. Juran gave Japanese presidents a very good lessons.

Maybe Dr. Juran thought it should be always done. For a company president to visit the manufacturing site. That way, he taught the Japanese president that the president must demonstrate the leadership.

Q: How have Dr. Juran's teachings been used? How do they put his theories into practice?

KARATSU: First of all, the manufacturing site first concept. This is what we learned from Dr. Juran. The first, work site first. Another thing: when we analyzed the data taken from the manufacturing site, when Dr. Juran analyzes, many things can become very --

(INTERRUPTION - DISCUSSION ABOUT TIME ELAPSED)

KARATSU: Okay, I'd like to talk -- Dr. Juran is something like -- the magician story.

Q: Please tell us.

KARATSU: Yes, in English.

Q: Let's do it in Japanese.

KARATSU: Oh, yes? Okay.

Dr. Juran is like magician to us. We collect a lot of data from the shop floor; we hand the data to Dr. Juran. He analyzes the data. He produces chart. And he is very good at identifying the problems. So he looks more like a magician to us. And that was very inspiring.

If we could analyze the data, then we could identify the defectiveness. Even though we are not prepared with technical knowledge or technical capability, all we have to do is just collect data. Then we would be able to identify the problems.

That is the major contribution. And that is where we're most grateful to Dr. Juran.

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Q: In 15 years or 20 years from now, someone will write in a history book, here in Japan, about Japan's quality revolution. When people look back on this period of history, the Japanese quality revolution, and they look at Dr. Juran, what will they write about Dr. Juran, and about his contributions to Japan?

KARATSU: The greatest contribution or influence of Dr. Juran is the significance of the shop floor, the working site. In order to identify the problems on the shop floor, we have to collect and analyze the data. This is what we learned from Dr. Juran.

I am a university graduate. I am an engineer. And when something happens, an engineer tends to think it technically. But even if we make efforts to identify the problems, technically we always find a bottle-neck.

Analysis of data is more important. That is what I learned from Dr. Juran. That was something very surprising to us engineers. And that was the major lesson we could learn from Dr. Juran.

Q: I know that you have spent much time in Dr. Juran's company. What effect has Dr. Juran had on your life and your career?

KARATSU: After graduating from university, I worked at research laboratory. I was very confident about the technology. I firmly believed in technology, or techniques. But what I learned from Dr. Juran is that, in addition to that, there is something more important. That's statistical analysis.

So, in other words, I am more like carrying two pistols, two guns: technological analysis and statistical analysis. I

am armed with two guns, and I am grateful to Dr. Juran for that.

Q: Tell us about the wonderful times you have spent in Dr. Juran's company.

KARATSU: Everything is that Dr. Juran highly recognized the Quality Circle activities. We introduced Quality Circle activities spontaneously, or voluntarily. I firmly believed in the importance of Quality Circle activities. But Dr. Juran endorsed the importance of this QC Circle activities.

That was very encouraging. That is why we decided this concept should be promoted throughout Japan and throughout the world.

Q: Can you tell me about some of the times you have spent with Dr. Juran? What was he like? Can you tell me about an incident or a conversation that has been particularly meaningful to you?

KARATSU: What should I talk to?

Q: About Dr. Juran as a man, not only as a teacher.

KARATSU: Yeah. Toward Dr. Juran I feel personal affection. In those days, not only the problems in the factories, but also by the relationship was the ... relationship between labor and management, employees and managers. It was related to these issues we could also receive good advice, a lot of good advice from Dr. Juran.

You may think it's rather surprising, Dr. Juran is not [only ?] a quality control expert, but he is also an expert in human

relationships. That was very surprising. He is not a simple statistician. He is a very warm-hearted person. A specialist in human relationship.

So 'til now, I keep contact with Dr. Juran.

Q: Dr. Juran talked about quality bringing about change within a company. And he says there are two kinds of change: there's the technological change, things that you do; and there's the change that comes in as an uninvited guest, the human changes. How did Dr. Juran work with the heads of companies to teach them about this human change that they would have to cope with? And what difference did that make in this quality revolution of Japan's?

KARATSU: Well -- to be honest, the president of my company, I used to work, was a banker before he became president of this company. So his background was a banking business. He was not a way of technologies. But after he returned from 'Dr. Juran's seminar, he said: quality control is the control of the human aspects; human control is closer related to quality control. In companies, we are always dealing with men.

And while Dr. Juran could teach this banker about that --

Q: This will be seen in America. There are people who may not know that much about Dr. Juran, and they may not be that familiar with the quality revolution in Japan, certainly not the operational plant four aspect of it. What can you help us tell the people of America, who will watch this videotape, about what Dr. Juran contributed to the culture and the economy and the quality revolution of Japan?

KARATSU: There's one thing I really want to tell American people. America is our teacher. What we learned from America was quite right. In other words, QC, which was developed in the United States, was introduced to Japan and using Japan as a testing field, this was further promoted. This is what I want the American people to know more about.

So this can be also workable in the United States. Be confident with your own idea of QC, quality control.

Q: If you could speak to Dr. Juran's great grandchild, when you are 150 years old, and tell this great grandchild of Dr. Juran's what their grandfather was like, even if they've never met him, what would you want Dr. Juran's grandchild to know about him?

KARATSU: How to talk -- I think of it.

What I want to tell Dr. Juran's grandchildren is something like this: when you manufacture something and market something, there is no major difference in the principles. Wherever you go, the major principle should be the same. And in order to seek the optimal concept, you can utilize the QC concept.

SO QC concept is something which will not change forever. In that sense, this videotape, you are presenting something now will be valid 100 years from now.

Q: Tell this child about Joseph Juran, their grandfather. What should they know about him?

KARATSU: So -- looking back upon the history of mankind, some people invented something new. There are many people which helped us men, today, to lead a better

life. We are very thankful to these contributions. And one of such people is Dr. Juran.

So Dr. Juran taught us a lot of things to us. And the practices Dr. Juran taught us have turned out to be successful -- have proved to be successful. And this is something very important. So we should be confident. We should continue to believe in Dr. Juran's concept and proposal.

Q: The door is open to anything you would like the American people to know about Dr. Joseph Juran, that we probably have not spoken about. Please, whatever you would like to say about Dr. Juran.

KARATSU: Well, Dr. Juran was right. What Dr. Juran taught us -- to the Japanese people or to all the people in the world -- have proved to be correct. So believe in what he said. Then you can succeed.

I can tell you this, based upon my personal experience. And Japanese manufacturers, all of them could say the same thing as I just said now.

(END OF TAPE NUMBER NINETEEN)

