

CCS - An Agency For Change

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Today is my fiftieth anniversary. That announcement is not a call for a celebration. Rather, it is a reminder of what has been, and also what can be, accomplished by management leadership and dedication to a guiding purpose.

I arrived in Tokyo for the first time just fifty years ago. What I saw all around me then was utter devastation. Buildings were in shambles. Roads were blocked by debris. There was no public transportation. Water and electricity supplies were disrupted. The economic life of the country was at a standstill. There was no industry and very little commerce. What there was of that amounted to barter. People exchanged the personal belongings they had managed to salvage from the destruction of war for whatever food they could find. Many of them were on the verge of starvation. They wandered about aimlessly with no place to go. They called their lifestyle *take no seikatsu*. Their possessions were being stripped away just as the bamboo plant sheds its skin. This was how it was in Tokyo, in Osaka and Kobe, and in many other places throughout the country.

The war had ended with the signing of the surrender document a few months before, aboard the battleship *Missouri*. General Douglas MacArthur was appointed Supreme Commander for the Allied Powers. His General Headquarters, called SCAP, was established in the Dai Ichi Building just across the way from the Imperial Palace. Now, the question was, "What happens next?"

The first thing on his agenda was to distribute to the people the army rations that had been stockpiled in preparation for the planned invasion of Japan. But, even that was not enough. He sent a message to Washington that read: "Starvation will breed mass unrest and violence. Send me bread or send me bullets." Some time later, when he was reminiscing about this incident, he recalled with satisfaction, "I got the bread."

As the Occupation started, MacArthur received three simple and direct orders from President Truman. They were (1) Assure that Japan will not be a military threat to world peace; (2) Put in place a new national constitution that guarantees to the people a government founded upon democratic principles; and (3) Restore the country to economic stability.

MacArthur never doubted for a moment that he would succeed in this mission. He had a clear and unwavering vision of the goal to be achieved. He was the right man for the job. As a soldier, MacArthur was courageous. As an intellect, he was brilliant. As a man, he was totally vain and arrogant. There is a story told about him that demonstrates that latter characteristic.

After the signing ceremony aboard the *Missouri* was completed, MacArthur felt the need for a bit of rest and relaxation. He invited Admiral Chester Nimitz to go fishing with him. They got into a rowboat and went out on to Tokyo Bay. They were out there for a while when all of a sudden a great wave came up and their boat was washed over. Those two great military leaders were in the water, hanging on to the sides of the overturned boat, struggling to stay afloat.

Nimitz called across to MacArthur, "Say Doug, I have to ask a favor of you."

MacArthur replied, "Sure Chet. What is it?"

"Don't tell anyone about this predicament we've gotten ourselves into. It would be bad for Navy morale if people found out that I, an Admiral of the Fleet, couldn't sail even a rowboat."

MacArthur agreed, but asked the Admiral to keep the same secret for him.

Nimitz was surprised. He said, "But, you're a soldier. You're not supposed to know anything about boats."

"Yes," said the General. "But, so many people would be disappointed if word got out that I really can't walk on water."

Well, MacArthur got back on land, dried himself off, and took up his duties. Almost immediately he issued a series of edicts. The first of these were:

- ◆ Japan's military forces would be dissolved, and
- ◆ The *zaibatsu*, the industrial cartels that had supported the military's war adventures, would be abolished. Their Executive Managers would be removed from positions of influence.

The others addressed these subjects:

- ◆ Workers would be free to form and join labour unions of their choice.
- ◆ Women would have the same legal status as men.
- ◆ Democratic forms of education would be established. Elementary school education would be universally compulsory.
- ◆ Child labour would be banned.
- ◆ Political prisoners would be released from jail. The secret

- ◆ police would be abolished.
- ◆ Freedom of religion, thought and political expression would be the right of all people.

But then, a practical problem surfaced. How were the people to be informed about these edicts, their meaning, significance, and all the other details involved? There was a group in SCAP headquarters called the Civil Information and Education Section (CI&E) charged with responsibility for getting the word out to the public. It was important that the people be told about these reforms. They amounted to a major cultural change affecting their lives. The immediate stumbling block, however, was that at this time there were no widely circulated newspapers. The telephone system was not working. It was difficult to travel around the country. There was no radio broadcast system. A communication facility was needed, but none was available.

There was another group in SCAP headquarters working to solve that problem. It was the Civil Communications Section (CCS). Its immediate task was to restore the local and long distance telephone and telegraph networks to an operating condition. But, the problems being encountered were staggering. Aside from the wartime damage that had been done to the central and switching stations, and the loss of the interconnecting lines that had been destroyed, the lack of adequate maintenance work during and prior to the war years resulted in much of the equipment now being unusable. Added to this, there were few trained technicians available to be put to work to correct the situation.

Even more serious was the total lack of a supporting communications equipment manufacturing industry. What was needed was a dependable source of supply of equipment and system components, such as telephone instruments, switches, cables, vacuum tubes, electrical rays and transformers. These were the kinds of things it would take to restore the networks to operation. But, the companies that had produced these products previously were now, to a large extent, out of business. Their factories had been destroyed. Their workers had been drafted into military service or had otherwise disappeared. Machine tools and production equipment had been lost or had been deployed out to the countryside to escape damage. An entire class of senior managers had been dismissed in the *zaibatsu* purges. This was the situation the Industry Branch of the Civil Communication Section faced.

I was in charge of the Industry Branch. My assignment was to do mainly three things.

1. Supply domestic radio receivers to the Japanese people as an immediate communications medium in support of SCAP's CI&E program. (We would use army transmitters as the broadcast source.)
2. Meet the needs of the Occupation Forces (and also domestic users) for a reliable nationwide telecommunication system.
3. Assist the Japanese communications equipment manufacturing industry to become a major contributor to a revived national economy.

I decided to devote my efforts to the first of these tasks. A colleague of mine would concentrate on the telephone network. I did not worry too much about the third task. If we were successful in accomplishing the first two, the other would take care of itself. And, as a matter of fact, that is what happened. We eventually restored the telephone system to working order, and radio receivers were the first domestic appliance to come on to the market in large numbers. They became a good source of tax revenue for the government.

It was not easy getting to this point. There were physical problems, and there were cultural problems. Among the more pressing physical problems were these. Factory sites had to be cleared of rubble so that shacks could be put up to house production machinery and workers. Machinery had to be installed, repaired and refurbished. Workers had to be recruited and trained. Supplies and raw materials had to be located and brought in. Supervisors and managers had to be chosen, some almost at random, and put in place. Most of them were strangers to their jobs. They came with little or no managerial experience. In their previous positions, they essentially had been conduits for the flow of information between their superiors on one side, and the workers on the other. They were not business planners. They were not leaders nor decision makers. They were more accustomed to following orders, rather than giving direction. They had little understanding of industrial strategy or policy. They were confused, lacking in self-confidence and uncomfortable in the positions into which they had been force-fit. They had to be instructed on a day-to-day basis how to set up, run, and manage a mass production system. And, that is what we in CCS did.

Companies that had a previous manufacturing history, such as Nippon Denki (NEC), Fuji Tsushinki (Fujitsu), Tokyo Shibaura (Toshiba), Hitachi, Kobe Kogyo, Furukawa, and Matsushita Denki (Panasonic), were given concentrated attention to get their

production back on line. Other fledgling operations, such as Hayakawa Denki (now known as SHARP), and Tokyo Tsushinki (now known as SONY) were helped as new entries into the industry.

Product assignments were given out, manufacturing quotas were set and delivery schedules established. Progress was closely monitored by continuous plant inspections. Direction and assistance were given on site, and on-the-job training was a requirement at every location. I had no illusions as to the level of product quality we would achieve. Pre-war Japan's commercial products were not examples of high quality. In fact, the legend "Made in Japan" stamped on the bottom of an item was a notice to the buyer not to expect a high degree of reliability. This was also true of Japan's wartime production. For example, Koji Kobayashi, who became Chief Executive Officer of Nippon Denki, wrote an article published in the magazine *Quality Progress* of April 1986, "During the war, NEC manufactured military communications equipment. However, the quality was not good. For example, I remember that the yield of vacuum tubes for aircraft was one percent. We promptly studied the design of experiments and took measures to improve quality, but the prevailing policy was 'one tube today rather than ten tubes tomorrow'.

Quality problems are first and foremost management problems. What better proof of that is needed than Kobayashi's statement? If the leaders of an enterprise do not know and understand that quality is the essence of their business, it is inevitable that they are doomed to failure. And, if they do not know the elements that comprise the system of quality, their fate of failure is sealed.

It is not that this truth was unknown in Japan. In the early 1940s, the Japan Efficiency Association (Nippon Noritsu Kyokai) sought to help companies improve their production engineering and management operations. But, their advice was not taken seriously by either industry or government executives. There was also a Statistical Research Group (Tokeikagaku Kenkyukai) that worked to improve production methods, but it too had little impact. Later on, The Japan Management Association (JMA) and the Japan Union of Scientists and Engineers (JUSE) were formed. They had a beneficial influence in the postwar years.

However, I must say that the folks at JUSE and I did not always agree. I would meet with the members at their Engineers Club from time to time to discuss various technical subjects. One topic that interested them particularly was statistical quality control. They wanted to know more about the works of Walter Shewhart in the United States, and Sir Ronald Fisher and G S Radford in

England. They wanted to delve deeper into the mathematics of statistics. Their interest turned into a desire to make an almost immediate application of the process to Japanese industry. I was delighted to see their enthusiasm, but I discouraged their efforts. The time was not yet ripe. Quality control is not a "band-aid". It cannot make a bad system good. It is not a therapy to be applied to an ill-conceived or poorly managed function. To be effective as a control, the total process to which it is applied must be well designed to begin with. And, what we had at that time in Japan was not yet a sound manufacturing base.

By the middle of 1946, a start had been made in reviving the communications equipment manufacturing industry. But, there was such a great distance yet to go. Production facilities were primitive and unreliable. Working conditions were deplorable. Materials wastage was intolerable - all the more unacceptable because raw materials were hard to come by and their cost was exorbitant. Work spaces were contaminated by dust and dirt. In this environment, upgrading product quality was impossible.

The new managers had to be brought to the realisation that we were now in the process of building for the future. From now on they would be dealing with the demands of mass production and modern technology. That meant they would have to understand the concept of a total system in which every part was important and interrelated. It was essential to know the functional relationship of each part to its adjacent part. The ordinary workers seemed to have a better understanding of this concept than their managers. What the workers lacked in skill was offset by their industriousness and honest effort. There was no slouching on the job on their part. They seemed dedicated to the idea of making a personal contribution to rebuilding their country and their lives. But, they needed managers who were leaders.

With this in mind, I called a meeting of plant managers at my office in the Dai Ichi Building. My office was on the third floor. One of the managers asked on which floor did MacArthur have his office. I told him it was on the sixth floor. "Ah," he said to me, "You are half way to heaven!"

I had the managers gather around a large table in the conference room. I sat at one end with my interpreter. My agenda was to form a consensus from the suggestions they would volunteer as to the major manufacturing problems they recognised that had to be resolved. I began by saying we had made a pretty good start on the production of radio receivers and their components. Nevertheless, I was still disappointed with the level of quality being achieved. The poor yield was causing an unacceptable waste of

valuable materials and worker time and effort. I looked around the table at the men. I asked them to tell me what in their opinion was the reason for the problem, and what action should we take to cure it. My purpose was simply to get them started on some analytical and creative thinking. I wanted to get them out of their old habit of only taking orders from higher authority. I wanted to get them involved in participative management.

At first there was dead silence. They seemed shocked and surprised. No one had ever asked for their opinion on anything before. I put my question to them again. Then, they all got up and moved down to the far end of the table. They began a discussion among themselves. This went on for a while and I became increasingly impatient. I turned to my interpreter and asked him what was it they were talking about. Why couldn't they come up with a quick answer to what I thought was a simple question. He said the men were trying to decide upon a response they hoped would be "most pleasant for me to hear". It didn't matter that their answer might not fit the facts. It was more important to them that I not be disturbed. That was not the answer I wanted, and that was not the relationship I wanted with these men.

That episode made me adopt a couple of firm resolutions. First, I would learn as much as I could about Japanese language, culture and mentality so that, in the future, I could deal with the people in a direct and forthright manner without having to depend upon an interpreter. Second, I would break through the tradition that insulates Japanese executives from personal accountability for what happens in their areas of responsibility. Ceremony and circumlocution would be replaced with positive action. My objective was to get these managers to recognise they had serious operating problems that demanded prompt attention. The list was imposing: workplace cleanliness, scheduled machine maintenance, on-time work flow, effective job training, realistic quality standards, and much more. Each of these items called for careful analysis, timely decisions, corrective action and, above all, management follow-through.

That first meeting was followed by a series of other such meetings. Each attendee had to be prepared to identify an operating problem and suggest its solution. Each one was committed to go back to his own company and hold similar discussion sessions with his people. My idea was simply to get everyone involved in an ongoing process of continuous improvement. I particularly wanted to inculcate these managers with three fundamental concepts. Progressive management demands of each person:

- ◆ **Commitment** to the defined goals and spirit of the

enterprise.

- ◆ A personal sense of Ownership of and in the organisation.
- ◆ Feedback, up, down and across the lines of the organisation, of the information needed to do the job right the first time; of the kind that keeps the sense of commitment and ownership alive and well.

By 1948, the communications industry, the government and the economy generally seemed well on the road to recovery. Radio broadcasts were being transmitted and received regularly. The telephone system was reasonably reliable. Factories were operating on schedule. It seemed appropriate, therefore, that we in CCS could now back off from our day-to-day control. We could enter into what amounted to a second phase of the Occupation. The Japanese people would be more in control of their own lives, and we in SCAP would move more into the background as advisors and observers.

This is not to suggest that all our problems were solved or that there were no disruptions along the way. We continued to monitor the progress companies were making. One instance, for example, involved a small electronics company. I thought it had good potential as a supplier of sophisticated technical products. I assigned it a project to design and build an audio mixing console that would be installed in the broadcast studios of NHK (Nippon Hoso Kyokai), Japan's principle radio outlet. I had not received a progress report for some time, so I decided to visit the company to check it out. What I found when I arrived there made me angry. The work place was dirty, parts were strewn about, the design of the console was only partly done and, at that, it seemed crude. Neither the President of the company nor the Chief Engineer was present. I made no secret of my displeasure. I left the company abruptly and without further ceremony. I returned to my office with the intention of taking the job away from that outfit. But, shortly after I got there, the President and the Chief Engineer, Masaru Ibuka and Akio Morita, rushed in. They were very apologetic. They wanted to know what they could do to rectify the situation. I told them very specifically what I expected of them. Later, when Morita was the President of SONY, he wrote that this incident was a great learning experience for him and his company.

There were other incidents that caused us concern. One grew out of the resurgence of labour unions after SCAP removed the restrictions that previously had been imposed upon them. A deep gulf had developed between factory workers and their supervisors.

A concerted effort was being made by management to improve production efficiency, and reduce the cost of manufacture. On their part, workers felt this new emphasis on 'productivity' was a severe threat to the security of their jobs. They registered their protest by calling for strikes and work stoppages. But, when managers were encouraged to take the time to explain their goal was the achievement of 'quality' and competitive standing in the marketplace, and the workers were stakeholders in the attainment of that goal, those fears were allayed. In fact, protest turned into cooperation.

In carrying out our 'arms length' posture with the communications industry, we in CCS adopted two new concepts. One was product quality certification. The other was management qualification.

My first move was to establish a national electrical testing laboratory. Managers and engineers cooperated with me in drafting and agreeing to uphold performance specifications and test criteria that covered the entire spectrum of communications products. An edict was issued that required all electronic, radio, telephone, telegraph and related equipment to be type-tested and quality certified by this laboratory before being offered to the public. If approved, all production units must then adhere to the same test criteria. To ensure continuing compliance by the manufacturers, tests would subsequently be run from time to time on items taken at random from store shelves. If there were any failures, manufacturers would be required to withdraw all products of that type until a re-certification test was completed.

The rationale behind this was simple. By this time, radio receiver production was meeting our goals. The CI&E program was getting through to the public. The telecommunication system was working with an acceptable degree of reliability. Now, we could go back and make each manager individually responsible for the quality of his product and his function. Manufacturing quantity might suffer. But, the long-term benefit of quality control would make that cost quite acceptable.

The second step taken toward the end of 1949 was aimed at improving and broadening the quality of management. Up to this time, junior level managers had been squeezed into senior level positions. By and large, they had responded admirably to the challenge. They were becoming increasingly effective. Nevertheless, it was obvious there was no depth to the available resource. Moreover, the cultural influence of the feudal environment from which they had emerged was still quite evident. It was clear to us that an intensive management training course was needed.

To get a more precise measure of just what the scope and content of that course should be, a colleague of mine and I made a detailed investigation of six companies typical of all those in the communications industry. What we found was disturbing. In the report written at the conclusion of our survey, we stated, in spite of the progress being made at the factory level, it was clear that "the weaknesses of management at the top level were causing a tide of regression which, if allowed to go unchecked, might well culminate in the collapse of the industry".

We said these top level executives had to come to a management school. CCS would be that school. Charles Protzman, my colleague, and I would be the teachers. We knew there was no textbook available that covered the subjects we had in mind for our students, so we would write the textbook ourselves. Certain rules would apply to our school:

- ◆ We would select the senior executives who would be our students. They would be required to attend. Substitutes would not be permitted. Certain government officials and university professors would also be selected to attend.
- ◆ Classes would meet four days a week for eight consecutive weeks, eight hours a day. There would be homework for our students to do.
- ◆ Each student would be expected to apply each lesson learned to his company as soon as possible.
- ◆ The CCS Seminar lessons would be repeated in each student's company. The students of this first course would be the teachers of the next level of managers.
- ◆ The final examination for each of our students would be the progress made in his company in one year's time.

When our plans for the CCS Seminar became known elsewhere in SCAP headquarters, there was an immediate objection raised. Statements were made that we should not teach the Japanese about progressive management; there was a competitive danger in raising the industry's productivity level too high; we might make it more difficult for American companies to get a commercial foothold in Japan. We were not dissuaded by such arguments. So, the matter was brought to General MacArthur's attention for his final decision.

The spokesman for the opposition and I went to MacArthur's office.

He made his presentation first, pointing out all the reasons why the idea of the CCS Seminar was so bad. Then I got up and spoke for my allotted time - fifteen or twenty minutes. My main point was that strong managerial leadership built upon the base of the country's industrious workers would assure a progressive future for Japan. During all this time, MacArthur sat at his desk, smoking his corncob pipe, saying not a word, never changing the expression on his face. I finished my presentation and sat down, thinking that I had failed to get my story across to him. Suddenly, he got up, and started walking toward the door. He stopped, turned around and glared at me. "Go do it!" he blurted; turned around, and walked out.

The textbook that Protzman and I wrote is entitled *The Fundamentals of Industrial Management*. It is not a philosophical or academic treatise. It lays a practical and pragmatic foundation for progressive management. Protzman's half of the book covers such subjects as manufacturing engineering, cost control, factory layout and inventory management. My half deals with management policy formation, long range strategy and planning, organisational structures, research and product development and quality control. Statistical quality and process control occupied more space in the book and more time in the lectures than any other subject.

The CCS Seminar was presented first in Tokyo during the last quarter of 1949. Senior executives from 24 companies, three government agencies and professors from four universities were chosen to attend. The second presentation was held in Osaka and was completed by the end of January 1950. Twenty-six companies and two universities were represented in this group.

Each subject taught in the Seminar was treated broadly in scope, but also with a very specific focus. For example, the encompassing role of management in providing leadership and direction toward the goals of the enterprise was given particular emphasis. In the area of company policy, students were forced to face -or question, perhaps for the first time in their careers, the fundamental reason for the existence of their companies. I called upon them to recite the basic beliefs, the fundamental purposes and goals of their organisations. Only one, Masaharu Matsushita, could respond. All the others were stunned into silence when they realised they had no answer. They did not know what the basic beliefs of their companies were, or even if they existed in any written form. I gave them, as an example of what I was looking for from them, the classical statement of the Newport News Shipbuilding Company: "We will build good ships here. At a profit if we can; at a loss if we must. But always, good ships." Their first

homework assignment was to start thinking about what was the real purpose of their enterprises.

Figure

The class felt uncomfortable again when the discussion turned to the subject of organisation of the enterprise. They acknowledged that job assignments were generally vague and unwritten. Overlap in functional activities was common and no attempt was made to resolve obvious conflicts. There was some understanding of "shared" responsibility, but not of individual responsibility. Delegation of responsibility, to them, meant divestment of responsibility. It was a novel idea to them that, when a superior delegates a responsibility to a subordinate, the superior retains full accountability for that subordinate's performance. That seemed to them to be quite a foreign idea.

Under the heading of management controls and measurements came the discussion of quality control. I presented a general overview to introduce the subject. My main purpose was to make sure these people understood that quality control was not exclusively or uniquely a mathematical or engineering function. It is not some magic overlay that can produce good results from a poor system design, inadequate prior planning, or faulty production operations. It is an essential factor that managers can and should understand, and something they must recognise in order to deal with it successfully.

Sampling techniques and statistical methods were discussed, but were not overemphasised. Greater importance was attached to the spectrum of factors that together assure the attainment of pre-determined levels of acceptable product performance. **The quality level intended for a product is decided at the very beginning of the process by its inherent design.** That, in turn, defines the character and design of the total production system through which the product will move from innovation, to test and evaluation, to release for manufacture, to materials and methods selection, to delivery and service to the customer. All along the way, and at every point in the cycle, it is the commitment of the people involved in the ongoing process, who are dedicated to meeting the established work standards and the company's goals of customer satisfaction, that makes quality come alive. All along the way, also, there must be checkpoints set up at critical junctures to provide measurements to assure that quality standards are, indeed, being met, or, if there is an unacceptable variation from the established norm, so that corrective action of the right kind can be taken

promptly. It comes down to this: Quality is much more than statistics. It is the hallmark of the worthiness of a company and its management. Management may delegate to statisticians and engineers the responsibility for implementing the quality control function, but it is management that retains full accountability for the success of the function.

That this course succeeded in meeting the objectives that Protzman and I had set for it was borne out by three factors. First, our students demonstrated their appreciation for what we had done. They were enthusiastic about following up with practical applications of what they had learned in their own companies. Second, we began to receive reports of some improvements in operations where applications had been made. And third, the Federation of Communications Industrial Associations, which had provided us with a Working Committee to help organise the Seminar, committed itself to continue and repeat the CCS Seminar for companies that had not attended the first presentations, and for companies in other industries. In fact, the course was continued for some twenty-five years under the sponsorship of several industry associations. And, the textbook that Protzman and I wrote is still in print.

Our follow-on plan was to continue after the CCS Seminar with a series of shorter, more detailed courses aimed at middle and plant level managers. The topics to be covered included industrial engineering, manufacturing cost control, product development transition, and statistical quality control. The first of these was presented in Tokyo in the spring of 1950. However, our plan was suddenly interrupted when South Korea was invaded by forces that came down from the north. The focus of our attention in SCAP immediately shifted to that direction.

Nevertheless, it was important that we not lose the momentum toward success that had been building over the past several years. At least, I wanted our work in quality control to carry on even if we could not continue it ourselves. I tried to get Walter Shewhart to come to Japan to be the teacher. But, he was ill at the time, and was not available. We thought of others who might take over. We finally decided Dr W Edwards Deming should be invited. He was a statistician and an early student of Shewhart who is deservedly known as the "Father of Quality Control". Deming came and was very well received. His contributions to the improvement of quality management made a lasting impression upon the Japanese industrial scene.

There is no doubt that Japan has gained from what was learned from the Americans, even as the Americans have learned from the

British since the time of the Industrial Revolution. The Japanese were good students, smart and intelligent. They were good workers, conscientious and dedicated to a purpose. Since the end of the Occupation, Japan has moved to a position of world prominence in such industries as home entertainment electronics, semiconductor fabrication, and automobiles. Its productivity and creativity have given it the lead in a variety of consumer products. Now, for example, when it comes to automobiles, the word for quality is no longer Ford, Chrysler or General Motors. It is Honda, Toyota or Nissan.

Some time ago, Japan set for itself a long-range goal to merit world-wide acceptance for its products. Those items would be judged not as the fruit of cheap labour or poor imitations of someone else's work. Rather, they would command respect as being distinctive in design and dependability. The statement "Made in Japan" would no longer be an embarrassment. It now would be a guarantee of quality, because quality is now a matter of national pride.

There are lessons to be learned from this history. Change from the status quo to meet new challenges is possible and rewarding. Given the vision of leadership, and motivated by a sincere determination to succeed, goals can be achieved. Japan has shown that all it takes is good common sense management.