

Post-War Japan The Birth of an Industrial Power

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Historically, the deterioration of every government (or enterprise) begins with the decay of the principles upon which it was founded.

Japan has existed as an identifiable national entity for some two thousand six hundred years. It has been an industrialized nation for less than ninety years. During the first forty-five of those years, its industrial capability was used in major part for the preparation for, or for the prosecution of, war.

Prior to the Meiji Restoration in 1868, Japan existed mainly in insular isolation, torn by clan rivalries and civil wars, fending off any foreign influence or threatening intrusion. But, as the emerging central government entered the twentieth century, its attention and interests turned outward. It looked to China, then Manchuria and Korea as sources of food, raw materials and cheap labor. Its samurai became the foundation of its military and naval forces that were used to capture and occupy important sites on the Asian mainland.

The need in the 1930s for a greater supply of iron ore and other minerals and oil turned the Imperial General Staff's attention south toward Indonesia, Thailand and Malaysia. The Greater East Asia Co-Prosperity Sphere was concocted as a device to monopolize those sources for the benefit of Japanese industry. But, a problem was emerging. The United States and Great Britain objected to Japan's military expansion. Further, the United States objected to the posture assumed by Japan as the dominant force in control of the northwestern and western Pacific Ocean areas.

The Japanese government resented what it considered this unwarranted interference with its rightful ambitions. Accordingly, orders went out to Admiral Yamamoto, Commander-in-Chief of the Imperial Combined Fleet, to attack Pearl Harbor and wipe out the United States Pacific Fleet. The idea was, with its naval force destroyed, the United States would be removed as an obstacle. At the same time, Great Britain would be dissuaded from interfering.

Yamamoto devoted himself to planning the operation, and he executed it as ordered with amazing success. Nevertheless, he was opposed in going to war with Great Britain and the United States. In an interview in 1940, he said: "In the first six months of a war with the United

States and Great Britain I will run wild and win victory upon victory. But then, if the war continues after that, I have no expectation of success.”¹ He knew from his personal travels previously to England and America that Japan was no match for the technological and industrial capabilities of the western nations.

So, the war with Japan started on December 7, 1941. It ended on September 2, 1945 when her aspiration to be a world-class economic and industrial power was brought to a halt. Her government and military surrendered unconditionally to the Allied Forces. And, the Allied occupation of Japan began.

General Douglas MacArthur was the man in charge of the Occupation. He was the grand strategist who won the war in the Pacific. Now, President Truman gave him new orders: pacify the enemy and put the homeland under military control. Along with that job, MacArthur was given the title of “Supreme Commander for the Allied Powers” (SCAP). His General Headquarters (GHQ) was the *de facto* government of Japan.

MacArthur was a purposeful leader. He had a clear and unwavering vision of his mission. He set the goals that were to be achieved. He organized the resources that were available to him. He set the management pattern that would ensure a high probability of success for his mission., He was the commander; he was in charge; he expected to be followed. He never suffered any doubts about Mirabeau’s caution: “It is always a great mistake to command when you are not sure that you will be obeyed.”

The occupation of Japan contrasted sharply with the situation in post-war Germany. There was no central leadership there among the American, British, French and Russian forces. There was no “SCAP.” In fact, there seemed to be more isolation than cooperation among the Allies. Each operated in its own enclave, pursued its own interests and policies, and bickered with the others. The Germans took advantage of the situation. And, that confusion remained unresolved for the next forty years.

There was considerable confusion in Washington when the Japanese surrendered. What was to be done now? There was a strong sentiment among some in the American government that “the enemy must be occupied for twenty generations.” When the Occupation began, many people on the scene, myself included, thought it would take at least that long to create a viable country out of the shambles that had once been a significant power. But, a decision was finally made that Japan was to be rebuilt and reestablished as an independent and democratic nation. As events actually turned out, the Occupation lasted, not twenty generations, but only six years and seven months.

I remember vividly the appearance of the country when I arrived in Tokyo shortly after the surrender. There was utter devastation everywhere. In the area between Yokohama and Tokyo, for example, a distance of about thirty-five miles, there were no buildings standing. This area had been the country’s primary industrial and manufacturing center. It had been the working and living place for some one million people. It had been a complex of factories, mills, warehouses,

¹ *Yamamoto: The Man Who Planned Pearl Harbor*, Edwin P. Hoyt, Magraw Hill Publishing Company, 1990.

offices, stores, homes and dormitories. Now, it was merely miles and miles of charred rubble and ruins. The area had been saturated by the American Air Force with explosive and incendiary bombs. Production facilities were wiped out. Human casualties had been substantial. Other industrial sites around the country — Osaka, Kobe, Nagoya and others — suffered the same fate.

The nation and its economy were essentially at a standstill. There was virtually no manufacturing of any kind going on. There were no factories, tools or production equipment available, and practically no raw materials to work with. Trade, such as it was, was done on a barter basis. The currency in use was such personal possessions as the people had managed to salvage or save.

It was difficult to move about in the streets. Debris was piled high and roadways were blocked. Pavements were torn up. The only motor vehicles that had fuel with which to operate were those of the American army. The Japanese had to make do with bicycles or ox-carts for their transportation.

The labor force was completely disorganized. Many of the men who had been in military service were still in camps in rural areas waiting to be processed out into civilian life. Others were hiding out in the hills fearful of their fate if the Americans should find them.

There was no public transportation system. There were no newspapers. The telephone system did not work. Electric power service went on and off sporadically throughout the day every day. Food was hard to get, and in some areas people were actually starving.

All aspects of normal life were disrupted. The people were desperate. The Japanese said at the time they were in such a sad state of affairs, they would even have “asked their cats for help.”

Nevertheless, few of the American soldiers felt any sympathy. These people were the hated enemy. The infamy of Pearl Harbor was still a painful sore. The Bataan Death March and the barbarous treatment the Japanese had given American, British and Australian prisoners-of-war were still fresh in their memories. It was too soon to forgive and forget.

Further, the Americans had no experience with or understanding of the Japanese language, culture or mentality. They were not motivated to change that condition. Rather, there was a greater preoccupation with the expectation of a civil uprising, guerilla attacks from the hills, or some other form of resistance or reprisal. It was well known that the Japanese had been primed to defend their islands against the planned invasion with fanatical zeal. There were some fifty-seven army divisions arrayed to oppose the Allies. So, in the beginning, tension among the military and civilians in SCAP ran high, and weapons were kept close at hand to deal with any troublemakers. However, in all the time of the Occupation, there was never a cause for alarm. There was never a serious breach of the peace.

The rationale, for the Japanese, was simple. MacArthur was the conquering general. Their own “all powerful” generals, who had promised Japan would never be bombed, would never have a “foreign devil” step upon its shore, were now defeated and disgraced. Obviously, MacArthur was the one who was all powerful, maybe as much or more so than Emperor Hirohito. He looked and acted like an emperor. He had to be honored. In fact, at MacArthur’s direction, Hirohito announced to his people that they must obey the Occupation authorities.

There were other factors that were coming into play as the Occupation took hold. The Americans established military government teams throughout the country to maintain local control. Army rations that had been stockpiled in anticipation of the invasion, were distributed to feed the Japanese. These were supplemented, at MacArthur's insistence, by additional food shipments from the United States. Farmers were helped to get their fields back into production. People in the cities were put to work to clean up the rubble, repair and open up the streets, salvage building materials, and start up public transportation facilities. Water distribution was organized, and electric generating stations were put back into operation. Progress was being made to restore some semblance of public life, and the people's despair slowly changed to a hope for a better future.

This was the environment in which SCAP began the Occupation. Its policy objectives were quite simple: (1) Eliminate Japan's threat to world peace and security; and 2) Establish a way of life for the people under the precepts, principles and institutions of democracy.

The first objective could be attained fairly readily. The second one presented considerably greater problems. After all, this nation had twenty six centuries of history. It was a feudal society whose culture, customs and rituals were cemented in that history. The people were dedicated to a "divinely ordained" monarchy. They were accustomed to being subservient to warlords, industrial cartels and the "thought police." Democracy was a foreign concept to them. There was no word in the Japanese language that could convey the meaning of "democracy" as it was understood in western civilizations.

Clearly, this had to be an American operation from the outset.

SCAP had to be fully involved in the day-to-day running of the country. The people who staffed the SCAP organization could not be roadside observers or consultants. They had to be active performers; leaders; managers. For example, a new constitution had to be written for the country. A commission of the Japanese parliament was given the job to draft the document. Two attempts were made. Both were failures. There had been endless discussions, but no agreements. SCAP's Government Section took over the task. It wrote the constitution that is still in effect and unchanged to this day.

SCAP's General Headquarters was organized into several Sections. Each one encompassed a segment of national function or responsibility. One such division was the Civil Communications Section (CCS). It was responsible for all Japanese communications affairs: telephone, telegraph, radio broadcasting, frequency allocation, and other wired and wireless services and related matters. I was a member of this Section and chief of its Industry Branch.

The scope of this branch covered all aspects of product development and design, manufacturing engineering, production operations and distribution of radio, telephone, telegraph and related products, equipment and services. Fundamental to this was the control, supervision and management of the companies which made up the communications equipment manufacturing industry.

My task was to get the industry up and going so that:

1. The communications needs of the Occupation Forces, telephone and radio, could be supplied from Japanese sources.
2. Radio broadcast receivers could be distributed to the Japanese people to support SCAP's Civil Information and Education (CI&E) Program.
3. The communications equipment manufacturing industry would be a major contributor to the revival of the Japanese economy.

Priority was placed on getting radio receivers into the hands of the people. Accomplishing that objective would go a long way toward achieving the other two goals. The rationale was, there was enmity and fear on both sides, among the Japanese and the Americans. A war had been fought, and now it was over. But, there was no certainty yet that peace had been secured. Neither side knew what to expect from the other. The solution to the dilemma was to get the two sides in touch with each other. This was the purpose of the Civil Information and Education Program, There would be broadcasts that would let the people know what was going on in the Occupation, what to expect from the Americans, and what their part in the process would be.

Getting receivers produced in quantity was the major problem. We could use Army transmitters to start with to broadcast the CI&E messages. But, we would literally have to start from the ground up to get the receivers. Sites would have to be cleared of rubble so that buildings could be put up as work places. Production tools and machines that had been damaged or deployed to the countryside to escape the bombings had to be repaired or refurbished, returned and installed. Workers had to be located and assigned to jobs. Factories had to be set up to make radio tubes; to manufacture components such as capacitors, resistors, and transformers; and to assemble chassis. Equipment was needed to test radio circuits, cabinets had to be built to house the chassis, and copper wire and all kinds of other materials and supplies had to be located. All of this had to be scraped together primarily from within Japan. Little could be expected to be imported from external sources.

There was another major stumbling block to be overcome in getting the industry going again. One of the first social and economic reform directives issued by SCAP headquarters had been the dissolution of the *zaibatsu*, the cartels that for decades, along with the military, had controlled Japan's existence. Organizations such as Mitsubishi, Sumitomo and Mitsui, that had previously dominated all elements of industry, were now dismantled. Their senior executives and managers who had been parties to the wartime ventures were removed from positions of authority. This left a void at the top of the companies we in CCS had to work with in order to get the industry re-started.

Under the circumstances, we did what had to be done. We filled the empty slots with men drawn from the middle management ranks. For the most part, they were inexperienced as leaders and ineffectual as decision makers. They were more accustomed to following orders than to giving managerial direction to subordinates. They were not planners of business strategy, nor did they have a broad perspective of business policy. Their function largely had been to serve as conduits of messages between their superiors and the lower levels of the work force. Not only did they lack self-confidence, they were confused, uncertain and uncomfortable in the new positions into

which they had been force-fit. Almost on a day-by-day basis, they had to be told what to do and how to manage. That is what we in CCS did.

Companies that previously had a manufacturing history, such as Nippon Denki (NEC), Fuji Tsushinki (Fujitsu), Hitachi, Furukawa, and Matsushita Denki (Panasonic), were chosen for revival. Other fledgling operations, such as Hayakawa Denki (now known as Sharp) and Tokyo Tsushin KK (now known as Sony), were chosen for organization and development as new entries into the industry.

Product assignments were given out along with manufacturing quotas and delivery schedules. Assistance was provided in setting up work places and gathering production necessities. Materials were scrounged up from anywhere in the countryside they could be found. And, a start was made.

I had no illusions as to the level of product quality we would get. Pre-war Japan had a national reputation as a maker of shoddy products. The legend “Made in Japan” stamped on the bottom of an item was a clear notice to the buyer not to expect high quality or long-term usability. The article was most likely to be an inferior copy or imitation of an American or European original. In fact, in an attempt to counteract the low esteem Japanese products had in the west, and to try to bolster its export trade prior to World War II, the government resorted to a strange ruse. It renamed a small island off the coast of Japan “Usa”. Its export products were then stamped “Made in USA.”

Japan’s quality problem was much more fundamental and systemic. By 1941, although the military and *zaibatsu* had been preparing for war for the preceding ten years, Japan was not yet a fully industrialized nation. The “Japanese Style of Management,” which today is so highly regarded, was then an outstanding example of inefficiency and immaturity. There was no real understanding at the top levels of either government or business of the methodologies of mass production; its organization, unique requirements and discipline. As a consequence, quantity output of uniform reliability could not be achieved.

Complicating the problem was, in some cases, a complete lack of up-to-date manufacturing technology. In other cases, some critical element of a manufacturing process was missing. As a result, the entire system was bottlenecked.

The government belatedly acknowledged these deficiencies. It sent technical delegations out to Europe and America to get readings on the latest technologies in use, and to acquire tools and machinery to upgrade its arms production. As it turned out, much of these imports remained unused throughout the war. They could not be merged into existing manufacturing systems; they could not be adapted for the products being made; and workers could not be trained to operate them efficiently.

An efficient mass production system requires workers of a high caliber of technical skill and proficiency. These were not the characteristics of the typical Japanese worker of that time. To the individual, the tradition of craftsmanship was of greater importance. “Workers preferred the free pace of manual work to the machine-oriented pace of the mass production line; preferred empirical inspections by sight, sound, touch, smell, and taste to scientific inspections by exact

measurement. At bottom, they couldn't understand the true meaning of standardization nor of the specification of work."²

The failure of Japanese management to organize its operations for the efficiency of mass production, and to train workers at all levels in the methodologies of modern manufacturing was undoubtedly a major factor in Japan's loss of the war in the Pacific. This is what Admiral Yamamoto had anticipated. This is what we in CCS understood. It was our starting point.

After the rubble had been cleared away and shacks put up to house the workers, refurbished machines and tools were logically arranged for production. Workers were trained for specified Jobs. Foremen were trained to supervise and guide their people. Operations began. Reasonable progress was then being made. The new managers understood fairly well what had to be done, and what was expected of them. They were generally responsive to the directions given by us in CCS. Factories began to take shape.

Getting parts and materials needed for production was the more immediate problem. Some materials that were otherwise unavailable were imported from the United States. But, for the most part, the Japanese had to depend upon their own sources. Sometimes they demonstrated unusual ingenuity. For example, copper wire was in very short supply. We could not get enough from the United States to meet our manufacturing schedules. The Japanese devised a plan to relieve the shortage, at least for a while. They dug up a twenty mile long submarine telephone cable from the bottom of the Sea of Japan. The copper in that cable took care of a lot of radio receivers.

So, a start was made, but there was such a great distance yet to go. Production facilities were primitive and unreliable. Working conditions were deplorable. Materials wastage was intolerable. Work surfaces were contaminated with dust and dirt. Product quality was unacceptable. For example, the initial output of vacuum tubes (valves) for use in radio receivers and in the telephone system was not much better than the 1% yield these companies typically had obtained during their wartime production. The management attitude expressed at that earlier time had been: "One tube today rather than ten tubes tomorrow."³

It was this kind of thinking that now had to be changed. The new managers had to be brought to the realization that we were now building for the future. The ordinary workers seemed to have a better understanding of this. What they lacked in skill was offset by their industriousness and their honest effort. There was no slouching on the job. They seemed dedicated to the idea of making a personal contribution to the rebuilding of their country and their lives. But, they needed leadership.

With this in mind, toward the end of 1946 I called a meeting of plant managers in my office at SCAP headquarters. We gathered around a large conference table. The agenda was to arrive at a consensus on the important manufacturing problems that had to be resolved. I began by pointing out that we had a pretty good start on the production of radio receivers and components. But, I

2 "Production Management in Japan Before the Period of High Economic Growth," Tetsuro Nakaoka, 1981.

3 "Quality Management at NEC Corporation", Koji Kobayashi, *Quality Progress*, April 1986.

was still disappointed with the level of quality and yield being achieved. I looked around the table and asked the men to identify the principal cause of the problem and to suggest a cure. My purpose was simply to get each one of them involved in the process of analysis and creative thinking. My aim was to foster the idea of participative management; to get them out of their old habit of only taking orders from higher authority.

At first there was dead silence. They seemed shocked and surprised. They never before had been asked for their opinions or suggestions. I put my question to them again. Then they gathered at the end of the table and began talking among themselves. This went on for a while and I became impatient. I asked my interpreter who was at my side what they were talking about. Why could they not come up with a quick answer to what I thought was a rather simple question. He said that the men were trying to decide upon a response that they hoped would be “most pleasant for me to hear” — whether or not it actually fit the facts.

That experience made me adopt a couple of firm resolutions. First, I would learn as much as I could about the 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 go through an interpreter as I had been doing up to then. Second, I would do all that I could to break through the tradition that insulates the Japanese executive from personal accountability for what happens in his area of responsibility. Ceremony and circumlocution would be replaced with direct action based on performance measurements. My objective was to get these managers to recognize that they had serious operating problems, such as cleanliness of the workplace, machine maintenance, work organization, job training, inspection standards, and many others. But, each one of these was amenable to identification and resolution. What was called for was careful analysis, timely decision, corrective action, and management follow-through.

That first meeting was followed by a series of other such meetings. Each attendee was required to go back to his own company and hold similar meetings with his people. The idea was simply to get everyone involved in an on-going process of production improvement. I particularly wanted to inculcate them with three concepts that in my opinion are fundamental to increasing productivity. Briefly stated, these are:

- *Commitment* to the defined goals and spirit of the organization.
- A personal sense of *ownership* of and in the organization on the part of each one who can contribute to its success.
- *Feedback* up and down the lines of the organization of the information needed to do the job right; of the kind that keeps the commitment and sense of ownership alive and well.

By the beginning of 1948, the communications industry, the government and the economy generally seemed to be more viable and self-sustaining. Radio receivers were the first domestic appliance to reach the market in quantity. Programs were being broadcast on a regular basis from Japanese facilities. Telephone and telegraph systems were operating with a reasonable degree of reliability. It was appropriate, therefore, that we relinquish our day-to-day control and involvement and enter into what amounted to the second phase of the Occupation. The Japanese

could take charge of a larger share of their own operations. We in SCAP could then move more into the background as guides and observers.

This is not to suggest that all of our problems were now over, or that there were no disruptions along the way. We continued actively to monitor the progress being made. We also had to deal with other matters. One that caused great concern grew out of SCAP's reform of the labor movement. Unions had been insignificant and government-dominated in pre-war Japan. When the Occupation began, all restrictions that previously had been imposed were removed.

Almost immediately, union membership soared. At the same time, directives were issued guaranteeing civil liberties, and the release of political prisoners from jail. In this new climate, the Communist Party of Japan was free to operate openly for the first time since 1927. The Soviet liaison group that was accredited to SCAP took immediate advantage of the situation. Its agents set out to penetrate and control the unions and the Party. They began a concerted program of propaganda, sabotage and violence that finally culminated in a nationwide work stoppage.

I was visiting the main plant of the Nippon Electric Company (NEC) on the day this strike erupted. Workers suddenly locked the plant gates. They herded foremen, supervisors and managers into the yard. They took over control of the facility. I was with the company president in his office when a howling mob broke in. They intended to take him prisoner, march him down to the yard, and humiliate him in front of the others there. Mr. Watanabe was frozen into inaction. He was completely befuddled. He was incapable of handling the situation. He had never experienced such a confrontation before. Fortunately, the telephone system was working that day. I put a call through to a nearby Army installation, and soon a company of U.S. soldiers had matters back under control.

Events such as this that also occurred elsewhere in the country that day caused MacArthur to reassess his policy. The freedom of labor unions was preserved, but the excesses of the Communist Party would not be tolerated. This restraint was tightened considerably when the Korean War broke out two years later.

In carrying out our "arms length" posture with the communications industry in the second phase of the Occupation, we in CCS adopted two new concepts. One was product quality certification. The other was management qualification through a formal program of education and training.

My first move was to establish a national Electrical Testing Laboratory. Industry managers and engineers cooperated with me in writing and agreeing to uphold performance specifications and test criteria that covered the entire spectrum of communications products. An edict was issued to the effect that all electronic, radio, telephone, telegraph and related equipment offered for sale must first be type-tested and qualified by this laboratory. If approved, all production units must adhere to the same test criteria. To ensure compliance by manufacturers, subsequent tests would be run unannounced from time to time on items taken at random from store shelves. Manufacturers would be required to remove from the marketplace all products of the type that failed the test. Substandard products were not acceptable.

The rationale behind this policy was simply that, by this time, we were meeting our receiver production goals. The CI&E program was getting through to the people. The communications

systems were operating with a reasonable degree of reliability. Now, we could go back and make managers individually responsible for the quality of their products. Manufacturing quantity output might suffer. But, the long-term benefit of quality output would make that an acceptable cost.

(Incidentally, this same qualification testing is being applied today, not only to domestic production, but also to foreign products proposed for importation into Japan. Failure of such items to pass the quality tests is one reason for their exclusion.)

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 jobs. By and large, they had responded admirably to the challenge. They were becoming increasingly effective. Nevertheless, it was obvious that there was no real depth in the management ranks. Moreover, the constraints of their feudal past were still evident. We decided, therefore, to send these new “executives” to management school. CCS would be that school. A colleague of mine, Charles Protzman, and I would be the teachers. We would write the textbook for the course which would be conducted at a university level.

Certain rules would apply to the students:

1. The senior managers selected were required to attend. Certain government officials and university professors were chosen as well as people from major companies.
2. No substitutes were permitted.
3. Classes would meet four days a week for eight consecutive weeks, eight hours a day; and there would be homework assignments to do.
4. The lessons learned were to be put into practice as quickly as possible in each company.
5. Sessions such as this management course, which came to be known as the CCS Seminar, were to be held in each company.
6. There would be a final examination. It would be each company’s next annual report of operating results.

Our textbook was entitled *The Fundamentals of Industrial Management*. It was intended to lay a conceptual foundation for progressive management, but it was not to be a philosophical treatise. Rather, it was to be pragmatic and applicable. Protzman’s half of the book covered such subjects as manufacturing engineering, cost control, factory layout, inventory controls; my half dealt with management policy formation, organization structures, product development and quality control. This latter subject occupied more space in the book and more time in the lectures than any other.

Each subject was treated broadly in scope, but each was also specific in focus. For example, in the area of company policy the “students” were forced to confront, perhaps for the first time in

their careers, the fundamental reason for the existence of their companies. They were asked to recite the basic beliefs and goals of their organizations. When they suddenly came to the realization that they did not know them, and did not even know if they existed in any stated form, they were stunned into silence.

They were made uncomfortable again when the discussion turned to the subject of the organization of the enterprise. They had some acquaintance with the concepts of assigned responsibility and delegation. But, their understanding of delegation equated more with divestment rather than accountability. It was a novel idea to them that after a delegation of responsibility to a subordinate, the superior still retained accountability for that subordinate's performance. This concept did not comport with Japanese tradition.

Under the heading of management controls and measurements came the subject of quality control. It was a subject about which I had had some controversy with some Tokyo University professors and others of the Japan Union of Scientists and Engineers (JUSE) a year or so previously. They had been able to get some publications from the United States on the topic of statistical quality control. They studied the literature avidly and came to the conclusion that the Americans had won the war, not because of their military might or strategy, but rather because of the superior quality of their production processes. This was attributable to the statistical techniques of quality control. They reasoned that, if they could now "latch on" to those scientific techniques, Japan would then "regain its rightful place in the sun."

Their thinking was off-base for two reasons. First, quality is not a single or simple thing. It is not an immutable phenomenon. It certainly is not an exercise in mathematical philosophy. It is not a magical overlay that somehow produces good results despite poor design, inadequate planning or faulty production. Secondly, at that time, the important thing to me was to get the industry's manufacturing operations organized and working. Even though efficiencies were at a low level, I did not want the attention of the managers diverted from what was then the priority issue. I discouraged the professors' "research" as being premature. Their opportunity would come at a later time.

In our treatment of quality control in the CCS Seminar, sampling techniques and statistical methods were covered but were not unduly emphasized. Rather, greater importance was attached to the spectrum of factors that together assure the attainment of pre-established levels of acceptable performance. The intended quality of a product begins with its inherent design. It defines the character of the production process through which it moves, from innovation, to test and evaluation, to release for manufacture, to materials and methods selection, to delivery and service. All along the way, and at every point in the cycle., it is the commitment of people dedicated to meeting the established standards of company goals and customer satisfaction that makes quality come alive. All along the way also checkpoints must be set up at critical junctures to provide quality measurements and assurance so that, as indicated:, management can take appropriate and timely action. Quality is much more than statistics. It is the hallmark of the worthiness of a company and its management.

The CCS Seminar was given first in Tokyo, and then early in 1950 it was repeated in Osaka. It was later taken over by the Japan Management Association and was continued for all of industry for about twenty-five years. The course textbook is still in print.

The follow-on plan was to continue after the CCS Seminar with a series of shorter, more detailed courses aimed at middle and plant levels of management. The topics to be covered would include engineering project management, manufacturing cost control, industrial engineering, and statistical quality control. This plan was interrupted, however, on June 25, 1950 when South Korea was invaded by forces from the north. From that time on, the Korean War occupied the major part of SCAP's attention.

Nevertheless, we were able to implement one portion of our plan. Dr. W. Edwards Deming, a statistician and an early student of Dr. Walter Shewhart — who is acknowledged as the “Father of Quality Control” — was invited to come to Japan from the United States to lecture on what has become popularized as Total Quality Management. His sessions were well attended and notably successful.

At this same time, Japan became a staging area for the movement and resupply of troops and materiel being shipped between the United States and Korea. It was also pressed into service as an intermediate industrial resource for the repair, refurbishing and replacement of armament returned from Korea. The U.S. Army set Mitsubishi and other companies up with the latest in production technology to handle its Korean War requirements. These facilities later, in the 1950s and 1960s, became mainstays in Japan's domestic production system.

There is no doubt that the Japanese gained substantially from what they learned from the Americans. In the decades that have passed since the end of the Occupation, they have moved to world prominence in such industries as home entertainment electronics, semiconductor fabrication, automobiles, and shipbuilding. Their innovation in the welding of large steel plates has given them what amounts to a world monopoly in the building of supertankers. Their productivity and creativity have given them the lead in a variety of consumer products. And, in automobiles, the word for quality is no longer Ford, or Chrysler, or General Motors. It is Honda, and Toyota, and Nissan.

So, the secret of Japan's rebirth as an industrial power comes down to this: (1) Japanese managers have made the most of the lessons they learned from the Americans; (2) They have successfully merged modern management methodologies with their historical cultural patterns; and (3) The Ministry of International Trade and Industry (MITI) and the Ministry of Finance have been of great help in securing for Japan world-wide competitive advantage.

Under the aegis of the Ministry of Finance, the *keiretsu* have taken over where the *zaibatsu* were forced to leave off. Whereas the *zaibatsu* were essentially vertically structured industrial monopolies, the *keiretsu* are more broadly grouped complexes of companies. They, their subsidiaries and their affiliates are tied together with intertwined stock ownerships and interlocking directorates. These are all clustered around large commercial banks that serve as channels for government loans and subsidies. The major groups have names that are easily recognized from the past, i.e., Mitsui, Mitsubishi, Sumitomo, and also Fuji Bank, Daiichi-Kangyo, Sanwa, and Tokai.⁴ The principal strength of the *keiretsu* lies in the combination within

⁴ “From Zaibatsu to Keiretsus: Japan's Industrial Groupings Are Not Exclusive Cartels,” Yoshi Tsurumi, *Pacific Basin Quarterly*, 1990.

one large entity of the assets of financial support, up-to-date manufacturing capability and marketing resources with which to secure a dominant position in a chosen field.

The policy leadership formulated by the Ministry of International Trade and Industry must also be acknowledged as being instrumental in Japan's post-war achievements as an industrial power. It has become the operative center for strategic planning on a grand scale. It has an eye cast toward the distant horizon to try to understand and evaluate future trends in science, technology, and the marketplace. It encourages, supports and subsidizes the research and innovation of companies that will lead to their gaining an early foothold in product areas of defined emerging importance. Market share is more important than near-term profitability as a measure of operating success.

A case in point is MITI's ten-year, multi-million dollar program aimed at making Japan first in the race to design and produce the "Fifth Generation" computer. The interest is not to build a bigger or faster number cruncher. The plan is to leapfrog over the rest of the world while others argue whether machines can think, or whether artificial intelligence can be invented. The underlying theme here is: knowledge is power. Computers can be amplifiers of knowledge. The goal, therefore, is to control the knowledge machine. If this program succeeds, Japan will get considerable leverage, and power, over all kinds of industries at home and abroad.

But, programs such as this are not all that motivate MITI. Equally important as a long range goal is world-wide acceptance of Japanese products, not as the fruit of cheap labor or of imitators, but rather as exponents of superior quality, dependability and ingenious design. The statement "Made in Japan" will no longer be tolerated as an embarrassment. It will henceforth be a guarantee of quality, because quality in Japan is a matter of national pride.