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LARGE-SCALE ORGANIZATIONAL CHANGE AND THE
QUALITY REVOLUTION: COMPARATIVE GURUS -
CROSBY VERSUS ISHIKAWA

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**Large-scale Organizational Change and the Quality
Revolution: Comparative Gurus -Crosby versus Ishikawa***

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This paper uses the large-scale organizational change associated with dramatic upgrading of quality performance to shed light on two analytic issues important to students of organizational change. The first is the basic question of why organizations change. Paul Lawrence in his paper for this volume points out that change specialists focus too much on the questions of how and what to change, without pursuing the prior question of why organizations change. Secondly, I will be concerned with how organizational transformations occur. In particular, I focus on the question raised by Jay Gailbraith in his paper (drawing from Robert Quinn) of whether large-scale change occurs through a process of implementing a well-laid plan or through a process of logical incrementalism. In the latter model, the organization responds to unanticipated consequences moving incrementally and opportunistically as events unfold. Outcomes are a function of the relationships between planned and unplanned events.

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Sustained quality improvement has come to be identified in the last decade as one of the key competitive challenges facing American industry. It is a challenge that has come primarily from Japan, a nation that long held the reputation of producer of shoddy goods. As Joseph Juran, the well-known quality specialist and long term observer of Japan notes, Japan's new reputation as quality producer is the most spectacular quality success story of our time and deserves careful study by all students of national quality control efforts (Juran et.al.1974:48-6).

Quality Leaders

In my treatment of this subject, I have chosen to examine national experiences through the teaching of leading quality specialists in Japan and the United States and how these teachings interact with corporate activities. Some readers will focus on the correctness and falseness of the respective teachings. The intent, however, is not to focus on the teachings of the quality gurus per se but to reflect on the national "seed bed" out of which such ideas developed and on the receptivity that management in each country has shown to particular ideas and what that says about management cultures with regard to organizational change in the two nations!

Closely associated with the rise to quality success in Japan is the name of Kaoru Ishikawa, former Tokyo University Professor of Engineering and among the founders of the Japanese Union of Scientists and Engineers (JUSE) in 1949. JUSE was the major

organizational instrument for diffusing quality improvement activities among Japanese firms. It played an active role in synthesizing best practices and Prof. Ishikawa came to serve as its president. To follow Prof. Ishikawa's ideas is to get a pretty good idea of the emergent Japanese views on the organizational changes involved in achieving sustained quality improvement. To be sure, there are divergent views among Japanese experts, though there has emerged over time a strong consensus about what is involved in quality improvement. One nevertheless must be careful; there is the same tendency in Japan to rewrite history to make the whole process appear more orderly (and therefore more planned) than it was.

I rely heavily on Ishikawa's recently translated book, What is Quality Control to capture his views and to a lesser extent on Keiei to Hinshitsu Kanri (Management and Quality Control), a JUSE publication written by Sugimoto Tatsuo and directed at corporate managers. One last caveat: to say that Ishikawa's views are representative and that he provided leadership is not to say that he was a prime mover in bringing about the organizational transformations associated with the quality revolution in Japan. There were many leaders, though certainly Dr. Ishikawa was among the most prominent. Some Americans would claim that W. Edwards Deming was the prime mover in bringing about the quality revolution in Japan. Such views popularized by journalists and TV producers bear little resemblance to reality.

In the U.S., there is no clear leader who can speak for the quality movement. The names most commonly listed among the "gurus" of quality are Joseph Juran, W. Edwards Deming, Philip Crosby and Armand Feigenbaum. I focus on Crosby because he represents the clearest contrast with Ishikawa. He is less influenced by the Japanese experience than the others. Consequently, he represents a purer American approach though he is by no means representative of all American thinking on the subject. Nevertheless, as former president of the American Society for Quality Control, Vice President and Director of Quality for the ITT Corporation for 14 years, and Quality Manager of Martin Marietta, Orlando for eight years prior to that, he has been a highly visible figure on the quality scene. As originator of the concept of zero defects at Martin Marietta and author of the best seller Quality is Free and Quality Without Tears, Crosby has achieved a considerable reputation. He founded Philip Crosby Associates (PCA) in 1979; General Motors bought a 10% share in 1986 and is one of a number of major corporate clients.¹ These include major firms noted for their quality reputation, such as IBM, as well as those who have suffered in the past from a reputation for poor quality such as Westinghouse Corporation.

Featured prominently in Crosby promotional literature is the

1. As of Dec. 1986, General Motors alone had sent 4,000 employees, mostly executives to the GM Quality Institute, an Institute licensed to teach Crosby materials. In addition, many other GM executives experienced the Crosby program at his Winter Park, Florida facility.

decision of the Japanese Management Association to license his materials for use in Japan. The clear message to executives is that this is one firm in which American ideas dominate and indeed it is the Japanese who are learning from our "born-in-America" materials. This interpretation is reinforced by an examination of his written materials which contain little discussion of the Japanese experience. Thus, for that not inconsiderable number of American executives who are afflicted with a Japanese allergy --read that "not invented here" syndrome-- the Crosby materials have considerable appeal. Since the promotional materials of Philip Crosby Associates make clear that his two books contain the basic concepts and approach of PCA, I rely primarily on them for clarifying the organizational aspects of his approach. In so doing, I hope to capture some of the dilemmas of American management in seeking to achieve sustained quality improvement.

There are a number of similarities in the thinking of the quality leaders in the respective countries. Crosby and Ishikawa take a similar positions on such basic issues as: the importance of top management providing continuous support and leadership and serving as a role model for all employees in their commitment to quality, the belief in setting quality standards and measuring performance along these dimensions, management's primary responsibility for poor quality (not workers), a commitment to continuous learning and the view that quality improvement will lead to cost reduction. Yet, there is reason to believe that our understanding will be significantly advanced through an

understanding of where they differ in the context of what they tell us about management cultures in the two nations.

Let me turn now to the basic question of why organizations change. I would like to broaden the why question, however, not only to cover why top management decides to change but also why all employees come to see change as necessary. Too often, the literature focuses only on the matter of top management and ignores the fact that for large-scale organizational change to occur, most employees must come to see that change as desirable. In so doing, of course, we blur the difference between why and how organizations change since the issue of why employees other than top managers change, is usually seen as part of the how question. I believe that such dichotomous thinking does a disservice to understanding large-scale organizational change

Japanese Developments

In the case of Japan, the matter is deceptively simple. Westerners tend to have an image of the Japanese as always working with well-thought out plans for the long term. In its extreme version, this view sees a conspiratorial strategy to wipe out or eliminate western competitors.

After World War II, Japanese industry was devastated. In order to regain and improve their living standards, it was deemed necessary to improve their economic performance. Indeed, in retrospect, we can see that with the military option closed, a

century-long preoccupation with catching up to the West focused national energies on economic achievement in the postwar period. In the early postwar period, with living standards falling well below prewar levels, there was a sense of crisis that led to a single-minded focus on improving economic performance.

The decision to stress quality performance must be seen in this broader context. Particularly in the early postwar period, improvement in product quality was seen as essential to insuring that the nation would be able to export sufficient amount of product to restore their national strength. In a nation with few natural resources, the value-added contributed by its human resources was seen as providing the critical margin to insure competitive strength. In this context, quality and productivity improvement were plausible strategies to pursue.

To be sure, there was much thrashing about and it was well into the late 1950's before the outlines of a coherent quality improvement strategy began to emerge. There was, for example, an early over reliance on statistics as guaranteeing superior quality outcomes and only when that failed to produce the desired outcomes was there a recognition that good management decisions also were critical. ²

2. We see some of that same over reliance on statistics in the U.S. today with the belief many firms display that the installation of statistical process control will solve their quality problems. This is a manifestation of the well-known technological fix mentality, all too prominent among American management personnel.

A national consensus gradually came to be forged in Japanese industry around the theme of quality improvement, spearheaded by JUSE and leading companies and reinforced by a variety of governmental actions including the passage of the Export Inspection Law in 1958, the establishment of November as Quality Month in 1960, etc. JUSE was a fledgling organization that provided an opportunity for academics and managers to exchange ideas; it had the strong support of Keidanren, the leading business organization in the country. Keidanren provided legitimacy for JUSE activities, an outcome no doubt facilitated by the fact that Ishikawa Kaoru's father was the head of Keidanren in this early critical period. JUSE's activities preempted the role of private consultants. Their large training programs served as critical resources to companies in the initial stages of quality improvement. In the early postwar years, these activities were primarily reactive strategies designed to get the ship of industry turned around and pointed in the right direction. It was only later that the full potentialities of a quality focus came to be realized.

Japanese inferiority in quality was publicly recognized and a strategy of catch-up formulated. As a latecomer to industrialization, no particular shame was associated with such an admission. Gradually, Japanese management developed and perfected the central insight of their postwar quality drive; it was that higher quality could be used as a driver to reduce costs especially in the mass production industries. This principle was

well embedded in the thinking of American theorists like Joe Juran and Armand Feigenbaum. It grew out of pre-World War II and early postwar thinking in industrial engineering that if one concentrated on basic work elements and tasks, one could reduce costs by identifying what tasks could be reduced or eliminated if things were done right the first time. While such conceptualizations were a part of the thinking of American scholars, few American firms had acted to operationalize these principles nor were the American scholars particularly adept in translating their ideas to practical action.

Key to the Japanese implementation strategy, and directly counter to Western experience and advice, was the notion that all employees and departments (Total Quality Control-TQC) had to take responsibility for quality improvement if their efforts were to succeed. Both of these notions were not present at the start of the quality movement but represented a later proactive stage. The strategies for implementing them gradually evolved in the 1970's and became accepted over time. Still later, sometime in the late 1970's, Japanese leaders came to recognize that they could use quality to change the very rules of the game. They learned that they could use quality as a marketing strategy, creating high quality expectations among consumers that they were then in unique position to satisfy.

We can see the unplanned character of events in the evolution of today's quality control circles. An examination of the first

issue of The Workshop and QC published in April 1962 by JUSE --just at the time that circle activity was crystallizing-- reveals a conception of workshop activity relating to quality that was still quite removed from the actual operation of quality circles today. The focus was on training foremen how to work with their employees to get the employees to accept and maintain work standards so that quality objectives would be met. Getting workers more involved in taking responsibility for setting and revising work standards was the strategy advocated (JUSE,1962). The circles developed as a rather spontaneous adaptive process as management sought to encourage joint study between foreman and workers. Gradually, these ideas growing out of the quality movement merged with the ideas of decentralization of authority and group decision making. Once management came to understand the potentialities of these small group activities, spontaneity gave way to active management involvement in forming and maintaining circle activity.

What we see here is a process of logical incrementalism that proceeded in stages of awareness and understanding. Gradually, quality came to be seen as a driver for all sorts of other desirable organizational changes and outcomes. The evolution of cost reduction strategies and the just-in-time delivery system to take two prominent examples, both benefited from a strong quality consciousness and in turn reinforced the quality emphasis. What we see is the gradual evolution of a quality philosophy based on the sophisticated integration of quality, cost and production

scheduling. For example, they have carefully analyzed how to improve the quality of the production scheduling process (see Sugimoto, 1981). This goes far beyond the typical stand alone quality philosophy pursued by many U.S. companies. To make pious statements as Crosby and many other do that quality must be as important as cost and scheduling appears simplistic next to the worked out integration achieved by the Japanese.

Again, Japanese managers hardly perceived these relationships at the onset of Japanese industry's commitment to quality improvement in the late 1950's and early 1960's. We see an example of large-scale organizational change in which serendipity and ability to capitalize on unanticipated consequences plays a major role. As understandings of the new opportunities developed, however, thorough planning to insure effective implementation and maximal payoffs was characteristic of Japanese management behavior.

U.S. Developments

In the U.S., product quality has long been regarded as a characteristic of American industry. In fact, however, in many of the consumer goods industries, quality improvement had stagnated in the postwar period. Firms in large growing industries seldom competed over quality. Companies with high quality were often seen as the premier firms in the industry with high quality being associated with extra costs. In the private sector, the Cadillac probably symbolized that connection more

than any other product. In the public sector, NASA was the symbol of American quality until the Challenger tragedy and quality here was achieved through the building of redundant systems, over design, intense inspection and other such strategies. With less cost constraints than the consumer goods industries, it was easy to see how high cost and high quality came to be associated with one another in the minds of corporate managers.

The Japanese onslaught of high quality consumer products in the late 1960's and 1970's began to challenge existing assumptions in those industries directly experiencing Japanese competition. Yet, even in such industries, American managers focused on the Japanese advantage achieved through low costs; they saw this as being achieved through unfair competitive practices such as government subsidies and exploitative labor practices. In short, many managers refused to recognize the quality component in Japanese success.

In the case of the auto industry, incredibly, as late as 1980, American auto executives were still publicly denying a Japanese quality advantage or stating that it was only a matter of "fit and finish." It was believed that to publicly recognize the American disadvantage would contribute further to the competitive advantage of the Japanese. Though in private by this time, most management officials conceded that they had a serious

problem. One problem with this approach is that until

managers were publicly prepared to recognize the problem, it was difficult for them to approach their own employees, impress upon them the seriousness of the problem, and elicit their support in improving quality. What we see here is a characteristic response of denial where organizations fail to recognize the need for dramatic large-scale change and thus are incapable of responding.

Even after the public recognition, the public posture of companies such as General Motors was that the gap would be quickly closed and quality would be a non-competitive issue by the late 1980's. Yet the going has been slower than many companies anticipated and the Japanese themselves present a moving target. In one major plant of a large Japanese automaker that I visited, they had reduced the costs of quality (cost of quality = costs of quality failure + costs of appraisal + costs of prevention as a percentage of sales) from 2.38% in the latter half of fiscal year 1985 to 1.55% in the first half of fiscal year 1987, a gain of 34% in less than two years. It is remarkable that such large gains are still being achieved when the costs of quality have already been reduced to such a low level. A U.S. auto manufacturer or supplier plant would consider itself to be doing very well if its quality costs were only 8% of sales (see Grocock:1986:58-61).

Motivational Factors

What do our respective national experts have to say on this subject of the why of quality improvement? In the case of Crosby, we find relatively little discussion of the motivation for quality improvement as arises from international competition. Since he puts little stress on learning from the Japanese, it is not surprising perhaps that he does not stress competition from the Japanese as a motivating factor. He does stress the well established methodology of firms assessing their costs of quality as a means of getting managers to recognize that they have a quality problem. Once managers are aware of the high costs of poor quality, they are presumed to be motivated to undertake quality improvement. Parenthetically, it may be noted that despite persistent urging, quality professionals have had great difficulty convincing American managers to initiate and sustain systematic cost of quality monitoring activities. Even when they do undertake such measurements, the results are often used to reward and punish employees rather than for problem solving purposes.

The Japanese have long utilized cost of quality programs not only to provide the initial motivation to institute quality improvement activities but also to sustain such activities by providing regular benchmarks of quality improvement. In addition, quite unlike even those American companies that do conduct cost of quality activities, Japanese companies typically

publicize such information widely throughout the firm to all employees so that each employee experiences quality through competitive benchmarks. By contrast, Paul Lawrence argues that American managers tend to underutilize the social psychology of competition as a motivator of productive organizational behavior. A third advantage of cost of quality measurements is that by displaying the costs of failure, the false association between high quality and high costs is brought home to management.

Most importantly, while Crosby stresses the importance of showing managers the costs of poor quality as a motivational strategy, the Japanese stress the motivation of all employees through the sharing of such information on a regular basis. In this fashion, the "why" of organizational change gets widely communicated throughout the organization. This latter strategy seems much more conducive to producing the large-scale organizational change required for sustained quality improvement. A spin-off effect of such a strategy is that when workers and managers are seeing the same data on quality performance (or any other performance measure for that matter) it is likely to substantially raise the level of trust among the various parties.

Central Concepts

If one were to identify the one theme that is central to Ishikawa's vision of quality improvement and the one theme that

is central to Crosby vision of quality improvement, what would it be in each case? Kaoru Ishikawa places primary importance on the role of the customer; it dominates almost every facet of his discussion. Indeed, it is the theme that dominates almost all Japanese discussions of quality improvement. Sugimoto Tatsuo talks about management for consumers in the following terms: "To establish a system which intimately incorporates the consumers by producing and selling attractive merchandise which consumers are willing to buy, by providing customer service, and by directly connecting to retail stores."

We see the stress is on "intimately incorporating " the customer into the management of the firm. This emphasis is extended through the slogan, "make the next process downstream your customer." It was Ishikawa himself who began to use this phrase after visiting a steel plant in 1950. When examining scratch defects on steel sheets, he discovered strong sectionalism was preventing employees in connecting processes from cooperating to eliminate defects. In trying to explain the need for cooperation, he developed the idea "You must imagine that the next process is your customer" (JUSE,1983:76).

This is not simply a matter of slogans. Of particular importance here is the development of "quality function deployment matrices"(QFD). These matrices are devices first for insuring that employees from different departments will work together to collect data that match up customer wants and needs

with engineer specifications. The matrices do so by requiring data collection to measure the fit between the two areas. When deviations occur, the relevant personnel must work out ways to eliminate them. Data are also collected on the performance of competitors and their "fit" is compared to ones own performance. This same process is next applied to measuring the fit between engineering specifications and manufacturing processes. Again, responsible personnel must work together to resolve any deviations.

From an organizational point of view, this system serves to integrate different departmental activities through the common task requirements associated with implementing the quality function deployment matrix. All this is done to minimize deviation from customer wants throughout the product design and production cycle. Put differently, the purpose is to pursue isomorphism between customer wants and organizational performance throughout all organizational processing activities. It is interesting to compare QFD to matrix forms of organization in American organizations. American firms often tried to achieve departmental and specialist cooperation through matrix organization designs but such efforts often failed because of their artificial nature (cf. Gailbraith and Kazanjian, 1986). Quality function deployment achieves the desired ends through its common and permanent task requirements.

What about Philip Crosby? The central concept is "cost of

nonconformance." That is, the primary focus is on setting agreed upon requirements for each process and insuring that employees adhere to them. He qualifies this statement to the effect that these requirements must be consistent with customer requirements or they should be changed. This is mentioned, however, almost in passing; it is not a central theme. There is no guide explaining how employees should go about getting requirements changed.

Implicit here is a view that changing requirements is an engineering responsibility. This is consistent with Crosby's overall emphasis on employees turning over their complaints and suggestions to engineers. It goes back to a view that engineers create work standards and specifications and workers are supposed to merely follow. While there are occasional pious statements about the workers as the experts, the overall thrust is profoundly elitist. When he talks about "everyone must be involved" the usual reference is to having all departments involved. When he talks about the team approach to problem elimination in his training materials, the reference to participant selection states that one should choose only those persons with knowledge and experience relevant to solving the problem.

There is no discussion to suggest that historically American managers have defined the holders of expertise far too narrowly so as to exclude most shop and office floor employees. There is also no room for union involvement in Crosby's vision of quality

improvement. There is only one reference to unions in both books and in it he recommends that the union representative serve on the quality improvement team as an individual. Many unionized firms using Crosby's approach have in fact involved unions in their quality improvement efforts. However, it has been tough sledding in many companies with union leaders being instinctively hostile to their perceived lack of place in the Crosby framework.

By contrast, Ishikawa places front and center the adjustment of standards and specifications to rapidly changing customer standards and consumer taste. He stresses that standards and regulations are imperfect. They must be reviewed and revised constantly. The employees involved in actually doing the task take major responsibility for these efforts. If newly established standards and regulations are not revised in six months, Ishikawa says, it is proof that no one is seriously using them. His emphasis is on determining the best method and making it publicly available to all those with similar responsibilities; this is the real meaning of standardization according to Ishikawa. Ishikawa is also very alert to the differences between "true quality characteristics (what the customer expects) and the proxies we create to mimic them. This creation process is often extremely difficult and has major consequences for it is these proxies that eventually become the standards organizations use. In summary, while Ishikawa agrees with Crosby on the virtues of conformance to standards, he shows an understanding of

the subtleties and dynamic nature of the concept that seems quite beyond Crosby.

Elitism versus All-employee Involvement

Clearly, all employee involvement has been a central feature of Ishikawa's thinking. His association with the development of the quality circle movement typifies that commitment. Moreover, he has been extremely active in the Japanese movement for simplification of statistical methods so that all employees with a basic education could benefit from these methods and make a contribution toward quality improvement. He developed the cause and effect diagram as a diagnostic tool that all employees could use (see Figure 1). When the definitive history of the postwar Japanese quality movement is written, it will include a strong emphasis on the role played by the "democratization of statistical methods" --democratization in the specific sense of mass participation. These developments made it possible for ordinary employees to understand the why and how of organizational change.

We can contrast these developments, which began in the early 1960's, to the popularity of Kepner-Tregoe problem solving methods for managers that were much in vogue in the United States at the same time. Many of the problem solving methods that Kepner-Tregoe were teaching to managers were being taught to ordinary blue collar workers in Japan. It was not until their 1987 workshop schedule that Kepner-Tregoe announced that their

new materials included:

a totally new approach to statistical process control which permits this powerful tool to be used not only by managers but other key shop floor workers and specifically develops trouble-shooting skills enabling them to participate in quality improvement opportunities.

In other words, prior to this time, it was assumed that ordinary shop and office floor employees were incapable of absorbing the Kepner-Tregoe problem solving methodology and/or did not have a contribution to make.

Lest these comparisons always seem to favor Ishikawa, it should be stated that unions play about as big a role in Ishikawa's quality improvement efforts as they do in Crosbys. The difference, however, is that unions in America in large manufacturing firms have a much greater potential to obstruct development of quality improvement than is the case in Japan. This is true by virtue of their large shop floor presence compared to Japanese unions.

Implications of the Two Emphases

There are a variety of implications for the different emphases contained in the two approaches discussed above. Above all, through a stress on meeting customer needs, Ishikawa provides managers and workers with a powerful motivational mechanism for undertaking sustained quality improvement. Employees can more easily see the link between meeting customer needs and company success. It is then another small step for individual employees to see this linkage as central to meeting

their own needs for job security and material benefits. Moreover, Japanese management works hard at educating all employees to understand customer needs and complaints. With regard to lower level production and office workers, failed parts and examples of poor service are often brought into the workshop and office so that all employees can understand customer experiences. Wherever possible, areas of failure are traced back to particular work stations.

This approach contrasts with the stress on the costs of nonconformance. While strict adherence to correct standards is indeed critical to quality success, by itself it provides little in the way of managerial and overall employee motivation. Too often, employees don't know why they are being forced to maintain particular standards. One of the major lesson of behavioral science research on work is that workers are likely to be more committed to their work and less alienated when they understand how it fits into a coherent whole. Conformance to standards by itself does not serve this purpose. Meeting customer needs does, and in so doing it contributes to a heightened commitment to sustained quality improvement. H. Ross Perot, that recent gadfly of General Motors, remarked that:

In a lot of these big companies, what it takes to be successful has nothing to do with making better products or serving the customer or what I call the rules of the marketplace. It has to do with following procedures.....

Detroit Free Press, November 25, 1986:1, Business Section.

Stressing conformance to specifications perpetuates this bureaucratic mindset and tends to be interpreted by employees as just another set of arbitrary rules. It harkens back to Tayloristic admonitions to blue collar workers to follow orders with their being no need for them to think. By contrast, through educating employees in how such rules influence customer acceptance, the firm can increase the probability that employees will be motivated to take conformance to standards as a serious personal goal.

Reward Systems

Let me add one note on the why of organizational change. Crosby writes about quality improvement objectives as though managers, and all employees for that matter, only need to have the importance of quality demonstrated to them in order for them to support quality objectives. We are given no sense of competing priorities. Crosby assumes that if employees just understood the costs of doing things badly and are given some help, they would want to correct their actions. Consider this quote from Quality is Free:

Let me see if I have this clear. We are going under the assumption that the people of this company have never had it made clear to them that we expect every job to be done right every time. Therefore, we are going to tell them that slowly so that they don't get too shocked. Then we are going to help them perform to that standard by fixing the problems they tell us they have. All this is going to eliminate errors. Correct? Yes, says Kate, I've never heard it stated so clearly.

In practice, of course, a great many things get in the way of accomplishing quality improvement objectives, or any new objective for that matter. People may not be properly trained to do the job, equipment may be inadequate, employees may not be motivated to improve quality because they are rewarded for other things and so on. Note that the Crosby focus in this quote is on "we" are going to fix "their" problems.

Of particular interest is this matter of reward systems. Crosby says money as a reward for quality improvement is demeaning. There is in short no serious discussion of reward systems as a strategy for changing employee priorities at all levels of the organization. Yet, if there is one sure fire predictor of organizational behavior, it is that you know a whole lot about what to expect, if you know what people are rewarded for and for what they are punished.

In the case of Ishikawa as well there is little discussion of reward systems. But this is a reflection of where Japanese organizations are in the life cycle of quality improvement efforts. I have asked Japanese managers how poor quality performance would be treated on performance appraisals and when promotion decisions were being taken. The typical answer was that first, investigations would take place to insure that the poor quality performance was not due to poor training or instructions or equipment failures. If this turned out to be the case, and it was a matter of a manager say ignoring quality to

achieve other objectives, it would be inconceivable that they would be given a strong performance appraisal rating or a promotion. Almost in the next breath my respondents say that such an event would be a rare occurrence today. In other words, quality as a priority has become strongly institutionalized into the web of company activities.

Quality is Free?

Crosby is quoted as saying that quality improvement requires a long term effort and can not be achieved overnight. However, the title of his books, Quality is Free and Quality Without Tears as well as much of the content suggest achieving sustained quality improvement is an easy task. It is for this very reason that he has had a strong appeal among top managers looking for an easy way to quality success. His suggestion that rewarding quality with cash is demeaning further strengthens his appeal among many top managers. One CEO of a major electronics firm said to me recently, "See, Crosby taught us that all (emphasis mine) we need to do is to expect more from our people and we will have quality improvement." I had the occasion recently to discuss the title of Crosby's books with the engine plant manager at the Honda Suzuka factory and he said to me: "You know, I could agree with the idea that quality is free these last three years or so." Then he paused and said, "But there were a whole lot of tears for the first 20 years." What he has in mind is 20 years of learning, knowledge that had to be fought for and creatively

applied. That doesn't sound like the free lunch Crosby is implicitly advertising.

One of the issues raised by this discussion is that the materials that U.S. consultants provide are often geared to company "gatekeepers" who must approve their use for purchase. Crosby's message is particularly attractive to top managers. His presentation is studded with examples (management by vignette) from golf course experiences and morality plays. All this sells well with top management but lacks the operational content that middle managers require to produce the organizational transformation critical to sustained quality improvement. Ishikawa's presentation by contrast has a subtlety and dynamism together with a clear focus on meeting customer needs. It is unambiguous in its message that management requires a long-term commitment if it is to succeed. Finally, Ishikawa's perspective is supported by a vast array of materials from JUSE that provide the operational how-to-do-it directions necessary for middle management.

By comparison, while we have quality leaders like Crosby, Juran and Deming, we lack the organizational infrastructure provided by JUSE in Japan for diffusion of the information and training necessary for implementation. JUSE is supported directly by corporate members and engages in an extraordinary range of educational and training activities. The American Society of Quality Control is made up primarily of individual

members and relies heavily on individually contributed volunteer labor; its contributions are modest compared to JUSE's professional activities.

Insofar as the two gurus themselves capture a significant segment of managerial thinking about how to think about quality improvement, it is no wonder that the Japanese are far ahead. It is somewhat reassuring that successful American managers increasingly seek to synthesize the insights of Crosby with the contributions of Juran and Deming and to directly absorb the Japanese lessons. Just like any modern technology, quality technology is increasingly developed and conducted worldwide and any attempt to rely on a simple home-grown version is likely to be hopelessly out of date.

Cultural Aspects of Japanese Approaches

A final word about the role of culture is in order. Is there anything about the Japanese experience that suggests a distinctive and important role of national or organizational culture in their achievements? At the national level, their attitude toward borrowing comes immediately to mind. We saw no hesitation about recognizing backwardness in quality performance but rather than accept that status, we see a fierce determination to overcome obstacles, borrowing whatever and from wherever was necessary. What they borrow from abroad typically was combined with indigenous ideas and practices to produce something new. The "new things" were often organizational inventions such as

quality circles or more generally the idea that every employee regardless of status and every department (TQC) has a contribution to make to quality improvement. This attitude toward borrowing is rooted in a 125 year history of playing catch-up with the West. This catch-up mentality in turn is firmly rooted in a strong sense of nationalist pride.

The cultural element in this borrowing process arises from Japan's experience as an island nation seeing itself surrounded by superior cultures throughout much of its history-first the Chinese and then the West. Out of those interactions developed an almost instinctive tendency to look abroad for solutions almost as easily as one searched for domestic resolutions. One can not help but contrast that to the insularity of American management, its slowness in recognizing the quality challenge and its slowness in responding through intense study of the Japanese experience. While there was a vogue of studying the Japanese in the early 1980's, it was soon followed by a reaction of "I can't bear to hear anything more about the Japanese." The Japanese by contrast have been studying America, its institutions, and practices for almost 125 years. While there have been moments of xenophobia, they seem not to have tired of the effort, even now when they are acknowledged to be leaders in many areas.

A related aspect of the relentless Japanese focus on catching up with the West and borrowing whatever necessary to achieve this goal, is the sense among Japanese employees of the normality of

change. This belief in the normality of change strongly aided the quality improvement effort. It is easy to underestimate the import of such a factor but we saw clear evidence of its impact when we compared the dynamic approach to standards explicitly advocated by Ishikawa versus that rather static approach implicitly pursued by Crosby.

What about the central focus of Ishikawa on knowing and responding to customer needs? Is there a cultural component to that emphasis? I think not. It is rather the strong orientation to economic success in postwar Japan that led them to stress customer satisfaction.

What about the focus on all employee participation in achieving quality improvement? At one level, the notion of cooperation and participation of all employees in achieving organizational goals does have cultural roots. Yet, it is also true that the prewar Japanese organizations were noted for their autocratic style. Defeat in World War II discredited those prewar and wartime autocratic leaders and opened the way to new talent and a stress on all employee participation.

While many Westerners seem to want to stress cultural aspects of Japanese economic success, the Japanese involved in forging the new postwar organizational systems are likely to stress the enormous efforts involved in transforming organizational practices and culture. Company histories are full of melodramatic scenes of crisis as the protagonists seek to turn

around their organizations against all odds. Many of the practices that we identify as culturally distinctive in large Japanese private sector firms such as lifetime employment can be seen as impediments to change. These impediments are seen as being overcome by the same strong dose of top management commitment and vision and follow through that students of Western organizations stress. Group activity may have a long history in Japan but there is nothing in that cultural tradition that guarantees a task orientation to quality improvement. Strong managerial direction was necessary to move it in that direction.

Japanese managers in the postwar period have shown a strong ability to respond to employee needs for participation without losing their sense of organizational purpose. The focus has been on decentralization of responsibility more than democratization in the Western sense of sharing power. Ultimately, these kinds of choices and the ability to make them stick rest on powerful cultural constraints rooted in traditional authority systems.

REFERENCES

Crosby, Philip, 1979. Quality is Free. New York:New American Library.

Crosby, Philip, 1984. Quality Without Tears. New York:New American Library.

Detroit Free Press, 1986. "Ross Perot: The Man who Speaks his mind on GM," Nov.25th:1, Business Section.

Gailbraith, Jay and Robert Kazanjian, Spring 1986. "Organizing to Implement Strategies of Diversity and Globalization: The Role of Marix Designs," Human Resource Management, Vol.25:pp.37-54.

Grocock, John, 1986. The Chain of Quality. New York:John Wiley and Sons.

Ishikawa, Kaoru, 1985. What is Total Quality Control? Englewood Cliffs, New Jersey: Prentice-Hall.

Juran, Joseph, 1979. Quality Control Handbook. New York: McGraw-Hill, Third edition.

JUSE, 1983. JUSE Quality Control Course for Top Management: CWQC. Tokyo: Nihon Kagaku Gijutsu Renmei.

Sugimoto, Tatsuo, 1981. Keiei to Hinshitsu Kanri (Management and Quality Control). Tokyo: Nikkagiren.

Ulrich, Theresa, 1986. Analysis of Quality Philosophies East VS. West. Unpublished paper.