# Japanese Culture and Quality Control Circle

Nopamas Dhiravegin

### Introduction :

The Japanese have been known for being good imitators. Their capacity in their ingenious eclectism is probably second to no nation in the contemporary era. Although Japan had attempted whole-sale adoption of foreign culture and institutional structure,[1] she had always ended in a derivation of final results through integration of their own cultural heritage and whatever foreign elements that were functional to and compatible with their existing social systems. Thus, the Japanese approach toward social change has been characterized by their eclectic ingenuity, sensitivity, pragmatism, and resiliency. The function of these mentioned qualifications manifest themselves in Japan's present success as one of the world's leading economic superpower. Observers of Japanese modernization and developmental process cannot help being intrigued by these people's ability in their selection, adoption, adaption, and integration of the old and the new. The famous Meiji Restoration was characterized by the interesting development through the combination of Western technology, e.g., Dutch studies and eastern religion and philosophy. Japan has set the example that modernization does not necessarily have to be accompanied by Westernization, a point which many developing nations fail to observe.

Japan's success is based on a syncretic change through introducing and integrating old and new variables that are compatible. The necessity to introduce systems that are compatible with the existing indigenous culture and achieve the best results can be supported by problems that occurred in Peru's attempt to introduce industrial democracy[3] and Yugoslavia's experiment on self-management.[4] These evidences confirm that whole-sale adoption of foreign systems, whether it is political, economic or whatever, without paying due consideration to its potential incompatibility with other existing social institutions, social values, and national characters will only result in eventual failure.

Quality control circle movement in Japan has been impressively successful in terms of achieving the elevation of morale, the improvement of human relations among the workers, the reduction of defects and the elevation of level of quality assurance.[5]

604

The most intesting aspect concerning Japanese quality control circle movement is its grand scale national diffusion. Such success reflects Japan's national co-operative spirit which can be seen in the increase of number of circles, the increase of membership, and the frequency of quality control circle conferences. These are shown in Figure I and Figure II.

Figure I. Number of QC circles and Members Registered at tne QC Circle Headquarters
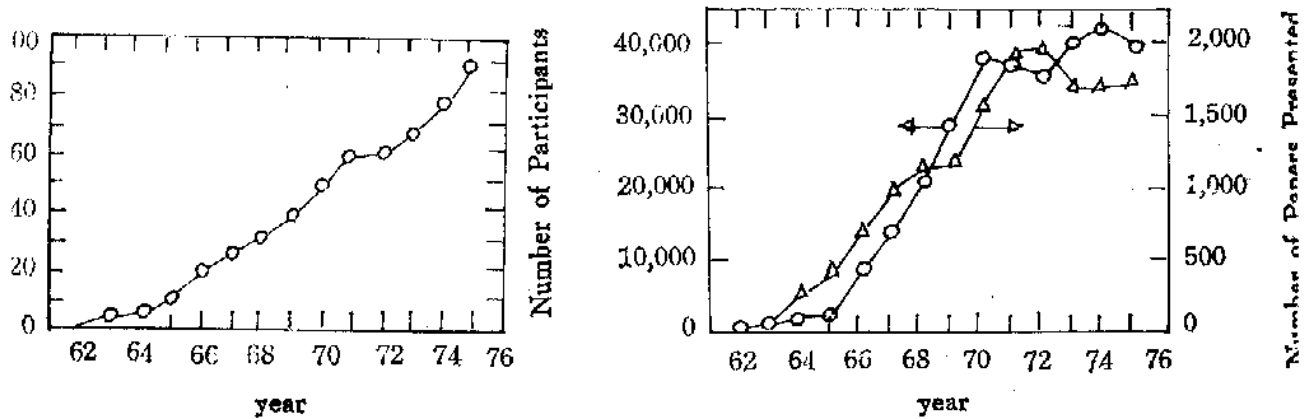


Source : Yoshio Kondo, "The Role of Manager in QC Circle Movement," Department of Metallurgy, Kyoto University, p. 3.

Figure II : Development of QC Circle Conferences
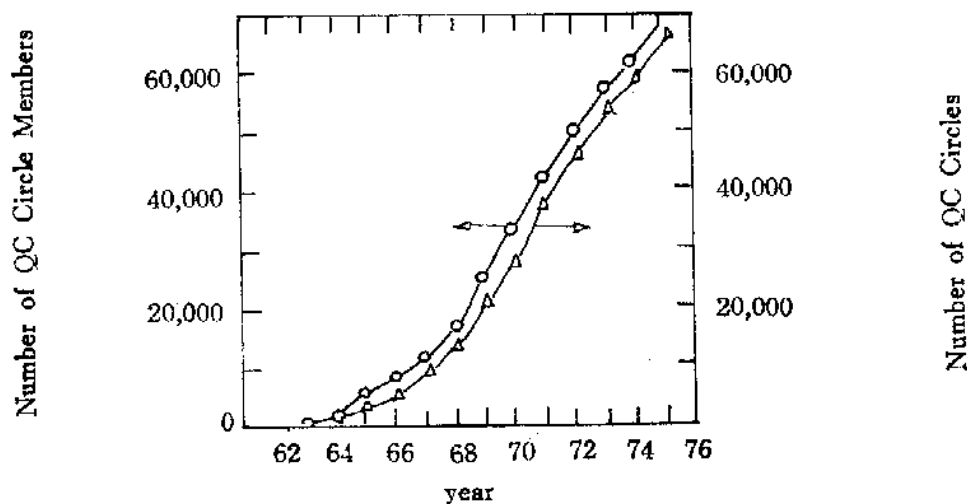


Source : Kondo, p. 4.

These figures indicate that current quality control circle movement in Japan has been extra-ordinarily successful. In contrast, the American experiment such as the Topeka system and Harman International Industry have encountered problems in terms of their tendency to be encapsulated.[6] This contrast inspires further inquisition regarding explanations related to Japan's success in their quality control circle movement.

The present report is an attempt to explain Japan's quality control circle movement beyond technological and economic levels. In so doing, attention will be paid to Japan's traditional social institutions, social values, and structure of human relations. It is the assumption of this report that Japan's high level of success in quality control circle movement is correlated with and supported by its traditional cultural heritage.

## Development of Quality Control Circle Movement in Japan :

The development of quality control activities in Japan started since the end of the Second World War. The initiation and adoption of the movement was based on Japanese management people's anticipation of potential human problems in industry which were already increasing in many Western advanced industrial nations and the employment of Western modern technique such as statistical methods in quality control.

Although quality control movement in Japan started at the end of the Second World War when JUSE (Japanese Union of Scientists and Engineers) invited Dr. Edwards W. Deming and the process transferred to the second stage in which middle and top management people were involved by the invitation of Dr. J.M. Juran in 1954.[7] it is the receptivity and sensitivity of Japanese management people that strike the present writer as being interesting. As a result, one cannot help asking the question as to why introduction of job redesigns in other nations have not been received with such degree of enthusiasm and seriousness, particularly among managers and foremen. There have been many explanations concerning Japan's introduction of quality control movement. According to R.E. Cole, Japan has indeed encountered some increase of industrial problems which are shared by many nations. These problems are the rise of education in the work force (from secondary to high school level), the tighter labor market which is resulted from the trend that more and more people are seeking white-collar positions[8], and Japan's relative low-rate in horizontal mobility among its work force which, in turn, is linked to their people's career expectations,[9] and the system of life-time employment. However, it has also been suggested that problems in Japanese industrial relations, e.g., absenteeism, the incidents of voluntary turnover are relatively low.[10] In addition, traditionally, Japanese managers have been relatively sensitive to the needs and goals of workers. Therefore, one cannot help being impressed by Japanese management

people's sensitivity which expresses itself in their serious and conscious anticipatory efforts. The Japanese managers have been described by R.E. Cole as follow :

> ....it is clear that Japanese management is far more eclectic and internationally minded than is the case with U.S. management.[11]

The intensive care provided for workers' well-being can be interpreted from many perspectives. It can be seen as subtle exploitation as well as humane provision. However, the present writer is inclined to consider the phenomenon from a multi-causal perspective. The first variable that should be taken into consideration is the role of reciprocity in human relations in Japan. It has been established that reciprocity has been a key element in Japanese human relations. Such concept can be traced to the existence of normative values in Japan, viz., on which means indebtedness that arises from securing some resources which one needs but does not have; and giri which means social obligation that requires Japanese to behave as expected by the society in relation to another individual with whom one is in some meaningful or particularistic relation.[12] It is the combination of these normative values that facilitate the system of patron-client (oyabun-kobun) and modern emphasis on vertical relationship in the Japanese social system. Although Japanese social system, like all other social systems, is constantly under the influence of dynamism for change, it is generally agreed upon that paternalism still persists, especially in Japanese organization. Though persistency may be resulted partly from its functional qualifications to modern Japanese industry, we cannot rule out the possibility that such continuity is also a result of conscious attempt to preserve it. In addition, it is quite possible that cultural inertia does exist, especially when it proves to be functional for the preservation of social harmony and the promotion of progress.

Modern Japanese paternalism which manifests itself in Japanese management's intensive care provided for the workers can be examplified by the existence of training program which aimed at promoting organizational loyalty,[13] and R.E. Cole also discussed about Toyota Auto Body personnel policy for career enlargement.[14] It has been established that Japanese companies expend a considerable amount of efforts socializing workers in their loyalty to the company and a sense of pride in belonging to it. It is quite possible that such kind of effort are related to traditional pattern of human relations in Japan which is characterized by reciprocity, mutual support and interpersonal emotional dependency. Hence, this kind of organic ties serve to promote mutual trust in the Japanese management-worker relations. It also serves as one of the corner-stones for the development of quality control movement as well as other job redesigns which requires more group responsibility and autonomy. Japanese definition concerning the role of managers in quality control movement is described as follow :

Their important job is to sub-divide the overall quality of design into the elementary quality which each worker or each group of workers aims to introduce in their own tasks and to rearrange working conditions so as to bring the ability of each worker to introduce quality into full play. To encourage the workers and to improve their ability are also important for the managers. Education and training of workers are the bases of realizing them.[14]

The statement above indicates that managers are expected to take a supportive role. The image is still very much of patrons who provide workers with various kinds of assistance in order to achieve an objective which is considered a mutual one.

Next to the manager, it is another group of lower middle management people who are the key to the success of quality control movement in Japan. These people are the foremen. Unlike foremen in some of the Western industrial nations, foremen in Japan have traditionally been closely co-operated with the workers. In the Japanese quality control circle,[16] it is this group of people who assume the major responsibility for training workers in statistical technique. They receive training and in turn impart their knowledge to their fellow workers in the circles and

Figure III : Construction of QC Circle (IN NIPPONDENSO CO., LTD.)



Legend :

  ◉   Shows Foreman

  △   Shows Group Leader

  ○   Shows Worker
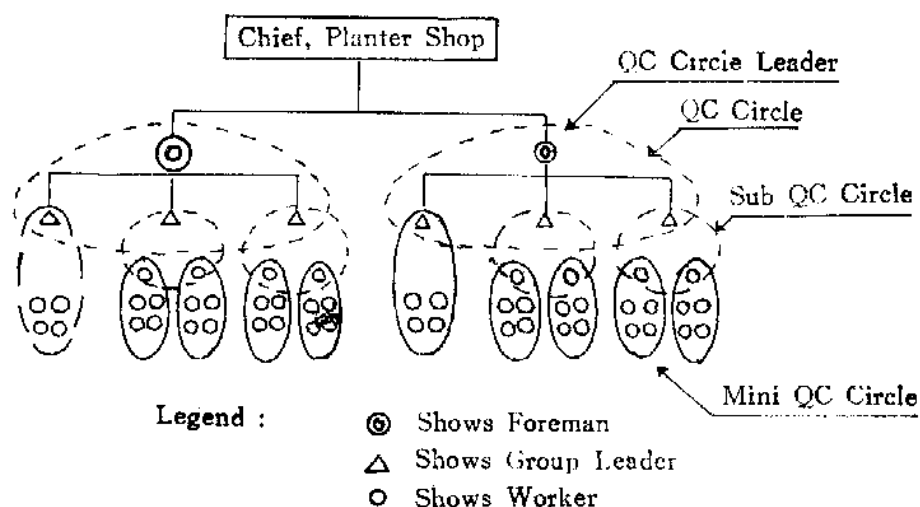
Source : Yasuhiro SUZUKI, (foreman) "The Aim of Ongoing Development of QC Circle," Production Section Pump Division, Nishio Factory, Nippondense Co., Ltd. (mimeograph), p. 117.

sub-circles. They also function as leaders, designers, campaign managers in mobilizing their workers to participate in the quality control movement. In addition, they serve as vital link in the intra company as well as inter company and national communication net-work concerning quality control movement. Within the company, these people assume important positions for co--ordination. They serve to facilitate the flow of communication vertically and horizontally. The example of the mentioned network at the base can be seen in Figure III.

In addition, their extra company quality control activities such as attendance of conferences for exchange of ideas and information as well as making observational tours in foreign countries (since 1968).[17] These activities reflected two important qualifications of these people, viz., their co-operative spirit and their seriousness for further improvement which is indicative of their concern for the continuation of the movement. These activities suggest that introduction of quality control circle does not make foremen's role redundant. On the contrary, their activities and roles are even more important. Indeed, Japanese vertical-oriented social relations lend more support to the significant roles assumed by leaders. At the same time, the system is far from being a unilateral provision type of relation since it is based on reciprocity. It has been established that there is a high degree of organizational commitment among employees of all levels in Japanese organization. Various attempts have been made in order to explain the high level of motivation among the Japanese employees. The most common variable that people tend to correlate with motivation is pecuniary reward. Thus, it is logical in this case to inquire about the role of monetory incentive. However, reports have indicated that foremen sometimes even spend extra working hours on meeting, despite the fact that the average pay for the hours spent is minimal.[18] R.E. Cole has interpreted this phenomenon as a result of company's career enlargement and educational enhancement policy which in turn provides channel for social mobility as well as personal satisfaction, as two of the factors behind Japanese workers' motivation.[19]

In addition, the relatively secure employment system makes it possible for the workers to realize their expectations and enable them to delay their reward. However, aside from the life-time employment system, paternalism, career enlargement and other rewards, there might be other variables that further contribute to the high degree of devotion and enthusiasm among Japanese foremen. The confidence and enthusiasm suggest that foremen in a Japanese quality control movement must be quite secure and confident in their positions.

In order to probe further into the matter, it might be fruitful to take an examination of the basic group structure which is adapted from the traditional

Japanese group structure. Japanese model of organizational structure is another major variable, aside from the life—time employment system, and paternalism, that gives security for all people related in the quality control movement. It is this structure that facilitates communication and provide mobility for employees. Japanese model of organizational structure is best observed by Whyte as follow :

> At first glance, the Japanese model seems to be constructed primarily along the vertical dimension, but further examination indicates that it is far from the autocratic model we find in some culture. While levels of position are graded in terms of status, and the Japanese profest to have high respect for authority, we have observed that their system provides for a great deal of upward initiation of activities through the ringi system.[30]

The statement above has clearly indicated that Japanese organizational structure is not an autocratic system with unilateral power position. Instead, it is a guided democratic structure. The statement also suggests the existence of a network of communication which is closely linked to the system's efficiency in the multidimensional flow of information. In fact, the Japanese have been known for their groupism which results in their collective responsibility system for a long time. It is suggested that such method is related to the political control long familiar in China and Japan and it became institutionalized in the seventeenth century Japan as gonin—gumi system (the five household collective responsibility system). The very title given to the foremen (gochō) reveals how explicitly the model was adopted.[31] In the case of the quality control movement, one of the most important points that deserves our attention is the solidarity of groupism and its efficiency in linking all the units starting from the individuals, the circles and sub—circles, the inter—company circles up to the national network. The movement demonstrates that the manager and, particularly, foremen are the focal points for such linkage. In order to understand the structure of Japanese group relation, an examination of Nakane's conceptualization of Japanese group structure might help shading some more light regarding the continuity of group structure in modern Japan. Nakane's model of Japanese group structure is shown in Figure IV.

Figure IV indicates that Japanese group structure is organized primarily through the accumulation of relationship between two individuals, i.e., a–b, a–c, b–d, b–e, c–f, and c–g. It also indicates the vertical orientation of the structure as Nakane stated :

> This important relationship is expressed in the traditional terms oyabun and kobun. Oyabun means the person with the status of oya (parent) and kobun means with the ko (child) .... The traditional oyabun–kobun

Figure IV : Japanese Group Structure
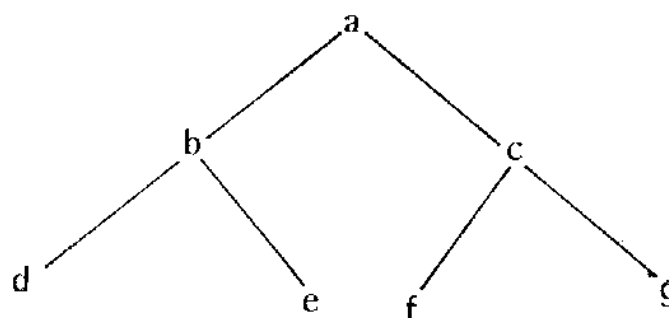


Source : Chie Nakane, Japanese Society (Berkeley : University of California Press, 1970), p. 42.

relationship took the form of patron and client, landowner and tenant, for example, or master and disciple.[*]

Though there is stronger emphasis on the vertical relationship, Japanese social relations is not without horizontal solidarity. As Dore stated : ".... in Hitachi, solidarity is horizontal as well as vertical."[**] Generalization can be made when we combine all the observations mentioned above that Japanese organizational groupism is structured in the form of networks of relationship that gives relatively more weight to the significance of the role of leadership since they are the focal points that facilitate co-ordination and multi-dimensional flow of information. At the same time, the lack of specific responsibility in the group structure and the guided democratic decision—making process does not make the system antithetical to the



Figure V : Organization and Conceptualized — Group Relations in Japan as by the Present Writer
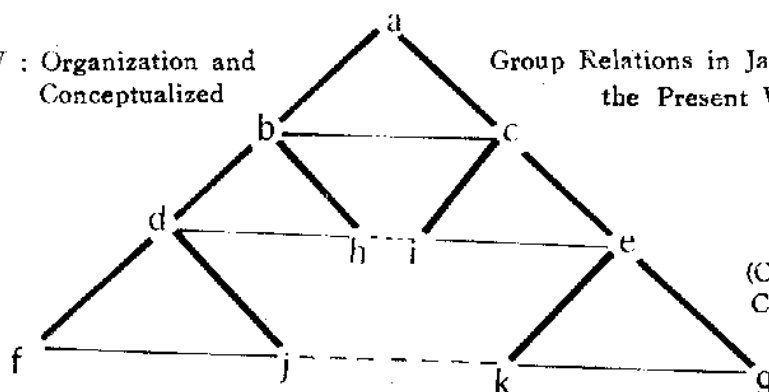
(Compare structure of QC Circle at the base with Fig III P. 608

introduction of quality control movement which requires certain amount of autonomy in the work place. In contrast, the structure of the system serves to facilitate the new introduction in its own way. The following figure may provide a clearer picture of such structure.

The heavy lines indicate the emphasis vertical relationship. The diagram also suggests that each linkage point is equally significant in holding the whole communication network and the structure together. The thinner horizontal lines suggest the existence of horizontal solidarity. The structure of the group, the relatively secure employment system and the emphasis on leadership in the Japanese tradition help provide a sense of security among the foremen as well as manager which, in turn, enable them to initiate change that they do not perceive as a threat to the security of their positions. Instead, they tend to see the introduction of quality control movement as means for the achievement of a collective progress. In each of the triangle, sub-division of groups can be expanded endlessly and quality control movement in Japan with the creation of sub-circles at the base enhances workers' opportunity to be promoted as leaders. Thus, quality control movement in Japan does not only provide opportunity for training, for receiving social honor, it also expands mobility opportunity and enriches working life for all people concerned. Enthusiasm and devotion demonstrated by foremen and managers suggest their awareness of the significance of their contribution and the security of their positions. The movement did not shatter their confidence- Instead, it enriches their activities, enhances their knowledge through their engagement in conferences, exchange of information, and receiving training in modern statistics as well as teaching them to the fellow-workers. All of these activities offer them meaningful means to relate themselves to their work, their organization, and their society. It might appear to be too rosy to conclude that quality conrol movement in Japan works for the better of all concerned. However, evidence suggests that there is a considerable amount of truth in it.

The other factor that deserves our attention is the Japanese method in allocating talents, It has been established that Japanese management is quite flexible in its assignment of jobs. It is said that Japanese managers hire potential not skill. Brown described the system which lacks specific job responsibility as follow :

According to foreign notion of work allotment, men are pegs which must be fitted into pre-existing holes. Once a man's area of responsibility has been marked out it becomes his territory. As a result, any inevitable shortcomings or oversights is tentamount to an invasion. Only recently have foreign efficiency experts come to

realize how much heat is generated by this friction points. The Japanese workforce, on the other hand, might be compared to a jigsaw puzzle. Compared with the polished pegs, the individuals seem very irregular "irrational." But the pieces, themselves, through their intimate knowledge of one another's peculiar shape and coloring, fit together neatly and a clear picture emerges.[24]

The origin of this system can betraced to the traditional Japanese master–apprentice relations. This kind of flexibility provides gradual process for putting the right talent into the right position and during the process a certain degree of freedom is also given. This system proves to be fitting quite well with modern quality control system which involves autonomy and job rotation. Therefore, the lack of specific and fixed responsibility serve to facilitate the operation of quality control movement in Japan.

In addition to the above–mentioned organizational structure and management policy which facilitate quality control movement in Japan, the extra–ordinary success of Japanese management in securing workers' commitment also deserves our attention. As mentioned earlier that monetory reward plays a relatively less important role behind Japanese workers' motivation,[26] their high level of commitment and loyalty have been related to the life–time employment system, opportunity for mobility, paternalism, etc. In addition, there is reason to believe that religion plays a significant role in shaping people's world–view. Therefore, an investigation of the role of religion in Japan may shade some more light on the mystery behind such extra–ordinary success. Our discussion in this respect shall proceed with the premise that cultural continuity does exist and solidarity is still relatively strong in the Japanese society. It is the persistency of certain Japanese cultural heritage that helps 'explain the workers' response to all the mentioned stimuli.

It might be interesting for us to look at how religion helps shaping Japanese world–view. According to Bellah, Japanese Confucians of the Chu Hsi and the Wangyangming (1472–1529) schools both held views of self–cultivation. However, it is also taught that selfishness obscures the true self and keeps people from attending the state of oneness. Thus, moral self–cultivation is, therefore, a constant effort to combat selfish desire. Hence, while the Japanese people's concern for on (indebtedness) focuses primarily on the relations of the individual to objects external to themselves, the concern for self–cultivation, focuses more on the integration of the individual's personality within himself. Selfless devotion creates "perfect" relations with the benevolent superordinate and at the same time allows the individual[26] to identify with him, viz., to combine the development of the self before in order to promote the development society.

It has been observed that altruism is relatively strong in the Japanese society. It is particularly strong among traditional samurai class. Selflessness and

loyalty to one's master is the key of Bushido ethics and all Japanese are influenced by such ethics through a process of what is known as the samuraization during the Tokugawa period.[27]

It might be difficult to make generalizations by assuming the link between traditional Japanese cultural values and modern industrial relations. However, Japanese management appears to be quite keen in their conscious attempts to preserve and adapt their cultural heritage that is functional to their organization. Most important of all, it has been observed that workers do seem to respond along the patterns that are related to their tradition.

**Summary :**

In sum, modern job redesign movements, e.g., quality control circle requires certain organic relations and co-operation which happen to be Japan's major cultural trait. As a result, while other nations which have mechanic and adversive oriented type of human relations, especially, between management and workers, encounter various obstacles, quality control movement in Japan appears to be quite successful. It is estimated that quality control movement in Japan has achieved the elevation of morale, the reduction of defects, and the elevation of level of quality assurance. Most impressive of all is probably the scale of diffusion in a national level. The movement involves people of all levels. Quality control methodology is taught to managers in all functions. The key link in introducing quality control to the rank and file has been the intensive training programs given to foremen. This training programs were initiated through various channels ranging from textbooks to radio, T.V. series and publications by JUSE. The magazine called QC for Foremen (Genba to QC) initiated in 1962 and retitled FQC in 1973 increased its subscription from 6,000 in 1962 to 49,000 in 1968 and to 100,000 by 1975.[28]

The success described above is another example of Japan's eclectic ingenuity. It has been established that the introduction of quality control movement in Japan has been supported by the existening institution and values in that society. It has been widely written that Japanese groupism is understood to predate the modern period, and thus it is a major element in the discussion of such issues as cultural continuity in modern Japan and the reinforcement of modern organizational patterns by traditional values.[29] It is the structure of group together with other factors that help contribute to the growth of quality control movement in Japan. As Dore put it when he compared British and Japanese factory that :

> The contrast between the two systems springs from differences in the continuing cultural predispositions of the two peoples which have remained relatively constant since pre-industrial times. The stirring and spicing and baking process of industrialization may have been the same in both cases, but **if you start off with a different cultural dough you end up with a different social cake.** (emphasis supplied)[30]

# Footnotes

1. Japan started her introduction of Chinese learning in the sixth century and during the seventh century, Japan was impressed by development in the T' ang dynasty (618-906) which was considered a period of Chinese renaissance. Thus the Japanese people's borrowings from China under the T'ang dynasty resulted in political reform of Taiwa which was considered unsuccessful. After that period, Japan started a refinery process in which new culture was selectively integrated with the native one. See G.B. Sansom, *Japan : A Short Cultural History* (Stanford : Stanford University Press, 1952), pp. 63-178.

2. Cf. W.G. Beasley, *The Meiji Restoration* (Stanford : Stanford University Press, 1972), pp. 78-82.

3. William F. Whyte, and G. Alberti. "The Industrial Community in Peru," in *The Annals* (May 1977), Vol. 431, p. 112.

4. M.J. Broekmeyer, "Self-management in Yugoslavia", in *The Annals* (May 1977), Vol. 431, pp. 133-140.

5. Yoshio Kondo, "The Role of Manager in QC Circle Movement", Department of Metallurgy, Kyoto University (mimeograph)

6. Daniel Zwerdling, *Democracy at Work* (Washington, D.C. : Association for Self-management, 1978), pp. 19-30, 41-52.

7. Masashi Asao, "Role of JUSE for QC Circle Movement," Scientific Calculation Analysis Division, Tanabe Seiyaku Co., Ltd. (mimeograph)

8. More than 90% of Japanese youth now go on to high school from middle school. See Robert E. Cole, *Work, Mobility, and Participation : A Comparative Study of American and Japanese Industry*, Berkeley : University of California Press 1979. Chap III, p. 9.

9. The Japanese still have strong expectation for life-time employment. Thus anyone changing job is suspected. The general assumption is that no normal person would or should have to change his job and that if one changes jobs, it is because there is something wrong with the individual, not the job. See Harumi Befu, *Japan : An Anthropological Introduction* (New York : Chandler Publishing Company, 1971), p. 189.

10. Cole, *op. cit.*, p. 3

11. *Ibid.*, pp. 13-14.

12. Befu, *op. cit.*, pp. 168-169.

13. The training is called Kogyo training. Its main objective is to counter influence of Western attitudes and values and to promote Japanese group spirit and company loyalty. See Thomas P. Rohlen, "Sponsorship of Cultural Continuity in Japan : A Company Training Program," in T.S. Lebra and W.P. Lebra (eds.) *Japanese Culture and Behavior : Selected Readings* (Honolulu : The University Press of Hawaii, 1974), pp. 332-342.

14. Robert E. Cole *Work, Mobility, and Participation : A Comparative Study of American and Japanese Industry*, Berkeley : University of California Press 1979. Chap. V.

15. "The Secret of Japan's Rise to Quality Fame." *Modern Manufactoring* (March 1970), p. 67.

16. The content of most quality control training programs for foremen as summarized by Ishikawa Kaoru, a recognized leader in the movement, includes :

1. Administering training as an integral part of the in-company training program which is given to all employees;

2. Teaching simple statistical methods for analysis and how to go about carrying out shop improvement;

3. Teaching in a way that is tied in closely with a given firm's own technology;

4. Emphasizing practical as opposed to academic training building in the study of real cases.

Quoted by Cole, *op cit.*, pp. 19–20.

17. Kendo, *op. cit.*, p. 6.

18. Non-financial reward seem to assume important roles behind Japanese workers' motivation in the quality control movement. Aside from education, opportunity for mobility, social honor also plays an important role. There are public awards presented to the most successful cases. The most famous award is the Deming prize. See Cole, *op. cit.*, Chap III, p. 21, 23.

19. Cole, *op. cit.*, Chap V

20. William F. Whyte, *Organizational Behavior : Theory and Application* (Homewood : Richard D. Irwin, Inc., 1969), p. 751.

21. Ronald Dore, *British Factory–Japanese Factory* (Berkeley and Los Angeles : University of California Press, 1970), p. 42.

22. Chie Nakane, *Japanese Society* (Berkeley : University of California Press, 1970), p. 42.

23. Dore, *op. cit.*, p. 274.

24. William Brown, "Japanese Management : The Cultural Background," in Lebra and Lebra (eds), op. cit., p. 187.

25. The relatively less weight given to the role of monetory reward may also be related to Japanese personnel management policy which emphasizes the concern for basic needs among workers. For example, in the case of Toyota Auto Body, the wage system is divided into basic wage, job wage and ability wage. The basic wage is designed to protect workers' livelihood through recognizing the increased financial responsibility of workers as they move through life cycle. Cole, *op. cit.*, Chap. V. p. 29.

26. Robert N. Bellah, *Tokuguwa Religion* (Glencoe : The Free Press, 1957), pp. 76–77.

27. John W. Hall, *Japan : From Prehistory to Modern Times* New York : Dell Publishing Co., 1970, pp. 214–225.

28. Cole, *op. cit.*, Chap III, p. 19.

29. Thomas P. Rohlen, *For Harmony and Strength* (Berekeley : University of California Press, 1974), p. 185.

30. Dore, *op. cit.*, p. 375.