1

MICROD

National Library
of Canada

Bibliothèque nationale
du Canada

Canadian Theses Service

Service des thèses canadiennes

Ottawa, Canada
K1A 0N4

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

TECHNOLOGY TRANSFER:
FOUR MODELS OF MANAGEMENT TRANSFER FROM
CANADA TO CHINA

by
LISA SEGUIN, B.A.

A Thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of
Master of Arts
Norman Paterson School of International Affairs
Carleton University
Ottawa, Ontario
April 1989

@ Copyright
1989, L.M. Seguin

National Library
of Canada

Bibliothèque nationale
du Canada

Canadian Theses Service Service des thèses canadiennes

Ottawa, Canada
K1A 0N4

The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.

The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.

L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.

L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

ISBN 0-315-51161-3

The undersigned hereby recommend to the Faculty of
Graduate Studies and Research acceptance of this thesis,
submitted by Lisa Seguin, in partial fulfilment of the
requirements for the degree of Master of Arts.

Christopher J. Maule, Director
The Norman Paterson School of International Affairs

Professor O. Mehmet, Supervisor

Carleton University

Abstract

The transfer of technology is widely acknowledged as an important tool for development, as it allows the increasingly efficient utilisation of scarce resources. The transfer process itself, including what determines its effectiveness, and its ultimate effects on the recipient society, are still poorly understood. Here, an attempt is made to gain some insight into the process. It is hypothesised that key elements in the transfer process are: learning-by-doing; a mass approach, as opposed to an elite one; and factors, such as indigenous location, and provisions for two-way transfer, which are likely to affect the broader impact of the transfer. When tested in application to four case studies of the transfer of management technology from Canada to China, the importance of learning-by-doing, indigenous location, and two-way transfer was confirmed. However, a mass approach was found to be necessary, but not sufficient, and an integrated mass/elite approach appears to be more effective.

TABLE OF CONTENTS

Table of Contents	ii
Acknowledgments	iv
Chapter	page
1. INTRODUCTION	1
2. TECHNOLOGY, TECHNOLOGY TRANSFER AND SOCIAL CHANGE	8
-Definitions	
-Historical Background	
-Theoretical Perspectives	
3. TECHNOLOGY TRANSFER: PAST EXPERIENCES	
Transfer of technology	31
-from dcs to ldcs	
-from the West to China	
4. WESTERN MANAGEMENT THEORY AND PRACTISE ..	54
-The nature of management	
-Management and culture	
5. CHINESE MANAGEMENT	78
-Historical development	
-Present conditions	

6.	TRANSFER OF MANAGEMENT TECHNIQUES	114
	-from dcs to ldcs	
	-from the West to China	
7.	CASE STUDIES: THE TRANSFER OF MANAGEMENT	
	TECHNIQUES FROM CANADA TO CHINA	137
	-Four models	
	-Theoretical Evaluation	
	-Substantive Evaluation	
8.	CONCLUSION	172
	BIBLIOGRAPHY	181

ACKNOWLEDGEMENTS

The financial support of the Social Science and Humanities Research Council is gratefully acknowledged. I would like to thank my family and friends for their patience throughout the preparation of this thesis. And I would particularly like to thank Professor Karen Minden at the University of Manitoba for her advice, encouragement and many helpful suggestions. It was an inspiration to talk to someone who understood and was interested in the topic.

technology itself is neither a threat nor a panacea, but rather a tool for achieving desired ends.

Historically, much technological change has been the result of borrowing of technology, both within countries and between them. This is commonly referred to as technology transfer when it is between countries or as diffusion of innovations when it is within a country, although the discussion of diffusion is often broadened to encompass both intra and international cases. The nature of the transfer often depends on the nature of the technology itself. For example, proprietary technology - that which is ownable - is often sold or licensed, at a price determined by the owner. It is treated as a commercial good, but the market for technology is imperfect as price is difficult to determine, since it is not necessarily related to the cost of production and includes considerations such as opportunity costs. Davies argues that the nature of the technology market has changed from a sellers market, where there was a limited number of suppliers, and hence a monopolistic-type situation, to a buyers market where there are many sources of similar technology, and technology is changing rapidly, so that its value is realizable through its sale as a product with a limited life-span as leading-edge technology.³ On the other hand, non-proprietary

3 Stephen Davies, The Diffusion of Process Innovation, (Cambridge:Cambridge Univ. Press, 1979).

understanding of the processes involved in the transfer of technology and the conditions for its successful application, including recognition of possible negative effects, is crucial for both suppliers and recipients of technology. The efficacy of the transfer must be considered in relation to the ultimate effects, planned and unplanned. Often it appears that the simple communication of a technology is considered as a successful transfer, regardless of whether it is really appropriate, understood, or used. When the outcome is evaluated, observation of the desired effects is considered indicative of success, while resultant external and social costs are ignored. The objective of technology transfers is, ultimately, social change in the recipient, and for this reason all effects of the transfers should be considered in their evaluation. In some cases technology transfer has become a political issue, especially when questions of dependency and imperialism are considered.

It is the technology of technology transfer itself, the knowledge of what elements contribute to an effective transfer and how success can be evaluated, which is the focus of this thesis. Theoretical knowledge relevant to the problem is abundant but fragmented, consisting of several theoretical streams which rarely refer to each other, despite the similarity of their subject matter. While the transfer of technology is often viewed narrowly as the sale

of industrial production technologies embodied in capital equipment, a much broader definition is common among those involved in the practise. In the broader definition many technologies of a less proprietary nature, such as birth control techniques and agricultural production techniques are also subsumed under the rubric of innovations or technologies. The technology transfer literature per se tends to focus on the commercial transfer of technology and hardware, and technology policies often reflect this emphasis in their concentration on regulation of patents, licensing etc.. The broader definition of technology, including much more of the "software" type of technology is current in the diffusion of innovation literature. The substantial theoretical literature on the diffusion of innovations includes contributions from communications, anthropology, rural sociology, geography, education and marketing, and other disciplines. This literature, which offers a relatively coherent analysis of the substantive area of technology transfer is rarely referred to in the technology transfer literature. Another body of literature which contributes to an understanding of the subject is that on social change, which offers some theoretical insights into the consequences of the diffusion of innovations, including economic effects such as changes in income distribution patterns, and structural changes in the social and political organisation of the recipient society. The political science literature and development literature also

offers some insights into the potential effects of technology transfer on the internal political situation, and also on the broader implications for international relations, such as considerations of cultural imperialism.

The efficacy of technology transfers is not just a problem for developing countries, but developed ones as well. However transfers from developed to developing countries present particular problems, especially relating to a lack of absorptive capacity and necessary infrastructure. This lack often derives from a shortage of trained personnel with the requisite technical skills or management capabilities. It is this type of problem which human resource development programs are aimed at alleviating, and such programs are an integral part of technology development programs. Human resource development programs often include education programs which provide support for technological development by offering general knowledge as a basis to build on, but these are not technology transfer programs. In contrast, there are programs aimed specifically at transferring identified technologies, which have a more precise function. It is the latter type of technology transfers which will be the subject of this investigation.

Exemplary of this type of transfer are programs aimed at transferring management technology to developing countries. There have been programs of this sort operating from North

America to various developing countries since the post-war period, often involving universities as a channel for education and training, so one would expect them to be relatively effective in the transfer of technology after such long experience. The failure of some such projects has been attributed to their treatment as primarily education programs, rather than technology transfer ones.

Recently there has been a resurgence of interest in such programs, this time with China on the receiving end and donors of management techniques from Japan and Europe as well as North America. These programs are mainly aid-funded initially, and many, as in the past are based on links between indigenous and foreign universities. Canada has been active in the development of such programs, setting up a number of projects to transfer management technology to China. These projects, which were initiated in the early 1980's and have now completed their initial stages and been the subjects of detailed evaluations, offer a unique opportunity for an in-depth analysis of the technology transfer process.

Here, some of these Canadian projects will be used as case studies of various technology transfer models. In particular, I will examine three projects which involve the transfer of essentially the same technology. While the proximate aims of the projects differ slightly, varying from training managers to training management faculty and MBA students, they share the ultimate goal of increasing China's

management capabilities through the transfer of "modern" Canadian management techniques. Within these projects there are four contrasting approaches to the transfer:

- 1 An in-China executive-training type program;
- 2 An in-China cooperative MBA program;
- 3 An in-Canada academic MBA program;
- 4 An in-Canada individual work/study placement.

I will begin with a discussion of the nature of technology, and the theoretical literature on technology transfer, the diffusion of innovation and social change. Then the historical experiences in the transfer of technology from developed countries to developing ones, and in particular to China, are discussed. That is followed by a summary of views on the nature of Western management, the technology to be transferred, and a discussion of the relationship of management to the context in which it is applied. The historical development of management in China, and its present condition are then reviewed. And finally, the historical experience in transferring management to developing countries, and specifically to China, are outlined.

Then, the four different models of management transfer from Canada to China, which form the case studies for this analysis, are assessed relative to the theoretical ideal of efficient technology transfer to determine which is more likely to be effective. Subsequently, the evaluations of

the projects outcomes to date are compared to the anticipated results to determine if the theoretical models appear to have any useful predictive value. Finally, the implications of the findings for the organisation of technology transfer projects and their evaluation, and the broader implications for international relations between developed and less developed countries, are discussed.

CHAPTER 2

TECHNOLOGY, TECHNOLOGY TRANSFER AND SOCIAL CHANGE

Technology is knowledge about techniques, about the way something can be done, organised or produced, knowledge that can be applied productively. It includes process and production know-how, as well as managerial and financial techniques etc. While much technology is embodied in equipment and thus has a "hardware" aspect, there is also a great deal of technology that is more informational in form and thus has a more "software" nature. Ultimately, all technology is embodied in human beings, since they are the only possessors of knowledge. The value of technology is not inherent, and is realized only in its application. The view of a particular technology as good or bad is inappropriate, as its value depends on how it is used. However, since by definition technological improvements can allow more efficient utilisation of resources, there appears to be an argument for the desirability of technological change.

Technological change is advance in knowledge of techniques, and application of new techniques in practice. New knowledge of this type - new to those using it - is often referred to as an "innovation" in literature on the subject. The profound effects that technological changes

have had on society in the past are the subject of much discussion, particularly in the fields of economics and economic history. Hobswawm discusses the industrial revolution in England and its effects on the relations of production, economic organisation, political organisation¹ and even social life. In a broader macro-economic framework Kuznets sees technological development cycles which parallel patterns of national economic development and determine progress, and Rostow interprets the rise and fall² of nations as a result of technological changes. Despite the tendency in the past to see technology as a panacea for a variety of problems, it is increasingly clear that the answer lies not in the volume of technology available but rather in the use of technologies, and selectivity in their application. Decisions regarding the choice and application of technology are made not on a purely technical basis but rather on the basis of values, as the efficiency of a technology can only be judged in relation to the context it is to be used in - the relative values of inputs and resources, organisational requirements etc.. Thus

1

H.J. Hobswawm, Industry and Empire, (U.K.:Pelican,1968).

2

Simon Kuznets, Secular Movements in Production and Prices, (Boston:Houghton Mifflin, 1930), Discussed in Luc Soete, "International Diffusion of Technology, Industrial Development and Technological Leapfrogging", World Development, Vol.13 No. 3(March 1985):409-422, p.409.

Rostow's "Stages of Growth Theory" In Francisco Sagasti, Science and Technology for Development: A Review of Schools of Thought on Science, Technology, Development and Technical Change, (Ottawa:IDRC, 1983), pp 15-16.

technology itself is neither a threat nor a panacea, but rather a tool for achieving desired ends.

Historically, much technological change has been the result of borrowing of technology, both within countries and between them. This is commonly referred to as technology transfer when it is between countries or as diffusion of innovations when it is within a country, although the discussion of diffusion is often broadened to encompass both intra and international cases. The nature of the transfer often depends on the nature of the technology itself. For example, proprietary technology - that which is ownable - is often sold or licensed, at a price determined by the owner. It is treated as a commercial good, but the market for technology is imperfect as price is difficult to determine, since it is not necessarily related to the cost of production and includes considerations such as opportunity costs. Davies argues that the nature of the technology market has changed from a sellers market, where there was a limited number of suppliers, and hence a monopolistic-type situation, to a buyers market where there are many sources of similar technology, and technology is changing rapidly, so that its value is realizable through its sale as a product with a limited life-span as leading-edge technology.³ On the other hand, non-proprietary

3 Stephen Davies, The Diffusion of Process Innovation, (Cambridge:Cambridge Univ. Press, 1979).

technology, such as much scientific knowledge, and managerial technology, tends to be transferred through formal channels such as cooperation between universities, professional associations, and educational exchanges, or informal channels such as personal communication and scientific journals, and rarely has a price attached to the technology itself. Instead, it is the cost of acquisition, including costs incurred in the transfer process and associated implementation costs, which constitute the price.

Technology transfer between developed countries is long-standing and levels of technological development are becoming more homogenous due to increasing internationalisation of enterprises, information-sharing, technological interdependence and joint research, which facilitate the process. Problems exist in areas such as transfers between COMECON and communist bloc countries, and concerns over technological dependence which lead to some duplication in technological development, and inhibit the free flow of technology. This is also true of competition in the commercial development of technology, for example, between the Japanese and Americans. While some of these problems also apply to transfers between dcs and ldcs, since some of the ldcs are communist, and are also potential commercial competitors, there is also a whole other set of problems associated with dc - ldc technology transfer, and as that is the focus of this inquiry I will concentrate on those problems.

Literature on the transfer of technology tends to focus on the problems associated with the transfer of commercial technologies, and thus on issues such as restrictive licensing arrangements, patenting practices, excessive costs, and means of promoting technology transfer such as joint ventures or foreign investment. The diffusion of innovation literature, while focussing on less commercial technologies, shares this concern regarding how to disseminate new technologies. Implicit in both is the assumption that technologies could be transferred to ldc's as they had been to dc's in the post-war Marshall Plan for rebuilding Europe. Japanese success in absorbing Western technologies and making use of them was, and is, seen as a model for development in Asia. Early development literature on technology transfer encouraged imitation of the western science policy model and emphasized development of scientific research institutions as a basis for technological development. Later development literature is critical of the past emphasis on basic science and research rather than the development of applications, and the emphasis on institutional development rather than learning-by-doing. The early literature also neglected the problem posed by the lack of linkages between research institutions and users of technology.

In the 1960's in the West there was growing concern

over the effects of technological change on society, which was reflected in works such as Ellul's on the "technological society", in which values are determined by technological standards rather than human ones.⁴ Concerns over privacy in an age of information-sharing, loss of control over technology, the threat posed by nuclear technology, effects of technology choice on various interest groups, and such issues, continue to be of popular interest in the West. The appearance of this "technological sensitivity" was followed in the 70's by the extension of concern to the effects of technology change and especially technology transfer on ldc's.

Previously ldc's had eagerly accepted uncontrolled technology transfers, through both aid and commercial channels and largely on the suppliers' terms. But soon there was recognition in both ldc's and dcs that technology transfers had not fulfilled expectations of closing the gap between developed and less developed countries, and in fact the gap appeared to be widening. The later development literature reflects a more critical view of technology transfer, examining issues such as the costs, appropriateness of the technology to the ldc context and dependency implications. It also considers effects such as dualistic development patterns that appeared to be related to a reliance on imported technologies, and the impact on

4

Jacques Ellul, The Technological Society, (New York:Alfred Knopf, 1973).

the development of indigenous technological capacity. UNCTAD and World Bank reports on technology transfer in the late '70's discussed the need for ldc's to control imported technology, and specified the need for technology policies and planning.⁵ Subsequently, by the mid-1980's many ldc's had adopted technology policies. These were primarily aimed at addressing the problems encountered in earlier technology transfers, and focussed on commercial technology and ways to control its importation and utilisation, but often seem to ignore non-commercial technologies.

Now, with the change in the nature of the technology market, from one characterised by monopolistic control and access to a more open situation, and technology policies in place, it is necessary to shift the emphasis in studies of technology transfer to remaining problems which have yet to be addressed. These mainly include demand side problems involving the absorption, adaptation and utilisation of imported technologies. These issues are being examined in some of the recent literature on technology transfer.⁶ For

5

United Nations Conference on Trade and Development (UNCTAD), Technology: Strengthening the Technological Capacity of the Developing Countries Including Accelerating Their Technological Transformation (Study by the UNCTAD Secretariat, May 7, 1979).

Frances Stewart, International Technology Transfer: Issues and Policy Options, (World Bank Staff Working Paper No. 344, 1979).

6

International Development Research Centre (IDRC), Absorption and Diffusion of Imported Technology: Proceedings of a workshop ..., (Ottawa:IDRC, 1983).

example, Mytelka in a recent article, discusses the importance of a conscious process of learning-by-doing for effective technology transfer.⁷

The effectiveness of technology transfer is something that it is difficult to measure or assess. Many evaluations of technology transfer avoid the problem by defining the objectives narrowly, and considering achievement of the objectives as an indication of effectiveness. For example, training a technician to perform given tasks might be considered as technology transfer, even if it involves only a mechanistic application of the techniques. This kind of narrow definition of technology transfer is inadequate, for technology transfer must be evaluated as a process including communication of the technology, understanding and adaptation of the technology to the users needs, and creation of requisite infrastructures and organisation for its continuing application and development, and dissemination. Mytelka argues that for a transfer to be truly effective the imported technology must be assimilated, since it is only through technical mastery that its subsequent modification, improvement and extension becomes possible. This mastery permits flexibility in response to changing conditions which makes possible an ongoing

7

Lynn Mytelka, "Effective Technology Transfer in Africa", In Nathan Rosenberg and Claudio Frischtak, International Technology Transfer, (New York: Praeger, 1985), pp. 79-156.

8

contribution to economic growth and social welfare.

In addition to considering effectiveness in terms of technical mastery it is also necessary to consider the outcome of the transfer, that is, its ultimate effects. While there has been some attention to the direct effects of technology transfer, such as decreasing birth rates due to birth control technology or increased yields due to agricultural technology, the indirect or unplanned effects have largely been ignored. According to one author, Davies,⁹ this area is almost virgin territory. There is some literature in political science regarding the political effects of importing foreign technology, especially Western technology to communist countries, which offers some insights. The social and cultural effects of transferring technology, and the processes involved in the introduction, evaluation, and institutionalisation of new technologies, have also received some attention in the anthropological literature on culture change and social change. Although the effects may be difficult to measure or may be apparent only over the long-term, awareness and consideration of them should be a part of technology planning and assessment. For, as Rogers points out, the ultimate aim and effect of

8

Ibid.

9

Davies The Diffusion of Process Innovation.

technology transfer is induced social change.¹⁰

THEORETICAL PERSPECTIVES ON EFFECTIVE TECHNOLOGY

TRANSFER AND SOCIAL CHANGE

Theoretical literature which sheds light on the process of technology transfer, and contributes to an understanding of some aspects of the subject, is found in a variety of disciplines. Of the literature which is most relevant to the specific problem considered in this analysis, namely the transfer of "soft technology" from developed to developing countries, with a focus on the effects of the transfer as well as the process itself, the most useful is the development literature on technology transfer, which Stewart¹¹ summarizes. Some insights are also provided by the literature on the diffusion of innovation and induced social¹² change, in which Rogers is the acknowledged authority. The anthropological literature dealing with culture change, such as the work of Wallace, and that concerned with social change, especially Barth's contribution, offer some approaches to understanding the process of technology transfer and its effects which complement and elucidate some

10

Everett M. Rogers, Diffusion of Innovations, (New York:Macmillan, 1983).

11

Stewart International Technology Transfer

12

Rogers Diffusion of Innovations.

of the explanations offered by the development theorists. For an understanding of the potential political impacts of imported technology, the literature in political science by Volti is useful.¹⁴ Drawing on theoretical insights from these five areas, an attempt is made in this analysis to develop a model of the determinants or characteristics of effective technology transfer, and to apply this model in a comparative study of several CIDA programs aimed at the transfer of management technology from Canada to China.

In a World Bank Paper, "International Technology Transfer: Issues and Policy Options", which addresses the question of the implications of technology transfer from developed to developing countries for the latter's development, Stewart summarises the costs and benefits of importing technology for developing countries.¹⁵ Among the benefits are: the opportunity to benefit from advanced technology without incurring the development costs, and the stimulus to technological development provided by the model of advanced technology. The costs include: direct and indirect monetary costs, often requiring use of scarce

13

A.F.C. Wallace, "Paradigmatic Processes in Culture Change", American Anthropologist, Vol 74 1972, pp. 467-478.

Frederik Barth, "On the Study of Social Change", American Anthropologist, vol 69 1967, pp. 661-669.

14

Rudi Volti, Technology, Politics and Society in China, (Boulder, Colorado:Westview, 1982).

15

Stewart International Technology Transfer ...

foreign exchange reserves; a dualistic pattern of development which often is associated with the unrestricted importation of technology; technological dependence which imposes restrictions on the freedom of decision-making and may restrict political and economic independence; and the inhibiting effect on the development of indigenous technological capacity resulting from unrestricted technology imports.¹⁶ Many of the negative consequences involve unrestricted imports, hence most of the technology policies adopted by developing countries have involved an interventionist approach by the government, and more restrictions on technology imports, to improve the terms of the transfer, limit restrictive arrangements, and enhance the learning effects through the importation of less highly packaged technology. Although these policies may conflict with the objective of maximising technology inflow, they are aimed at developing indigenous technological capacity.

Technological development is a continuous process involving the accumulation of technological capacity, and the two main elements in the development of such capacity are "learning-by-doing", and creation of an educational, infrastructural and institutional setting which permits and encourages learning. In the past the latter has been overemphasised and the importance of the former underestimated. 'Learning-by-doing', a concept originally

16

Ibid. pp. 20-21.

discussed by Arrow in 1960, involves an effort to control and absorb technology imports, which are modified and used¹⁷ as a basis for local technological development. Although institutional development is important, weak linkages between the institutional structure and applied activities have tended to marginalize the activities of the institutional side. Internal transfer of imported technology tends to be underutilized in developing countries, with the exception of China which has pursued such transfers as a conscious policy. On the basis of Stewart's summary it appears that the main problems remaining to be addressed in the transfer of technology from developed to developing countries are in the area of development of technological capacity, and in particular, "learning-by-doing", and institutional development with an emphasis on furthering internal transfer of technology through improved linkages¹⁸ between institutions and productive activities.

In a recent study on effective technology transfer Mytelka reiterates Stewart's emphasis on the importance of 'learning-by-doing' in effective technology transfer, and further clarifies the concept. She suggests that effective technology transfer is a process of building indigenous technological capacity through consciously engaging in

¹⁷

K. Arrow, "The Economic Implications of Learning By Doing", Review of Economic Studies, June 1962.

¹⁸

Stewart International Technology Transfer ..., pp. 39-41, p. 9.

'learning-by-doing' . In the classical literature on technology transfer, increases in productive capacity believed to be the result of importing foreign capital or equipment were regarded as indicators of effective technology transfer. But Mytelka points out that productive capacity should not be equated with technological capacity, and the importation of equipment (or techniques) and their application does not constitute an ability to reproduce that technology or use it for other purposes. For technology transfer to be effective the technology must be assimilated, for it is only through technical mastery that modification, improvement and extension of the technology is possible. While the concept of 'learning-by-doing' was applied in earlier analyses of technical mastery, it was found that participation in the production process itself was not sufficient, and what was necessary was a conscious process of learning-by-doing including trouble-shooting, and problem identification and solution.¹⁹ It is clear from both these authors' work that in the development theories on technology transfer the development of indigenous technological capacity through the acquisition of a practical understanding of the technology through its application, as opposed to the simple adoption of a technology or a theoretical understanding of it, is viewed as a key aspect of effective technology transfer.

¹⁹

Mytelka "Effective technology Transfer ...", pp. 79-81.

The diffusion of innovation research tradition has provided a model for technology transfer from developed to developing countries, such as development projects in health care and agricultural, as well as for diffusion of innovations within a society or system, such as rural extension programs and commercial marketing. This 'tradition', as Rogers refers to it, is multidisciplinary in nature, including contributions from anthropology, sociology, education, marketing, geography and communication, among others, but is linked by a common focus on the diffusion of innovations. Rogers views diffusion as a process of communication, and diffusion research as a type of communication research. In the past, diffusion research tended to focus on the individual as the unit of analysis, looking at questions such as characteristics of early adopters versus later ones. More recently communication network analysis has become more common, in recognition of the social nature of the diffusion process. In fact, Rogers describes diffusion itself as a kind of social change, defined as the process by which alteration occurs in the structure and function of a social system.²⁰

On the basis of studies of networks of communication and adopter characteristics, an 'elite' model of diffusion

20 Rogers Diffusion of Innovations p 46, pp. 108-110, p. 6)

was formulated which involved the targetting of opinion leaders as a focus for receipt of innovation information, which would then 'trickle-down' to other members of the society automatically in the familiar S-shaped diffusion curve that had frequently been observed in early diffusion studies. Opinion leaders are identified as those in a society who are able to influence informally other's attitudes and behaviours, and do not necessarily hold any formal positions of power. Their characteristics include having a higher level of social participation (eg. in formal organisations and informal discussions) than others, being more innovative (but not deviantly so), and having a higher socioeconomic status than the majority of the population.²¹

This model is one which was widely applied in development projects in the past. For example, many education projects focussed on the training of an educated elite, who were supposed to then teach others. When technology transfer is considered as a primarily educational process, it is treated as an individual activity rather than in a social context, and aspects such as the necessity of institutional development are neglected.²² In

²¹

Ibid., pp.282-284.

²²

Milton Esman and Fred Bruhns, "Institution Building in National Development: An Approach to Induced Social Change in Transitional Societies", In H.W. Peter (Ed) Comparative Theories of Social Change, (Ann Arbor:Foundation for Research on Human Behavior, 1966):320-342.

addition it tends to focus attention on theoretical knowledge rather than applications. And it is in its application that the value of a technology lies. As a result many such projects did not serve the interests of groups other than the small educated elite.

It is only recently that the impact an elite approach may have on the consequences of the diffusion of an innovation (in particular, effects on equality) was recognised. As Rogers points out, diffusion in the past has generally resulted in a widening of socioeconomic gaps in the recipient society. Reasons for this include the opportunity for 'windfall profits' which accrue to early adopters of new technology, which is available to the elite as the target recipients of the technology. In addition the assumption that the technology would spread from the elite to other members of society proved to be faulty, and it was observed that interpersonal communication networks tended to be homophilous, so that information spread between individuals of similar socioeconomic and educational status, and not between elite and non-elite groups. In order to avoid increasing inequality, and to specifically help the most needy groups in a society, specific diffusion strategies may be required, such as the use of communication channels to which there is general access. The targetting of opinion leaders for assistance may seem to be an efficient diffusion strategy, but if there is not further diffusion to other groups, the long-term cost may not be any greater for

a broader-based approach, which may result in widespread adoption and enjoyment of the benefits. In sum, Rogers points out the importance of how an innovation is introduced as a determinant of the consequences it will have.

23

Lack of recognition of such effects was partly due to the neglect in diffusion research, and on the part of change agents such as development workers, of discussing effects or consequences of diffusion, and an overemphasis on adoption per se. The anthropology research is among the earliest research on diffusion, and is exceptional in its attention to the consequences of diffusion. Rogers suggests that the anthropology tradition has been most concerned with the cross-cultural transfer of innovation, and that the approach to study which tries to gain an understanding of the total culture, including world view and social relationships, provides a unique means of understanding such consequences. One of the earliest diffusion studies was Wissler's 1923 study of the diffusion of horses to American Indians from Spanish explorers. Among more recent anthropological work is Pelto's study of the introduction of snowmobiles to the Lapp people, and the far-reaching effects on their culture and society. Anthropological research has also provided insights into the relationship between an innovation's compatibility with cultural values and its rate of adoption (or

23

Rogers Diffusion of Innovations, p. 381, p. 392, p. 310, pp. 406-410.

24
rejection).

While in the technology transfer and diffusion literature the technology or innovation to be transferred is generally assumed to be given and static, Barnett, in his classic work Innovation: The Basis of Cultural Change points out that innovations are always transformed in their transfer from one society to another. In addition, he contends that technology is more easily introduced than abstract ideas because a large part of the meaning of a technology is inherent in what it does.²⁵

Wallace agrees that the process of communication of an innovation, and its evaluation and adoption, involves a translation of it into terms understandable to the recipient society.²⁶ His explanatory model of social change emphasizes the psychological "screens" which an innovation goes through in the process. He identifies various types of psychological organisation which provide a framework for the perception and interpretation of events and ideas, and for behaviour. At the most abstract level is the "genius" of a culture, which provides certain primitive categories into which experience can be coded and restricts the kind of

24

Ibid. p. 371, p. 46-49.

Wissler (1923) and Petti (1973) In Rogers Ibid.

25

H.B. Barnett, Innovation: The Basis of Cultural Change, (Toronto; McGraw Hill, 1953) p. 375, p. 49.

26

A.F.C. Wallace, Culture and Personality, (New York; Random House, 1970).

relationships that can exist between the categories. This can best be understood in terms of Whorf's assertion that we dissect nature along lines laid down by our native language.²⁷ Thus language can be seen as the most accessible aspect of "genius". "Still predominately cognitive, but more concrete in reference to observable things, is world view".²⁸ World view constitutes the set of cognitive orientations of the members of a society, and in particular refers to assumptions about the nature of man and the universe. Values are seen as the emotional counterparts of world view, those aspects having a positive or negative valence for individuals, which play an important role in the evaluation of innovations. In Wallace's model, "genius", world view and values serve as "evaluative screens" in the communication and introduction of an innovation.²⁹ This suggests the importance of the re-interpretation of a transferred technology in terms of the recipient's own epistemology, world view, and values, as part of an effective technology transfer process.

Wallace emphasizes the view of innovation as idea, but Barnett stressed the need to focus on aspects of innovation such as social and behavioural aspects, as well as

²⁷

Benjamin Lee Whorf, Language, Thought and Reality, (New York:Wiley, 1956), p. 213.

²⁸

Wallace Culture and Personality, p. 141.

²⁹

Ibid., pp. 148-150.

ideological constructs. Recent studies of social change, especially those of Barth, have attended to such aspects. Barth suggests that in order to understand social change one should look at events and behaviour as well as ideas, and thus it is perhaps necessary to focus more on institutionalisation (in which mechanisms of control over a technology or innovation are developed) as the critical phase.³¹ According to him, social processes such as interactions and exchanges between individuals and interest groups³² are of particular importance in social change.

Volti, in his work on the political absorption of foreign technology, shares this emphasis on interactions between interest groups in the transfer of technology, focussing particularly on efforts to control technological and associated social and political change. In his studies of the transfer of technology from the West to Communist countries, he points out that the control issue is particularly salient in Communist countries, where there is a commitment to control over economic and social change on the part of the Communist political elite, which requires a subservient role for technology and its practitioners. In his view " the pattern of technological advance has to mesh

30

Ibid, pp. 3-7.

31

Barth "On the Study of Social Change"., p. 669.

32

Bruce Kapferer, "Transactional Models Reconsidered", In B. Kapferer (Ed) Transaction and Meaning, New York:Random House, 1976., pp. 2-3.

with general ideological orientations, and political control³³ can never be eroded by any sort of technocracy". In other words, it is unlikely that political changes would be made to accomodate imported technology. Therefor, imported technology may have to be adapted to conform with political and social conditions in the recipient country.

In conclusion, drawing from the various theoretical insights on technology transfer, a model emerges of a process in which a technology is communicated from one society to another and in the process is translated into terms comprehensible to the recipient, which involves not only literal translation but may include a transformation of the technology into a form compatible with the recipient's world view and values. If this is not possible the technology may be rejected without further consideration. The technology, in some changed form probably, may subsequently be introduced on a trial basis and be subject to consideration by groups who would benefit from its application, or who may consider it harmful or a threat to their interests. Thus it may be opposed by some interest groups and promoted by others, and if political and social barriers to its acceptance are overcome, it may be

33

Rudi Volti, "Introduction" and "Technology and Polity: The Dynamics and Dilemmas of Managed Change", Studies in Comparative Communism Vol 15, Nos. 1 and 2, 1982, pp. 1-8, and pp. 71-94, esp. p. 8, 89.

institutionalised, and control mechanisms such as professional control, certification, and legal instruments of control may be put in place. The consequences of the process may be influenced by the channels through which the technology is introduced, such as by an elite-focussed assistance program. In addition, the contribution of the transfer to the development of indigenous technological capacity may be dependent on the opportunity for 'learning-by-doing' in the transfer process, and the establishment of linkages between the institutional organisation and the potential users of the technology.

CHAPTER 3

TECHNOLOGY TRANSFER: PAST EXPERIENCE

In the past, discussions of problems in the transfer of technology from dc's to ldc's directed much attention to issues such as cost, restrictive arrangements, especially involving licensing and patents, and other factors such as packaging, which have limited the absorption and diffusion of many imported technologies, and have not facilitated the development of indigenous technological capacity. Many of these problems have been addressed in technology policies, which have been useful in increasing awareness of these problems and countering them. Others have been lessened by the growing number of suppliers of technology, and the changing nature of the market to a buyer's market. Now it appears that the most serious problem remaining in the effective transfer of technology is that of absorption and diffusion. As was discussed earlier, learning-by-doing seems to be a necessary part of effective technology transfer, thus the opportunity for it may provide a useful predictor of whether a transfer program will be effective.

There are many channels for the transfer of technology, including published information, sales of equipment, foreign consultants, overseas training and education, and local

training by foreign experts. Obviously some of these offer more potential for learning-by-doing than others do. In particular the use of consultants and the education/training options are most likely to present opportunities for a conscious learning process. However Solo in an analysis of consulting firms as agencies of change suggests that, while they can make a valuable contribution, consultants are transitory and without continuing links in the ldc, hence the value of their accumulated experience in the context is¹ lost. In his study of Canadian consulting engineers Siggel supports this view. He found that the emphasis is on completion of individual projects, and there is no commitment to ongoing research and development. Although there are opportunities for learning-by-doing, he suggests² that they are not as useful as they might be.

The need for education in development is widely recognised, but education and training as a means of technology transfer is less clearly identified. Cassen in a comprehensive review of aid effectiveness points out that those trained and educated are often later found to be

1

Robert A. Solo, "The International Corporation and Consulting Firms as Agencies of Change", in R.A. Solo and E.M. Rogers (Eds) Inducing Technological Change for Economic Growth and Development, (Ann Arbor:Michigan State Univ. Press, 1972), pp. 229-238, pp. 229-230.

2

Eckhard Siggel, "Technology Transfers to Developing Countries through Consulting Engineers: A Model and Empirical Observations from Canada", The Developing Economies, Vol 24 No 3 (Sept 1986), pp. 229-250.

unemployed, perhaps due to a mismatch of skills and demand. He suggests this might be avoided by a higher proportion of in-country education and training.³ This would serve to ensure a better match between the kinds of technology acquired and facilitate adaptation to domestic needs. Education does not always involve learning-by-doing, and may be theoretical in nature, and training may merely involve the application of a technique. Those programs which are of a cooperative work-study type, involving both application and analysis, are most likely to involve learning-by-doing elements.

Cassen suggests the need for broadening the educational base rather than strengthening elite education.⁴ This is a point of contention amongst those involved in the transfer of technology through education, which can be generalised in terms of a mass vs elite dichotomy. The diffusion model of focussing on elites, and hoping for subsequent "trickle-down" was popular, and widely applied in the past. But as Rogers pointed out, it was not very successful in reaching many people. More recently there has been a trend towards grassroots work, and programs such as adult education. Clearly a balance between higher education and more vocational programs, and practitioners and researchers, as well as teachers is needed. This seems like

3

Robert Cassen and Associates, Does Aid Work?, (Oxford:Clarendon Press, 1986), pp. 145-146.

4

Ibid., p. 146.

an obvious solution, but what is often neglected is the need for linkages between these elements. What is required is a system of indigenous researchers in contact with users of technology, who pass on their experiences through educational institutions and train others.

The approach to the transfer, that is whether it has a mass or an elite focus, may affect its effectiveness, and its ultimate effects, for example on equity, or political affairs. Hayhoe, following an analytical model related to dependency theories, considers educational cooperation in terms of penetration or mutuality. Indications of penetration are for example, program elements which serve to impose donor values, rather than promote indigenous ones.⁵ This interpretation places the onus on the donor to structure programs so as to promote indigenous research, for example. However, the recipient is often an active participant in the transfer plan, and may introduce elements which are not conducive to mutuality. The danger of negative effects is less likely to be due to a conscious cultural or political penetration, but rather to elements which support an educated elite or encourage an exodus of the best educated, and the structuring of programs in a way that inhibits the development of indigenous institutions

5

Ruth Hayhoe, "Penetration or Mutuality? China's educational Cooperation with Europe, Japan, and North America", Comparative Education Review, Nov. 1986, pp. 532-559.

and research. These effects may have profound implications for all aspects of the recipient society's development.

Siggel, in his article on technology transfer and learning models, remarks that "very few studies have analyzed technology transfer by constructing theoretical models and none have set out to test such a model"⁶. Here I am attempting to do just that. The model I have developed is one of criteria which are likely to be important in the efficient transfer of technology. It is not a plan for technology transfer but rather a tool for predicting the success of a transfer program. On the basis of theories of technology transfer, and past experiences I have concluded that the following are critical elements in the transfer of technology through educational/ training programs:

- 1 the opportunity for learning by doing;
- 2 a mass approach, rather than a reliance on an educated elite for adaptation and diffusion; and
- 3 factors such as the location of the program, and provisions for two-way transfer, which may have a profound influence on its ultimate effects.

Technology Transfer to China

As was the case with Meiji Japan, China borrowed a number of Western organisational patterns in the late 19th

⁶

Siggel "Technology Transfers to Developing Countries ...", p. 230.

century, but in China's case British hegemony resulted in foreign participation in a semi-colonial fashion. For example, in the Maritime Customs, the Post Office and Salt Revenue Administration, foreigners served as Chinese government administrators, but the revenues collected were earmarked to pay off foreign loans and indemnities. At that time, China failed to open up and develop as Japan had, and this has been attributed to deep-lying cultural traits and values, such as xenophobia.⁷

Since 1949 the "importation of foreign technology has been a major political issue in China, figuring prominently in inner-Party struggles".⁸ As Lee points out leaders have been purged successively for "slavish worship of foreigners" and "blind rejection of foreign things".⁹ In fact, a compromise position between the two extremes has been the conscious adaptation of imported technology to China's circumstances. This is described as zhong ti xi yong (literally, Chinese essence; Western practise) or Chinese learning as the essential principle, Western learning as practical application.¹⁰

7

John King Fairbank, The Great Chinese Revolution: 1800-1985, (New York: Harper and Row, 1986), p. 177.

8

Rensselaer W. Lee, "Political Absorption of Western Technology: The Soviet and Chinese Cases", Studies in Comparative Communism, Vol 15 Nos. 1 and 2 (Spring/Summer 1982), pp. 9-33, p. 30.

9

Ibid., p. 25.

10

Zi Zhongyun, "The Relationship of Chinese Traditional

Pye discusses the Chinese concern with Sinification of Western technology in terms of the traditional Chinese blend of xenophobia and xenophilia. He suggests that the Chinese are xenophobic in their distrust and distaste for the foreign and their respect for Chinese tradition and commitment to Chinese nationalism, but they are xenophilic in their admiration for the material success of foreign technology, and hence seek to use foreign technology to restore Chinese greatness and assert Chinese superiority.¹¹

In the past China's ability to absorb technology transfer has been relatively low.¹² This has led to the suggestion that zhong ti xi yong has failed and that the principle should be turned around to xi ti zhong yong (Western essence, Chinese practise), for example, taking Western scientific methods as ti and Chinese family ethics as yong,¹³ and applying those methods to Chinese conditions. In an article on "... Maoism as the Sinicization of Marxism," Jung and Jung discuss how this has been applied in the political realm to create a kind of Marxism with Chinese

Culture to the Modernisation of China: An Introduction to the Current Discussion", Asian Survey, Vol 27 No 4 (April 1987), pp. 442-458, p. 451.

11

Lucien Pye, Chinese Commercial Negotiating Style (Cambridge, Mass: Oelgeschlager, Gunn and Han, 1982, pp. 81-82.

12

Lee "Political Absorption of Western Technology ...", p. 25.

13

Zi "The relationship of Chinese Traditional Culture ...", p. 451.

14
characteristics. However it is approached, the borrowing of foreign technology remains a political issue in China.

Mao emphasized the need to modernise along uniquely Chinese lines, to reform foreign technology for Chinese conditions and create indigenous technologies. He emphasized the value of learning-by-doing, and the importance of education related to practical concerns.¹⁵

He promoted the idea of "Mass Science", involving both workers and 'experts' in technological innovation, and believed that technological development could not be considered apart from the broader issues of social policy.¹⁶ According to Lee "the nativist and egalitarian emphasis of Maoist doctrine was combined" in the proposition that the more broadly opportunities for technological change were distributed, the more likely technology would develop according to distinctive Chinese patterns.¹⁷ This broad distribution was to be achieved through horizontal

14

Hwo Jung and Petee Jung, "The Hermeneutics of Political Ideology and Cultural Change: Maoism as the Sinicization of Marxism", Cultural Hermeneutics, Vol 3 (1975), pp. 165-198.

15

M. Halty-Carrere, Technology Development Strategies for Developing Countries: A Review for Policy Makers, (Montreal:Institute for Research on Public Policy, 1979.,p. 76.

16

Rudi Volti, "Technology and Polity: The Dynamics and Dilemmas of Managed Change",Studies in Comparative Communism, Vol 15 Nos. 1 and 2 (Spring/Summer 1982), pp. 71-94, p. 71.

17

Lee "Political Absorption of Western Technology ... ", p. 27.

technology transfer, the so-called "mobilisation model" of technological development.

The influence of Maoist ideology is still evident in the current Chinese technological development strategy. According to Volti the accession of the post-Maoist "pragmatic" leadership has not obliterated that ideology, and policies continue to be legitimated in terms of their ideological correctness.¹⁸ For example, reforms exhorting people to get rich through their own efforts are justified as a means for getting ahead in order to help others and contribute to the development of China. Thus the socialist egalitarian ideology persists, although the reality of elitism, especially in education, is sometimes difficult for outsiders to reconcile with this ideal. The pragmatism of the current leadership does not allow for economic progress at any cost, because this would encourage criticism from ideologically orthodox leaders who are still¹⁹ powerful and who insist on the primacy of ideology.

The Four Modernisations, which provide a focus for China's current development plan, contain a heavy emphasis on the development of technology as a means of making the

¹⁸

Rudi Volti, Technology, Politics and Society in China, (Boulder, Colo.:Westview, 1982), p. 59.

¹⁹

Julian Baum, "Peking's Old Guard Refuses to Step Aside", Christian Science Monitor, March 23-29, 1987, p. 3.

most efficient use of available resources and existing
enterprises.²⁰ In order to increase China's technological
capabilities quickly, the Chinese intend to import foreign
technology as a basis for building an indigenous
technological development capacity. They recognise that in
the past they did not make the best use of technology
imports, and therefor have developed a technology policy
aimed at increasing the effectiveness of technology
transfers. In particular these are concerned with transfers
through trade and investment channels, which China is
promoting as a way to compensate for shortages of capital.²¹

The policy, for example, encourages technology transfer
as part of Foreign Direct Investment (FDI) in China, and
strategies such as tradewide technology transfer.²² Some
specific guidelines for the importation of technology
include: a preference for imports of complete technology and
a gradual increase in the local component in order to limit
the duration of dependency on imports; and a ruling that
contract stipulations may not limit development in China, or

20

Ji Chongwei, "Technical Transformation and the Use of Foreign Funds", China's Foreign Trade, vol 6, 1983, pp. 8-9., p.8.

21

Leo Orleans, "Chinese Students and Technology Transfer". Journal of Northeast Asian Studies, Vol 4 No. 4 (Winter 1985), pp. 3-25, p. 7.

22

Zhong Ming, "New Rulings to Benefit High-Tech Investors", China daily, June 7, 1984.

the quantity or scope of exports. Although China is in a strong negotiating position due to the large potential market it represents, some concessions such as acceptance of tied purchases or restrictive licensing agreements are made in order to acquire desired technologies. China's lack of recognition of international patents, which may have been a barrier to technology transfer in the past, has been rectified by the recently instituted Patent legislation.²⁴ Thus China has displayed an awareness of problems associated with technology transfers in the past and has attempted to deal with them.

The current technology importation guidelines also include a preference for technology versus sets of equipment.²⁵ In other words, there is an emphasis on software, such as guidance in design, manufacturing, testing, maintenance and management, rather than hardware.²⁶ Channels considered important for the importation of technology include: licensing, co-production, consultation, technical services and joint ventures.²⁷ The Chinese admit

23

Zhang Renyu, Technology Issues in the Capital Goods Sector: The Experience of the People's Republic of China, (New York:United Nations, 1984).

24

Huang Kunyi, "China's Patent System Takes Shape", Intertrade, Feb 1984, pp. 19-23.

25

Zhang "Technology Issues in the Capital Goods Sector ...".

26

Orleans "Chinese Students and Technology Transfer", p. 7, discussing Congren Ribao article.

27

Zhu Rongji, "Remarkable Progress in Technology Import", Intertrade, Feb. 1984, pp. 289-99, p. 29.

that their capacity to absorb the latest technology is still limited, and hence " more time and money must be spent on digesting and absorbing than on importing such technologies".²⁸

As Orleans points out the process of technology absorption is limited by manpower constraints, especially a shortage of scientists and engineers, and of competent managers - hence the importance of education and training programs to upgrade the level of personnel. In addition, he emphasises the importance of sending students and scholars abroad as a means of increasing the number of individuals capable of adapting foreign technologies to China's needs. And he suggests that in Chinese discussions of technology transfer, foreign education and training are not mentioned, perhaps because they do not want to draw attention to their value for fear that such activities might be limited in the future.²⁹

Study abroad is not a recent phenomenon in China, and has played an important role in China's development this century. In the early 1900's students went to Europe, the United States or Japan, and after 1950, to the Soviet Union and Eastern Europe. Foreign study was limited during the

²⁸

Orleans "Chinese Students and Technology Transfer", p. 6, discussing Renmin Ribao article.

²⁹

Ibid., pp. 9-10.

60's and early 70's, but between 1978 and 1985 China sent an estimated 36,800 students abroad to study in more than 36 countries.³⁰

Chinese students trained abroad have had an important impact on Chinese politics, as well as on other areas of life. For example, in the early 1900's returned students called for a "critical reevaluation of the national heritage and the introduction of Western thought and ideologies", and played a leading role in the May 4th Movement (1919).³¹ Many criticised Confucianism and advocated liberalism, individualism and democracy.³² More recently, Chinese students in the U.S. displayed unusual dissent by sending a petition to their government opposing the treatment of a Chinese "democracy movement" activist. In fact, that movement continues openly only outside China, and one of its major proponents is a Chinese student, Wang Bingzhan, who graduated from McGill University and is remaining outside of China to promote the movement.³³ This suggests that foreign study as a means of technology transfer may involve more than purely technical considerations, and may have profound implications for social change as well.

³⁰

Ibid., p. 13.

³¹

Immanuel C.Y. Hsu, The Rise Of Modern China, (Toronto:Oxford Univ. Press, 1975), pp. 600-608.

³²

Ibid., p. 603.

³³

Andrew J. Nathan, Chinese Democracy, (Berkeley:Univ. of California Press, 1986), p. 231.

In an article on the economic and political impact of study abroad, Fry discusses the positive and negative effects including: political development, sensitivity to the need for cultural democracy, cross-cultural enrichment, foreign-exchange cost, individual opportunity cost, and socialisation into a consumer culture, among others.³⁴ Clearly Chinese fears of "spiritual pollution" are not unfounded.

In addition, scepticism about the ability of those trained abroad to adapt their knowledge of foreign technologies to Chinese circumstances appears warranted. References abound regarding the problems surrounding the utilization of those returning from abroad. A Chinese survey in 1984 showed that about one-third of them were unable to play a useful role for reasons such as neglect by their bosses, or being handicapped by the rigid administrative structure. Many are not fully used because of a shortage of facilities. This problem is especially a concern for younger returnees whose previous job affiliations were brief.³⁵ Despite Chinese officials' efforts to improve the situation, scholars are still not optimistic about applying

34

Gerald W. Fry, "The Economic and Political Impact of Study Abroad", Comparative Education Review, (May 1984), pp. 203-220, Discussed in Orleans "Chinese Students and Technology Transfer", p. 11.

35

Orleans "Chinese Students and technology Transfer", pp. 18-20.

what they learn abroad in China. In his study of Canada-China Educational Cooperation, Singer interviewed visiting students and scholars from China, and half of those interviewed expressed serious concern about their ability to apply in China what they have learned in Canada. They had reservations about the adequacy of facilities, such as laboratories and computers, and anticipated difficulty in readjusting to the Chinese academic lifestyle. Half of the Canadian supervisors interviewed, in assessing the potential contribution of the returning Chinese academics, expressed uncertainty about the possibilities, for reasons expressed by the Chinese, and in addition, mentioned the insufficient³⁶ experience of the Chinese returnees as a limiting factor.

There appears to be a serious problem of "brain drain" which has accompanied the sending of Chinese students abroad. Clearly if those selected are among the best qualified to benefit, then the past investment in their education is lost if they do not return. Of the Chinese students who were sent or went abroad many have failed to return, and having acquired refugee status are not likely to. Although figures are inexact, it is estimated that of the 36,800 sent abroad since 1978 only 15,000 had returned³⁷ by 1985. The Chinese government is clearly concerned with

³⁶

Martin Singer, Canadian Academic Relations with the People's Republic of China Since 1970, (Ottawa:IDRC,1985), Vol 1, pp. 18-19.

³⁷

Orleans "Chinese Students and Technology Transfer ...", p.

the problem, but can do little other than restrict foreign study, and try to make the Chinese climate more inviting.³⁸ This, along with problems of utilisation, must be considered in evaluating the various channels of technology transfer and their relative merits.

A number of recent studies have analysed the experiences of various projects and programs to transfer technology to China through foreign education/training. Minden and Christoff discuss transfers in the fields of medicine, and science and technology respectively. Stross deals with the transfer of agricultural technology, and Hayhoe, the transfer of management. Although they deal with different sectors and approach the analysis from different perspectives, they share a common theme of the importance of political and social barriers as the most problematic in the transfer of technology to China.

Minden and Christoff, in their dissertations, discuss some examples of problems encountered in the use of foreign studies and elite channels as a means for technology transfer to China. Christoff examined the role of relations between the U.S. and the P.R.C. in the modernisation of science and technology in China, and found that the contribution of the U.S. was "uneven". Problems encountered

13.

38

Ottawa Citizen, "Students Who Refuse to Come Home Causing Major Problems for China", Oct 17, 1987, p. E16.

include: individual Chinese scientists failure to try and integrate the knowledge obtained into the Chinese context because they do not have a national system for scientific communication. In fact, inter-institutional cooperation is impossible due to institutional jealousy. The strategy of focussing on a Western-trained elite, and promoting them as leaders, results in a neglect of the Chinese scientific community, especially the scientific workers and technicians. And Americans who go to China deal with the Chinese individuals who can help with American research problems. She concludes that Sino-American cooperation has often been unsuccessful in integrating international science and technology into the Chinese science and technology environment.³⁹

Minden, in her study of Canadian medical missionaries and the transfer of medical technology to China, found other problems. She points out that the lack of political support was the key external factor in the failure of the medical missionaries. The program was aimed at training a medical elite who could train others, but a problem encountered was the "cultural fragmentation" of the Western-trained Chinese doctors who had to function in a traditional community with traditional beliefs and social values, under

39

F.S. Christoff, Relations Between the U.S. and the P.R.C. in the Modernisation of Science and Technology in China, (Washington: The American University, 1984), PhD Dissertation, p. 59, pp. 64-65, p.49.

the authority of the local elite, and work in a hospital⁴⁰
espousing values of Western science, and rationality.

The focus of the missionary effort was on transferring a Western model of medicine and medical education which was inappropriate for the Chinese context, and the emphasis was on "high-profile" "prestige-oriented" services, such as surgery, rather than public health. Credit for the drastic improvement in the health of the general population in China belongs to improvements in hygiene, sanitation etc. promoted⁴¹ by Mao, rather than to any of the elite transfer programs. It was Bethune, in fact, who became the exemplar of the public health ideal in China, through his pioneering work⁴² organising basic health care during the revolution. The model of the "Barefoot Doctor" paramedic subsequently developed in China has been very effective, and has even been borrowed by some Western countries to service isolated areas.

The contrast between the ineffective and inappropriate elite program and the effectiveness of the mass approach

40

K.P. Minden, Missionaries, Medicine and Modernization. Canadian Medical Missionaries in Sichuan, 1925-1952 (Toronto: York Univ., 1981), PhD Dissertation, p. 416, p. 375.

41

Arthur M. Kleinman, "The Background and Development of Public Health in China: An Exploratory Essay", In Myron Wegman, Tsung-yi Lin and E Purcell (Eds), Public Health in the People's Republic of China, (New York: Josiah Macy Jr. Foundation, 1973), pp. 5-25, pp. 10-21.

42

Ibid., p. 19.

applied by Bethune, is striking. It is difficult to imagine the uniquely Chinese and appropriate health system developed in China resulting from a program such as the elite one Minden describes. She stresses the importance of political and social hindrances to the application of the technology at the time of the transfer. And she points out that those contacts established in the early medical cooperation have provided the basis for recent cooperation in medical education and research, which is probably an appropriate addition to, but not a substitute for attention to more basic health and welfare issues in China.

Other researchers have also described problems in the transfer of technology through foreign study. In his book on the transfer of American agricultural technology to China, Stross comments on the failure of an American-trained Chinese agronomist in his attempt to apply the lessons that he had learned in the U.S.:

"Like his American mentors, Shen subscribed to the belief that science and technological work could stand apart from - and be immune to - political, economic, social, and cultural difficulties. And like the Americans, Shen was stymied not by technical obstacles but by hindrances in the wider environment of human affairs. Their experiences make concrete the commonly repeated but perhaps still poorly appreciated maxim that technology and society are interdependent."

43

The Stubborn Earth

43

Randall Stross, The Stubborn Earth, American Agriculturalists on Chinese Soil, 1898-1937, (Berkeley: Univ. of California press, 1985), p. 14.

The view of various applications of technology as universal and value-free is not innocuous, according to Hayhoe. In her view, if a conscious effort is made to initiate recipients of the technology into a theoretical approach characterizing the donor paradigm in the field, and this is portrayed as universal and value-free, this can be viewed as "cultural penetration". She considers this as one aspect of a constellation of factors which perpetuate imperialistic relations between dcs and ldc's. However, as she points out, China has successfully avoided previous attempts at penetration, and dependency theories are not directly applicable to Chinese development.

She points out that, while the sending of scholars abroad is an important channel for transfer of technology to China, its success is largely dependent on the success with which a few individuals master and adapt them to Chinese needs. In her view, another channel, cooperative educational projects, jointly organized by China and a foreign country, involving a Chinese collective and established in China, may be a more important channel for technology transfer. However, she feels that cultural penetration may be a major function of educational projects with China, and these cooperative education projects are expressions of political and economic penetration, since they promote donor values,

such as capitalism and participatory democracy. Although they are organised in cooperation with the Chinese, they do not involve a mutual respect for values, or an acknowledgement of the possibility of a Chinese contribution in the field, and they do not involve the formation of internal linkages within China, but rather the creation of linkages between Chinese and foreign institutions. She suggests that in order to promote "mutuality" they should⁴⁵ involve these elements.

Hayhoe is one of the few authors who discuss the effects of technology transfer in broader terms than simply as the transfer of information. Lee also discusses the implications of the transfer of Western technology to China. He points out that "the legitimating structures for expanded reliance on Western technology" appear to be relatively underdeveloped in China (compared with the USSR for example), and ultimately "the prospects for long-term, stable ties with the West ... depend on how well (China's) ... modernising elites cope with the broader societal⁴⁶ consequences of Westernization". Such consequences are likely to include:

- a crisis of values: the corrosive effect of Western influences on core belief structures (eg the superiority of

⁴⁵

Ibid., p. 532, 534, 557.

⁴⁶

Lee "Political Absorption of Western Technology...", pp 30-31.

socialism, egalitarianism) which may arouse a traditionalist reaction;

-a crisis of expectations: stemming from an inability to make effective use of Western technology, for example due to managerial or bureaucratic inertia. The economic impact of the imported technology may not live up to the promises of the modernizing elite, and hence be difficult to justify;

-a crisis of distribution: the benefits of technology acquisition tend to be distributed unevenly. this may have long-range effects on patterns of social or economic stratification, for example, resulting in cleavages between relatively westernized sectors and regions, and less exposed regions.⁴⁷

In addition "technology transfers may also produce changes in the distribution of authority in a Communist system".⁴⁸ Patterns of authority and subordination are unlikely to remain unaffected by the technology transfer process, and as a result some groups will likely gain power and influence at the expense of others. Lee speculates that there is a possibility of challenges to modernising elites - from traditionalists who fear the erosion of values, or "ideological pollution" from the West, from those dissatisfied with the economic effects of Western

⁴⁷

Ibid., p. 32.

⁴⁸

Ibid., p. 33.

technology, and "from groups which may have been excluded from the Westernizing process or who feel that their powers⁴⁹ or prerogatives have been undermined by the process". Thus the absorption of foreign technology may involve considerable change in Chinese society.

This is especially true of a technology such as management, which can be a powerful tool for social control, and is likely to affect many aspects of the work environment. Because in China everyday life is closely linked to the workplace, this means that it would affect many aspects of life there that it might not influence in the West. In the following chapter I will discuss the nature of Western management, the technology to be transferred in the case studies.

49

Ibid.

CHAPTER 4

WESTERN MANAGEMENT THEORY AND PRACTISE

Consideration of management itself as a technology may seem unusual, but as knowledge of techniques for the organisation of productive activities management is clearly deserving of such treatment. Initially it is necessary to clarify the ambiguity associated with the concepts of 'manager' and 'management' and the activities of managers. 'Management' in the sense of managing one's affairs, controlling someone or somethings behaviour, handling or manipulating, is a fairly common human activity. To be a 'manager', however, "is to be institutionally empowered to determine and/or regulate certain aspects of the actions of others"¹. It is in this latter sense that managers and their activities -referred to as management - are used in this discussion. That the exact nature of management remains elusive, is suggested by the fact that a recent conference on management focussed on the theme "What is management?"², and the topic engendered considerable debate. Discussion of

1

Hugh C. Willmott, "Images and Ideals of Managerial Work: A Critical Examination of Conceptual and Empirical Accounts", Journal Of Management Studies, 21:3 (1984), pp. 349-365, p. 350.

2

E.A. Lowe, "Introduction: Conference and Special Issue

the question is confounded by an apparent lack of correspondence between management theory and the actual practise of management. Here, I will outline the various definitions of management discussed at that conference, and attempt to arrive at a working definition for the purposes of this inquiry.

The 'founding fathers' of management - F.W. Taylor , H. Fayol and C. Barnard - and management pundits, such as the widely read Ernest Dale and Peter Drucker , "account for managerial work primarily in terms of the universal functions performed by managers (eg. planning, directing,³ controlling)". In business schools " the nature of management is conceptualized in terms of what it is thought that managers need to know ... defined either by the underlying academic disciplines that are thought to be relevant or by the functional divisions of management, such as finance and marketing".⁴ What is missing in both of these views is any integrating conception of the nature of management. They are characteristic of the commonly held 'technocratic' view of management which is described by

Organisation", Journal of Management Studies (Special Issue: Conference on Critical Perspectives on Management Studies/Science, Manchester Business School, 1983), 21:3 (July 1984), pp. 253-258, p. 253.

3

Willmott "Images and Ideals of Managerial Work ...", pp. 351-353.

4

Rosemary Stewart, "The Nature of Management? A Problem for Management Education", Journal of Management Studies, 21:3 (1984), pp. 323-330, p. 324.

Willmott: "the image of managerial work that emerges is ... that of the 'professional' who impartially carries out the universally and technically defined functions of management" which include planning, organizing, staffing, direction and control. The manager is perceived simply as "a functionary who applies technical expertise to ensure that things get done"⁵. Roberts is critical of such views of management, in which management practise is seen as a purely technical activity involving the rational pursuit of the most efficient means for securing given ends, arguing that the pursuit of managerial effectiveness involves moral issues since it depends on an ability to manipulate other people into compliant modes of behaviour, and the power to make⁶ decisions and choose means such as threats to job security. In addition to neglecting the moral aspect of management, Reed complains that the conception of management as an economic resource focussed on technical problem-solving has a tendency to degenerate into a crude form of 'technocratic determinism' which ignores the often conflicting social values and interests which guide managerial actions. Such an orientation limits the capacity to recognise or analyse "the interaction between the 'technical' and 'governmental'

5

Willmott "Images and Ideals of Managerial Work ...", pp. 334-355.

6

John Roberts, "The Moral Character of Management Practice", Journal Of Management Studies, 21:3 (1984), pp. 286-302, p. 288.

aspects of management - between decisions over technical means and those concerning the valued social ends that inform them".⁷ The question as to the morality of the ultimate ends which managerial activities serve will be addressed later.

Another view of management, which shares the former's lack of contextual sensitivity is the 'structuralist' conception of management as "a formalized structure of rational control and coordination geared to economic maximisation".⁸ In this view management is geared to the achievement of pre-determined objectives over which little or no control is exercised by managers themselves. In the structural-functional analyses of management the "link between capitalist imperatives and management structure and action is regarded as automatic and unmediated" according to Mintzberg and this amounts to what Tomlinson refers to as a 'totalitarian' image of enterprise management in which practices are subordinated to goals aimed at the ultimate end of capital accumulation.⁹ The main criticism of this view is the lack of any reference to subjective, meaningful

7

M.I. Reed, "Management as a Social Practice", Journal of Management Studies, 21:3 (1984), pp. 273-285, p. 278.

8

Ibid., p. 275.

9

H. Mintzberg, The Nature of Managerial Work, (New York:Harper and Row, 1973), quoted in Stewart "The Nature of Management? ...".

J. Tomlinson, Unequal Struggle: British Socialism and the Capitalist Enterprise, (London:Methuen, 1982), quoted in Reed "Management as a Social Practise", p. 276.

actions, or the frameworks through which they are rationalized. There is no consideration of the nature of the relationship between individual action as social action and the structure of managerial organisation, and management is reduced to a series of tasks and roles. Willmott discusses a study by Kotter which focusses on the interpersonal dimensions of the politics of managerial work, providing a needed corrective to images that portray managerial work as "the performance of clinically formulated functions or roles abstracted from the political organisation or control of the labour process".¹⁰ The structuralist view also omits to consider networks and organisational structures which are a condition of managerial activities, and which are themselves part of wider institutional and structural processes.¹¹

This leads us to the third main view of management, which focusses on its political nature. Here this view is presented by Willmott, who is critical of representations of managerial work as a set of de-contextualized, de-politicized activities or roles, and the lack in management theory or empirical research of an appreciation of its political realities. According to him: "Managerial work is political not only in the sense of employing interpersonal skills to

¹⁰

Willmott "Images and Ideals of Managerial Work ...", p. 359.

¹¹

Ibid., p. 360.

get things done through the agency of others. It is also political in the way it is involved in the production and reproduction of institutions that appease the conflict¹² between labour and capital". The involvement of personal politics in management is widely acknowledged, and "only naive managers assume that budgets get allocated and key decisions are made solely on the basis of rational decision-making"¹³. But recognition and discussion of the broader political aspects is more problematic as it questions some of the basic assumptions and relations upon which management theory and practise are based, and hence is seen as anti-management and is avoided, except by 'radical' management theorists. In the 'radical' view "managerial work is seen to be shaped by a capitalist structure of productive relations of which managers are the key 'bearers'. Managerial work is viewed as involving the development, application and maintenance of the social and material technology to¹⁴ preserve the prevailing structure of productive relations". It is this system upon which managerial power rests and which managers use to get things done. "As agents of capital managers are responsible for ensuring the productive subordination of labour to the demands of capital" ,

¹²

Ibid., p. 363.

¹³

L.R. Sayles, Leadership, (New York: Methuen, 1979), quoted in Ibid., p. 361.

¹⁴

Willmott "Images and Ideals of Managerial Work ...", p. 362.

organising and controlling the labour process to yield a
15
commercially supportable surplus.

Fayol (1949) is one of the few mainstream management theorists who makes explicit reference to the existence of a fundamental conflict between capital and labour, and suggests that "the skillful application of administrative principles to appease structural conflict is central to managerial work" and the ultimate aim of such work is the
16
maintenance of 'social quiet'. Drucker more recently discussed this conflict as a "structural contradiction between the material interests of employer and employee", the latter entering into an employment contract not to fulfill 'organisational goals' but to satisfy material and symbolic wants, while they are recruited not to satisfy
17
their own wants but to realise the goals of the employer. It is clear that managers are identified with capital in relation to workers, but most employees, including managers, have little control over definition of organisational objectives. Managers are thus neither workers or owners, hence the use of the word 'management' as a noun denoting "managers collectively regarded as a distinct social group

15

Ibid.

16

H. Fayol, General and Industrial Management, (London: Pitman, 1949), discussed in Ibid., pp. 352-353.

17

Peter Drucker, Management, London: Pan, 1977, quoted in Willmott "Images and Ideals ...", p. 355.

with special interests" of their own.

The conception of managers as a distinct social group leads us to yet another view of management which attends to its social aspects, and defines management as a social practise, holding that the more political view tends toward a "Machiavellian" interpretation of management behaviour where everything is controlled and planned. The ideal of control by capital, while it may be ultimately true, is mitigated by the ability of managers to manipulate the system and subvert organisational goals to their own ends. The most striking example of this is where managers elect to pay themselves large bonusses rather than distributing profits as dividends, disregarding the interests of shareholders in the exercise of what can be termed 'managerial hegemony'.¹⁹

Rosen points out that management and its theoretical and methodological structures are linked to the social structure and the capitalist mode of production in which they are embedded, and management theories reflect the social context in which they were developed and the concerns of those who developed them. He holds that even the "concepts of 'manager' and 'management' are social artifacts

18

Websters New World Dictionary, "Manager", "Management", (World Publishing Company, 19760. 2nd Edition.

19

M. Rosen, "Myth and Reproduction: The Contextualisation of Management Theory, Method and Practice", Journal of Management Studies, 21:3 (1984), pp. 303-322., p. 278, p. 311.

reflecting the social relations and power order in our society, based on hierarchical segmentation and value appropriation" and a system through which elite rule is institutionalised. Managers are trained to operate in a class stratified system, and theories of management that guide them mirror and reinforce the social rules of the system. For example, the premise of polyarchy, or the notion that only a small proportion of people in a social organisation should assume a decision-making role, predominates, as true democracy is seen as inefficient and having no place in business. The introduction of participatory schemes touted as 'democratic management' are seen merely as devices to increase output, and as pseudo-democratic in that the power always remains firmly in the hands of capital.

Management theory is dominated by the technocratic approach and lacks any critical inquiry regarding the social structure in which it operates. The variables and concepts used are derived from and consistent with the prevailing social order and hence act to maintain it. Thus management functions within a social universe in which nonelite workers are, objectively, alienated through labour menialisation (ie the reduction of previously meaningful work into meaningless tasks), and exploited through the appropriation of unpaid labour value (ie the payment they receive is less than the

20

Ibid., pp. 305-307.

value their labour produces). Management research of job satisfaction, carried out within the existing relations of organisation and domination, is concerned with maximising job satisfaction in order to achieve greater productivity and profitability while maintaining the status quo. Questions concerning the organisations role in society are subordinate to technical problem-solving and efficiency. Traditional management thought thus serves to explain and reinforce the current social reality of bureaucratic practise, and provides a template for action but not a means²¹ for changing the existing relations of production.

The four views of management discussed above: technocratic, structural, political and social practise, all contribute to an understanding of the nature of management, but focus on different aspects. The technocratic highlights the techniques involved, which may influence the types of managerial behavior and decisions possible. The structural concentrates on the formal roles or functions of managers, which may provide an idea of the restrictions on or expectations of managerial behavior. The political view emphasizes the more context-dependent political aspects of management and the social practise view focusses on individual managerial activities in their social context. None of these views is in itself complete, so none is appropriate as a basis for a definition of management for

²¹

Ibid., p. 309, p. 318.

use in this paper. However, I propose to incorporate all of these views into my analysis, adopting a synthetic view of management in order to discuss management in its technical, social, and political dimensions, while keeping in mind the essence of management as a control device, a technology for the control of people's behavior.

In the preceding discussion there has been an implicit assumption of the universality of management, or rather an identification of Western management theories and practise in their capitalist context with modern management in general. The reason for this is that management theory and studies have been in the past, and continue to be, dominated by the United States. As is clear from the previous discussion, American management theories have their roots in the capitalist organisation of production which the industrial revolution engendered. The treatment of management as a distinct field of inquiry and practise originated in the U.S.. Harvard Business School was established in 1908, but up to the late 1950's business schools mainly taught courses from other departments such as economics, math and psychology, and the study of management itself was not really established.²²

In the 50's and 60's the expansion of higher education

22

Richard Whitely, "The Fragmented State of Management Studies: Reasons and Consequences", The Journal of Management Studies, 21:3 (1984), pp. 331-348, 333.

in the U.S. included a dramatic increase in postgraduate business research and the development of a theoretical, research orientation in management. The apparent success of U.S. business in the 50's and 60's was a major factor in the establishment of training centres for managers in many European countries, as this success was believed to be related to the system of management education in the U.S., and the associated production and diffusion of modern management techniques and knowledge.²³ By the end of the 1960's the U.S. model of high level business education was becoming the dominant organisational form for training managers and "generating intellectual innovation about business and management"²⁴ in many countries. The dominant idea of 'professional' trained management which was firmly entrenched in American multinationals and derived from the elite American business schools, spread to Europe as management schools were established there by American or American-trained faculty. "As a result, management studies has become an international reputational system dominated by North American producers and their standards of competence and significance".²⁵ Thus it is clear that management research and theories are dominated by the U.S. and presumably reflect American values and concerns.

23

Ibid., p. 334.

24

Ibid., p. 335.

25

Ibid., p. 335.

The system of production and reproduction of knowledge about management is based in management education departments or schools. These business schools tend to have a strong commitment to vocational training but despite the increase in management studies since the 1950's there continues to be concern about the limited practical relevance of most 'management science', as well as criticism of its academic merits.²⁶ Teaching is based on assumptions of what managers need to know, and is criticised for its over-emphasis on formal learning. The prevailing view of management is the technocratic one - hence the emphasis on techniques, and on the formal roles and tasks that a manager will ideally encounter. However, studies of managerial work and behavior suggest that there is considerable variation in managerial jobs, bringing into question the assumed²⁷ generalizability of managerial work. In fact it appears that management practise is quite different from the view of it underlying management studies. Mintzberg suggests that management schools do not really teach students how to manage, and points out that many competent managers have²⁸ never taken a management course. In the schools technique is emphasized, but as Drucker points out, the acquisition of

²⁶

Ibid., p. 331, p. 338, and Stewart "The Nature of Management ...", p. 323.

²⁷

Stewart "The Nature of Management ... ", pp. 325-327.

²⁸

Mintzberg The Nature of Managerial Work In Ibid., p. 324.

knowledge about management skills and techniques enables the individual to become a technician only, while the competent practise of managerial work requires "an understanding of the fundamentals of management", which involves the translation of theory into practise, with the ultimate test²⁹ of ability being performance. In order to address the need for practical experience some schools have begun to incorporate cooperative work-study programs, but these tend not to be integrated with the curriculum. There is a suggestion that executive management training programs, while they may not provide a relevant knowledge base, may serve other useful purposes such as providing an opportunity for managers to review their approach, and shift their focus³⁰ of attention. They may provide a more useful vehicle for the development of management capabilities than the more general type of training offered by the Master of Business Administration programs. Overall the emphasis of management education appears to be to train future managers in the techniques and roles currently believed to be performed by managers. Such an approach presents few opportunities for critical thought, or for the development of managerial practises or management theories.

Within theory, management is widely characterised " as

29

Drucker Management In Willmott "Images and Ideals of Managerial Work ...", p. 355.

30

Stewart "The Nature of Management ...", p. 329.

embodying an organised body of knowledge applicable everywhere", however the practise of managerial work is more properly described as 'a culture' according to Drucker. He recognizes that "Management is a social function, embedded in a tradition of values, customs and beliefs, and in governmental and political systems".³¹ Research on the interaction between national and organisational value systems by Hofstede has highlighted the diversity of management practices and their underlying cultural bases.³² Cross-cultural management research has generated much evidence to support the view that management and organisations are influenced by culture, and in addition, that American -based management theories are applicable only to the U.S. and are not universal. They need to be adapted to local culture and work situations when applied elsewhere.³³ Even in the West there is an apparent diversity of ideas about management, and the nature of the managerial role, as well as significant differences in practise.³⁴ Adler, in a recent text International Dimensions of

³¹

Drucker Management In Willmott "Images and Ideals of Managerial Work ...", p. 354.

³²

Geert Hofstede, "The Interaction Between National and Organisational Value Systems", Journal of Management Studies, 22:4 (1985), pp. 349-357.

³³

Nancy Adler, International Dimensions of Organisational Behavior, (Boston:Kent, 1986), p. 124.

³⁴

Andre Laurent, "The Cultural Diversity of Western Conceptions of Management", International Studies of Management, 13:1-2, (1983), pp. 75-96, cited in Ibid., p. 32.

Organisational Behavior discusses the domination of management research by the U.S., noting that a review of management literature between 1971 and 1980 revealed that 80% of the research focussed on the U.S., and that fewer than 5% of the articles describing behavior in organisations included mention of the concept of culture. She suggests that, despite much evidence to the contrary, at present neither managers nor management academics see culture as affecting organisations' day-to-day operations. In her study of management consultants in Quebec, she found that the majority saw cultural diversity as having no influence on their organisations and jobs, which suggests that the American problem of parochialism is shared by Canadians. There has been some research into the question of whether organisations are becoming more similar internationally, which would have implications for the universality of management practises. The findings suggest that while the technical 'hard' aspects of organisations are becoming more similar, the 'soft' aspects such as organisational behaviour continue to show significant diversity. As the influence of culture on organisations and management is of considerable importance in the international transfer of management technology it will be discussed here in some detail.

Adler reviews the management literature on the

35

Adler International Dimensions of Managerial Behavior, p. 6, p. 76, p. 45.

influence of culture, or values in areas related to management. She begins with a discussion of the relationship
36
between culture, and values, behaviour and attitudes.

In Anthropology culture is defined in many ways, but one of the most useful and generally accepted definitions is that offered by Kroeber and Kluckhohn:

"Culture consists of patterns, explicit and implicit of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievement of human groups, ... ; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand be considered as products of action, on the other hand as conditioning elements of future action".³⁷

Culture is shared by members of a social group and passed down within the group. It structures perception of the world and shapes behaviour. A particular cultural orientation reflects the interaction of values, attitudes and behaviour displayed by members of a group. Values are seen as generally held beliefs reflecting normative qualities of culture, and thus having a positive or negative valence. These serve as guides for appropriate behaviour (human action) and also as a basis for attitudes (dispositions or
38
ways of reacting). Laurent, in his study of behaviour and

36

Ibid., pp. 7-10.

37

A.L. Kroeber and C. Kluckhohn, Culture: A Critical Review of Concepts and Definitions, (Cambridge, Mass.:Harvard Univ., 1952), Peabody Museum Papers vol 47 no 1, p. 181.

38

Adler International Dimensions of Managerial Behavior, p. 8, p. 10.

philosophies of managers in Western countries, found considerable cultural diversity in Western conceptions of management, and distinct cultural differences in managerial style.³⁹ Hofstede studied differences in work-related behaviour across a wide range of cultures, and found significant differences in work-related attitudes and behaviour.⁴⁰

Hofstede's cross-cultural management research offers a basis for discussion of the characteristics of various cultural groups and their relationship to questions of organisation and management. In a study of managers and employees in over 60 countries, he found that national culture explained many differences in work-related values and attitudes, and that individuals varied on four primary dimensions: Individualism/Collectivism, Power Distance,⁴¹ Uncertainty Avoidance, and Masculinity /Femininity.

Individualism/ collectivism, for example, is an indicator of how people view their relations with others. In collectivist cultures people tend to define themselves as part of a group, and distinguish between their own groups (in-groups, such as relatives, organisations etc.) and other groups. The individual is nothing without the group and

³⁹

Laurent "The Cultural Diversity of Western Conceptions of Management".

⁴⁰

Hofstede "The Interaction Between National and Organisational Value Systems".

⁴¹

Ibid., 349-350.

will strive for group interests, and in exchange for their loyalty people expect in-groups to look after their members, protect them, and give them security. In an individualistic culture individuals define themselves as individuals and strive for self-interest and self-actualisation. Americans are individualistic, and tend to use personal characteristics and achievements to define themselves and others, and to value individual welfare over that of the group.⁴²

In contrast, members of group oriented societies such as Japan and China define themselves as members of groups and emphasise group harmony, unity and loyalty. Individuals in these societies fear being ostracized for behaviour which deviates from the norm, which is reflected in the Japanese saying "The nail that sticks out will be pounded down".⁴³

Self-determination characterises individualistic cultures - individuals believe that each person should determine their own beliefs, but also that there are universal values (eg that democracy should be shared by all). People from collectivist cultures believe that the will of the group should determine individual members beliefs and behaviours, but they accept that different groups have different values. They control members through external social pressure - shame; while

42

Adler International Dimensions of Managerial Behavior, p. 18.

43

Ibid., p. 36.

individualistic ones control their's through internal social
44
pressure - guilt.

Uncertainty avoidance describes the extent to which people feel threatened by ambiguous situations, and will try to avoid such situations by establishing more formal rules, and rejecting deviant ideas and behaviour. Japan, with its emphasis on job security and lifetime employment, is a high uncertainty avoidance society, while the U.S. with its high job mobility, is a low one.

Adler discusses how various cultural orientations can affect organisations and management. She points out that personnel policies tend to follow the individualism/collectivism orientation of a society, with group oriented ones having group-oriented hiring practices (eg hiring people introduced by friends and relatives), as opposed to more individualistic ones where people are hired on the basis of technical qualifications alone. The organisation of firms also reflects this dimension: in individualistic societies such as Canada and the U.S. organisational charts specify individual positions, each with a detailed job description listing formal duties and responsibilities; in group oriented societies such as Hong Kong, Indonesia, and Malaysia they tend to specify only sections, departments and divisions, and assignments, responsibilities and reporting relations are described in collective terms. This dimension

also influences decision-making: in North America individuals make decisions, so decisions may be made quickly but implementation may be slow as the decision is explained and concurrence gained from other members of the group; in Japan, which is more group-oriented, many people make the decision and the group process of decision-making may be time-consuming, but because concurrence is achieved prior to⁴⁵ making the decision, implementation can be immediate.

In addition to those discussed by Hofstede, there are many other aspects of cultural orientation which have been found to influence organisations and management, including views of man's relationship to the environment or universe. One example of this is the American view of man as dominant over nature, as opposed to the Chinese view of man in harmony with nature and not separate from it. The contrast of these views was evident in the case of an American company locating an office in Hong Kong in a place where the 'Feng Shui' was unlucky, that is, the Chinese desire to harmonise with the environment was not satisfied. Despite the Americans' perception of this as irrational the office was moved to a location that was more suitable according to Chinese criteria. Another aspect of cultural impact is evident in the discussion of alternatives: while in some 'holistic' cultures such as Japan and China, all

45

Ibid., p. 20.

alternatives are discussed before a decision is made; in 'sequence-oriented' cultures such as the U.S. alternatives are discussed in a pre-planned sequence, with incremental⁴⁶ decisions being made in the course of the discussions.

Adler fails to analyse the basis of such cultural differences, but Redding offers some insight into this aspect of culture which is relatively neglected in the cross-cultural management literature. In an article on "Cognition as an aspect of culture and its relationship to management processes" he suggests that social situations should be analysed in terms of the participants' epistemology, since organisational problems are "mind-⁴⁷ environment" problems. His discussion focusses on the cognitive systems or 'paradigms', systems of belief and understanding, which act as the main guides to behaviour in a particular culture. The examples discussed earlier are indicative of the influence that different ways of thinking, and interpreting reality may have on management. In his discussion of the Chinese case Redding suggests that the Chinese world view may be a significant factor in the non-adoption of a western-style 'rational' model of enterprise organisation and control in Hong Kong, and instead the

⁴⁶

Ibid., p. 17, p. 140.

⁴⁷

S.G. Redding, "Cognition as an Aspect of Culture and Its Relation to Management Processes: An Exploratory View of the Chinese Case", The Journal of Management Studies, May 1980, pp.127-148, p. 128.

development of a corporate model along more traditional Chinese lines. That is, rather than adopting a Western bureaucratic model, in which growth is usually achieved by growing the corporate body itself, under the control of a rational/legal authority structure, there is a tendency for Chinese companies to grow by collecting together a set of small businesses and leaving them uncoordinated except at the financial level, but with direct control remaining in family hands.⁴⁸ Adler's recent study of Chinese managers suggests that there may be a significant lack of correspondence between Western and Chinese conceptions of management,⁴⁹ which could create problems in discussions of management and might be expected to pose serious problems in the transfer of management technology to China from the West.

In summarising her discussion of the problems involved in the transfer of American management theories to other countries, Adler points out that ideas of effective management do vary among cultures, and management theories are not universally applicable. In the case of organisational behaviour, most theories have been developed

48

Ibid., p. 147, p. 126.

49

Nancy Adler, An Examination of Managerial Values in the People's Republic of China, (1987), A Symposium Proposal submitted for presentation at the 1987 Academy of Management Meetings.

in the U.S. by Americans and are only applicable to the American or North American context. However, she suggests that while the theoretical models are not universal, they address questions which are universal, such as:

How can leadership be most effective?; and How can the workforce be motivated?. Thus the theoretical models may be useful in guiding the questions asked, but the answers depend on observation and analysis of the particular culture and situation involved.⁵⁰ This observation may provide a key to the effective cross-cultural transfer of management technology, in that it points to asking the right questions and observation and analysis of the situation in context, as the critical activities, as opposed to the communication and mechanical application of imported management techniques.

50

Adler International Dimensions of Organisational Behavior, p. 144.

CHAPTER 5

CHINESE MANAGEMENT

Before discussing the transfer of Western management techniques to China it is important to understand the historical development of Chinese management, and its present condition. It is necessary to note that the Western understanding of the term management, and the Chinese understanding of the term guan li, which is its usual translation, are not necessarily identical. As was discussed previously, Chinese ideas of what management is may not correspond to North American ones. Schurmann, an authority on Chinese management and organisation, points out that:

In the West, administration has been historically associated with government, and management with business. ... the two remain formally separate. ... In China government and business were closely intertwined ever since the beginning of modern civil enterprise at the end of the nineteenth century.¹

Although the lines between government and business are often unclear, the Chinese do recognize a distinction between policy and operations. The so-called "policy-operations

¹

Franz Schurmann, Ideology and Organisation in Communist China, (Berkeley: Univ of Calif Press, 1968), p. 222.

dichotomy" has been emphasised and de-emphasized at different times in the past, and the functions alternatively combined or separate. However, the dichotomy is in some ways a false one, as it implies a separation between ends and means,² which is not credible.

Here I will discuss Chinese management in terms of the substantive activities that in the West are associated with management, whether or not the Chinese describe them in terms of guan li. For example, Zheng discusses the evolution of the enterprise "leadership system" in China, but does not use the term 'management' except in describing the most recent systems.³ I assume that his entire discussion concerns the management of enterprises. The Chinese term guan li does have the same connotations of control that I have determined to be essential to the Western concept of management, so there appears to be a common basis for discussion.

In traditional Chinese social organisation, dominated by Confucianism, power was centered in the bureaucracy, under the leadership of the Emperor, and a career as an official offered both material rewards and respect. Merchants had a low official status in the Confucian order, as they were viewed as living by the profit from other's work and hence

2

Ibid., p. 223.

3

Zheng Guangliang, "The Leadership System", In Gene Tidrick and Chen Jiyuan (Eds), China's Industrial Reform, (Washington:IBRD, 1987), pp. 297-312.

as parasitic. But they could gain wealth and through it power, and thus posed a threat to the authority of officials and the gentry.⁴ Historically the officials were continually engaged in efforts to check mercantile interests, by both political and administrative means. Thus when foreign pressure on China in the nineteenth century forced an opening to foreign trade, the merchants involved continued to be exploited by officials, and trade restricted to government authorised 'hongs' which paid tribute to the Emperor.⁵

In the mid 1800's, the Chinese economy was still predominately based on handicrafts and agriculture, with the extended-family as the principle of organisation. Government interest in Western military technology in the 1860's led to the establishment of the first modern industries in China, but the development of military industries was completely "government sponsored" (guan ban). These industries "engaged in modern production but retained the old-style managerial and administrative procedures" and "partook of all the usual bureacratic inefficiency and nepotism of an official agency".⁶ Soon the government recognised the need for wealth as a basis for power, and greater attention was

4

Rudi Volti, Technology, Politics and Society in China, (Boulder, Colorado:Westview, 1982), p. 22.

5

Immanuel C.Y. Hsu, The Rise of Modern China, (Toronto:Oxford Univ. Press, 1975), p. 176.

6

Ibid., p. 351.

directed towards profit-oriented enterprises. Thus in addition to the "government sponsored" military industries, there appeared "government supervised merchant undertakings" (guan du shang ban). Capital for these came from private sources, and although profit and loss were their responsibility the merchant shareholders were banned from their management, which was left in the hands of government appointed officials or private individuals. These hybrid government-private enterprises tended to monopolise business through government intervention or favors, and were also characterised by "the usual bureacratic inefficiency,⁷ corruption and nepotism".

Foreign domination of modern enterprises, including manufacturing, undermined the traditional Chinese economy. But foreign investment did introduce modern technology, and financed the establishment of many modern industries which served as models for Chinese enterprises. Chinese employed and trained in foreign factories and businesses acquired technical knowledge of production and managerial skills which they often used in starting their own businesses or applied in government-sponsored enterprises. By the early 1900's Sun Yatsen observed that the seeds of capitalism had been sown in China, and anticipating problems associated with capitalism and industrialisation he had observed in the West, such as the unequal distribution of wealth, proposed

⁷ Ibid., p. 352-353.

the regulation of capital to prevent such occurrences in
8
China.

The reaction against foreign imperialism and the appearance of Chinese nationalism which began with the May 4th Movement (1919), signalled the beginning of a movement which ultimately led to the violent rejection of capitalism and its institutions and organisations. Instead the Chinese embraced Marxism, and all its criticism of the West and capitalism, as the basis for a revolution which involved a rejection of many of China's traditions as well. With the Communist victory Chinese capitalists, including many who had employed Western management and organisation, were subject to criticism, and had their property confiscated and nationalised. The nature of management or enterprise organisation in China at that time is difficult to generalise, but Zheng does discuss the situation in the
9
revolutionary base areas.

Zheng Guangliang, (Chief Economist at the Enterprise Management Bureau of the State Economic Commission), in an article on the "leadership system", summarises the development of Chinese management in state enterprises since the pre-revolutionary period as follows:

"The industrial enterprise leadership system in China can be divided into six phases and five modes:

8

Ibid.

9

Zheng "The Leadership System".

the three-man team in the revolutionary bases during the revolutionary war period; the plant management committee and staff-and-worker assembly system, implemented around the time of liberation; the one-director system, during the first five-year plan; the plant-director responsibility system and staff-and-worker assembly under the leadership of the party committee decided on by the Eighth Party Congress in 1956 ... ; the unified leadership system in the Cultural Revolution; the restored plant director responsibility system; and the staff-and-worker assembly system under the leadership of the party committee after the Third Plenary Session of the Central Committee of the Eleventh Party Congress."¹⁰

As Tidrick and Chen point out, despite numerous changes and reversals in the leadership system since liberation there has been a "continuity of themes and forms in the attempt to achieve a balance between the party and the technicians".¹¹ In Zheng's view, the key problem to be solved in the evolution of the leadership system is the proper balance of the interests of production (represented by the director/manager), the party and the workers.¹²

The three-man team system adopted in the pre-liberation period by public enterprises in the revolutionary base area involved a team consisting of the plant director, the party branch secretary, and the union committee chairman, which addressed problems arising in production. However, there were problems with disagreement among the administration,

¹⁰

Ibid., p.301.

¹¹

Gene Tidrick and Chen Jiyuan, "Enterprise Organisation", In Gene Tidrick and Chen Jiyuan (Eds), China's Industrial Reform, (Washington:IBRD, 1987), pp. 277-280, p. 278.

¹²

Zheng "The Leadership System"., p. 279.

party and union, and in some provinces the team was replaced by a plant affairs conference, and a centralized system of plant management with leadership centered on a plant director. While production was the joint responsibility of the plant, the party and the government (represented by the director), the director sometimes assumed responsibility for everything, which "tended to cripple the independent work of the party branch and the union".¹³ According to Schram the three-man or "triangle" system of control, which endured in some enterprises until 1956, was problematic in that it "raised the spectre of 'high hats' in a new form". That is, in many cases the three leadership participants obstructed the 'democratization' of management. The government's ability to control enterprises was constrained by a lack of information, and weakness in administrative and supervisory organisations,¹⁴ which left managers fairly free to act.

In the post-liberation period many enterprises were nationalised, and the leadership systems of joint state-private firms underwent a series of "production and democratic reforms". In state-owned enterprises plant management committees, made up of the plant director (as chairman), the union chairman, the deputy plant director,

13

Ibid., p.298.

14

Peter Schram, "Economic Management", In J.M.H. Lindbeck (Ed), China: Management of a Revolutionary Society, (Washington:Univ. of Washington, 1971), pp. 193-220, p. 214, pp. 216-217.

the chief engineers, others responsible for production and union representatives, served as the "unified leadership organ" of the plant. These were supplemented by staff-and-worker assemblies set up by the unions to hear and discuss reports of the plant directors and management committees, and to examine, criticize, or offer proposals on administrative work. In 1953, when China entered into a program of large-scale construction and heavy industrialisation with Soviet assistance, the "one-director system" (production administration plant-director responsibility system) was introduced in the North and Northeast. Under this system of production administration, based on the Soviet model, the plant director took full responsibility for fulfilling state plans, administration and management, production technology and financial work, while the party took responsibility for political and ideological leadership. This system proved to be highly efficient and economically effective, but the administration and leadership personnel "dogmatically copied the Soviet approach to the administration process, neglecting¹⁵ ideological and political work and democratic management".

The government's inability to control enterprises directly, or indirectly through "expert" directors or three-man teams, led to a decision in 1956 by the Central Committee to terminate these leadership systems and replace

¹⁵

Zheng "The Leadership System", pp. 298-299.

them with a universal "plant-director responsibility system" under the leadership of the party committee. The enterprise party committee was to discuss all major problems of the enterprise, but day-to-day work was the responsibility of specially assigned personnel. Mass supervision under the leadership of the party, in the form of permanent staff-and-worker assemblies, was to be strengthened. But in 1958, at the time of the Great Leap Forward, the emphasis on the "party secretary taking command" interfered with the full implementation of the system, which was meant to combine collective leadership and individual responsibility, with the party at its core. During the Great Leap, "with the guiding ideology of the Left reigning supreme, enterprise production and construction focussed on stirring up mass movements, with high targets and blind commands". In 1961, policy statements from the Central Committee reaffirmed the need for the plant-director responsibility system and the encouragement of mass participation it offered through the staff-and-worker assemblies. The work regulations for state-owned enterprises issued at that time emphasised that the enterprise's party committee should place proper ideological and political work first, and should not replace¹⁶ the plant director and handle all administrative matters.

During the Cultural Revolution the leadership system

¹⁶

Ibid., pp. 299-303.

was again disrupted. The plant-director's command was eliminated, and the party organisation was replaced by a revolutionary committee, consisting of military representatives, leadership cadres and mass organisations, which governed the enterprise. Later party committees were restored, with the party and administration being combined, so that the party committee handled everything down to the smallest detail of management. The party had replaced the government in enterprises, and authority was concentrated in the party committee.¹⁷

Following the fall of the Gang of Four enquiries began into reform of the leadership system. Economic reforms initiated in 1978 at the Eleventh Party Congress made problems in the enterprise management system even more apparent. The plant-director responsibility system first introduced in 1956 was restored, and in 1984, after the Twelfth Party Congress, a separation of government and enterprise was initiated in enterprises, thus reducing the administration's authority and expanding enterprises' administrative and management powers. The Central Committee has put forward some basic principles for reform of enterprises:

- collective leadership by the party committee;
- democratic management by the staff and workers; and
- administrative command by the plant director.

¹⁷

Ibid., p. 303.

In addition, some new forms of enterprise management, such as the "plant-director responsibility system", and the "management contract system" have been introduced on an experimental basis.¹⁸

Current Management Principles

The following discussion of Chinese management today is primarily based on a World Bank study of the Chinese system of industrial enterprise management, covering internal management as well as relations among enterprises and between enterprises and the state. This study was carried out jointly by the World Bank and the Institute of Economics of the Chinese Academy of Social Sciences (in cooperation with the State Economic Commission) in 1983-84. It was based on a sample of 20 state enterprises, and included detailed case studies, and interviews which focussed mainly on the nonquantifiable aspects of enterprise management. Since the state sector accounted for about 80% of gross industrial output in 1982, management of such state enterprises can be considered critical in modernisation of the economy.¹⁹

Ideally, the function of the Chinese enterprise leadership system is to fulfill enterprise production and

¹⁸

Ibid., p. 300, p. 303.

¹⁹

Gene Tidrick and Chen Jiyuan, "Characteristics of the Twenty Firms", In Gene Tidrick and Chen Jiyuan (Eds), China's Industrial Reform (Washington:IBRD, 1987), pp. 11-43, p. 11.

operating goals. In addition, a good leadership system in a socialist publicly owned enterprise must establish a balance between the party, administration and the masses, harmonise their relations and strengthen the work of all three. Effective leadership must combine centralized leadership and democratic management, and "reflect the objectives of socialized production". According to Zheng the basic distinction between a capitalist enterprise and a socialist one is that "when a socialist enterprise employs a system of public ownership of the means of production, the masses of staff and workers become the masters of the state and the enterprise ... (and) participate in enterprise management"²⁰. Management must not be a matter of arbitrary decisions by individuals, hence the importance of leadership cadres to provide ideological leadership and "avoid errors".

Apparently the present tripartite system does not meet all these requirements, and is problematic in a number of ways. Zheng summarises the main problems with the system as follows: There is no unified leadership in production, due to multiple and overlapping external leadership which causes all sorts of conflicts for the enterprise. The leadership of the Party committee is total; "its mission is to implement policy - a role that usurps many functions of the enterprise's administrative structure". The plant

²⁰

Zheng "The Leadership System", p. 301.

as the focus on society and social values rather than the individual, and the emphasis on harmony and morality; the latter are critical of the Chinese traditional emphasis on personal relations, blood ties and kinship, as opposed to "modern culture" which is based on working relationships and legal relationships.⁵³ Since the revolution the Party has made efforts to eradicate many traditional "feudal" practices, such as lavish celebrations of family-based ceremonies, and ancestral worship, and encouraged individuals to stand up for their own rights against the pressures of traditional values.⁵⁴ According to Zi this reached an extreme during the Cultural Revolution, when all cultural heritage was denied.⁵⁵

However, since the Cultural Revolution, and perhaps as a result of it, there has been a "withdrawal to more traditional cultural patterns of behaviour, but with norms that are now infused with greater emotional intensity than in the past".⁵⁶ As Zi points out "whether one regards it as a treasure or a burden, a national traditional culture that has lasted for several thousands of years cannot just be thrown away, nor is it possible or desirable to keep it

53

Ibid., p. 449.

54

China News Analysis, "On Culture: Abstractions and Reality", No. 1337 (June 15, 1987), pp. 2-6.

55 Zi "The Relationship of Chinese Traditional Culture ...", p. 454.

56

Pye "Reassessing the Cultural Revolution", p. 608.

viewed as the key to raising efficiency.

Changes in technical aspects of enterprise management, such as accounting systems, seem to have been relatively unproblematic. However, recent attempts at reform in areas such as personnel management, and in particular those relating to incentives and increasing motivation, have encountered some difficulties, despite official support. "Bonusses, which had been abolished during the Cultural Revolution, were reintroduced to provide incentives to individual workers".⁴¹ The justification for this was that it was necessary to break the "eating from one big pot" system, that is, to get rid of excessive egalitarianism which was seen as discouraging individual initiative. But the structure of wages, which is centrally prescribed, remains fairly egalitarian (increasing with seniority), and "worker attitudes generally stress egalitarianism".⁴² Individual bonusses are supposed to be allocated according to productivity but egalitarian distribution remains prevalent.⁴³ Managers have the formal authority to base individual bonusses on performance, but rarely do so because of the strong egalitarian ethos. In many enterprises workers have successfully resisted the introduction of

40

Tidrick and Chen China's Industrial Reform, p.1

41

Ibid., p. 5.

42

Byrd and Tidrick "Factor Allocation ...", p. 73.

43

Tidrick and Chen China's Industrial Reform, p. 4.

the enterprise primarily through programs and plans (set by state organs) and the "party organisation in the enterprise should not have as much authority as the government and the enterprise in administrative work and production commands". The director is responsible to both the state and the enterprise staff and workers, and must implement democratic management through staff-and-worker assemblies, which should have the authority to deliberate on major decisions involving production and operating rules and regulations, and decisions regarding staff and worker welfare. There are some problems with this system, such as the status of the director as representative of the state in the enterprise and representative of the enterprise administration, as in the short-term there may be conflicts between the interests of the state and those of the enterprise (eg bonuses). (In the long-run their interests are believed to be the same.) As Zheng points out, the "plant-director responsibility system is a major reform in the enterprise leadership system, (and) ... involves changes in ideological concepts, leadership methods and work practices".²³

The trial introduction of the new system has not been unproblematic. Beginning in 1984 the system was introduced on an experimental basis, but by early 1986, faced with widespread opposition, the reform stalled. Reportedly, "the experiment was discontinued in a number of places or, at

²³

Zheng "The Leadership System", pp. 307-311.

least, the Party organisations were again handling personnel²⁴ management". Opponents of the director responsibility system complain that it underrates the role of the Party and workers in enterprises. This is not surprising as initial arguments for its introduction were couched in terms of the separation of powers - emancipating enterprises from the control of Party secretaries, and as a necessary first step on the road to political reform. Such criticisms of the system "have prompted reformist propaganda to develop a new and ingenious riposte: the Party, ..., has more important²⁵ things to do than worry about managerial matters ...". In late 1986 a directive of the State Council announced that the factory director responsibility system was going to be the rule, and the reform is expected to be completed in all²⁶ state-owned industrial enterprises before the end of 1988.

The amount of real power exercised by managers under this system is still not clear. As Pye points out "...managers have far greater freedom than in the past, but their careers are still vulnerable to changes in the political currents. ... Even the Chinese who are in charge of a state company may have very limited and uncertain authority and ... managers remain hemmed in by the system

24

China News Analysis, "Industry: New Management Rights", No. 1344 (October 1, 1987), p. 2.

25

Ibid.

26

Ibid.

and often have little sense of the boundaries of their authority".²⁷ The difficult situation of managers is summed up in the following comment: "in this world of 'complex interpersonal relations and traditional mentalities', strict management can easily offend people and , at present, who can guarantee the legal rights and also the 'personal safety' of the manager?"²⁸ In the Chinese view, both traditional and Communist, politics is all-pervasive and as in other areas, management is intimately tied up with political considerations.²⁹

Clearly Chinese management cannot be viewed as a purely technical activity, and it is the control aspect which seems to be predominant in the managerial role. Especially important is the role of managers in mediating between conflicting interests, such as those of the state and the workers. At another level they must also deal with various local networks of interest. For, as Burns and Rosen point out, in China the de facto political system is a rather decentralised one in which intermediate and lower level cadres have considerable scope for resisting policy directives of senior leaders, and form various local

27

Lucien Pye, "The China Trade: Making the Deal", Harvard Business Review, July-August 1987, No. 4, pp. 74-84, p. 79.

28

People's Daily, May 18, 1987, p. 1, Paraphrased in China News Analysis "Industry: ...", p. 3.

29

Lucien Pye, Chinese Commercial Negotiating Style, (Cambridge, Mass:Oelgeschlager, Gunn and Hain, 1982), p.23.

networks of interest. Traditionally in China there has been an acceptance of the necessity of a strong central government in order to prevent chaos. In particular since the Cultural Revolution Chinese leaders feel the need to cling to the structures of control inherited from the previous Maoist regime, and are sensitive to the dangers of relaxing political or administrative controls.³¹ Thus, while encouraging greater popular participation in enterprise management and autonomy for managers, the leadership at all levels also displays a paradoxical fear of loss of control. The democratization of enterprises, through the election of managers, and the creation of elected worker's congresses, was seen as a way of guarding against a "command mentality on the part of factory heads", and as a means of resolving problems and conflicts (especially in the area of labour discipline, in which managerial control had³² been greatly reduced during the Cultural Revolution). However, the decentralisation of decision-making powers to

30

John P. Burns and Stanley Rosen (Eds), Policy Conflicts in Post-Mao China, (Armonk, N.Y.:M.E. Sharpe, 1986), p. 22, p. 265.

31

Lucien Pye, "Reassessing the Cultural Revolution", The China Quarterly, No. 108 (Dec. 1986), pp. 597-612, pp. 610-611.

32

C. Ling, "State-owned enterprises must actively and systematically test the system of retention of a percentage of profits", Jingji Guanli, No. 11 (Dec. 25, 1979), Quoted in Martin Lockett and Craig Littler, "Trends in Chinese Management", World Development, Vol 11, No. 8, pp. 683-704, p. 692, and Lockett and Littler, p. 693.

enterprises was seen by some as undermining the ability to pursue the readjustment policies determined by the centre. In addition, election of lower-level managers and factory directors " have faced obstinate opposition from middle-level cadres, who see their power and privileges being challenged if they are subject to control from below".³³ The role of workers's congresses does appear to be largely "formalistic", although they seem to be a pressure point for increased bonuses and welfare spending.³⁴ Since 1949 the local organisations based on employment (work units) have served as a powerful political and social control system. Any changes in management or the organisation of production are liable to have significant implications for the political, social and other aspects of Chinese life, as well as direct economic effects.

In order to understand the difficulties of reforming Chinese management it is necessary to understand the context in which Chinese enterprises function. Byrd and Tidrick discuss several unusual features of the Chinese economy which affect enterprise behaviour:

- 1 The welfare of workers is closely tied to the enterprise where they work, and they receive housing, medical and educational benefits and pensions from it. They usually work in the same enterprise for life and cannot be fired.

³³

Ibid., p. 688, p. 695.

³⁴

Ibid., p. 697.

2 Due to the surplus of labour in China it is accepted that "enterprises should provide employment for the dependents of workers, either directly or by setting up separate collective enterprises."

3 Managerial salaries are fixed at levels slightly above those of skilled workers, turnover of managers is low, and promotion from the inside is the most frequent route to a managerial position.

4 "Most state enterprises can now retain profits and use them for investment, worker bonuses, and collective welfare, including housing".³⁵

These features affect the "objectives" of enterprises (ie. the motives of workers and managers, combined with the attitudes of supervisory and local government authorities), in various ways.

According to the authors, the dominant motive of workers in every Chinese enterprise is the maximisation of family welfare (income and benefits), and because of a strong identification of managers with the interests of workers this is frequently the dominant motive of enterprises as well. Thus many enterprises prefer to use retained profits for worker benefits rather than productive investment. Workers and local governments have a strong interest in securing employment for their children so

35

William Byrd and Gene Tidrick, "Factor Allocation and Enterprise Incentives", In Tidrick and Chen (Eds) China's Industrial Reform, pp. 60-102., pp. 62-63.

enterprises do not try to restrict employment, even when they have far more employees than they need. In fact, in order to maximise family income family members are often hired directly by the enterprise or indirectly through the establishment of enterprise-sponsored collectives.³⁶ Loss of employment is more serious for workers in China than in most other countries because of their dependence on the enterprise. A reluctance to give up such things as housing rights, and the social security and welfare functions of the enterprise, mitigate against labour mobility. Although workers can now be hired on a contract basis, it has proven difficult to avoid renewing contracts when they expire "because of worker and community views about job rights". In addition "the right of a child to inherit the job of a retiring worker is widely accepted throughout China".³⁷ It is thus apparent that managerial decisions are constrained by cultural values, such as those which give priority to the family and job security, and the social system in which the worker is highly dependent on the enterprise. The persistence of the "iron rice bowl", (the fixed-job system under which one is guaranteed one's job for life), despite official criticism of the system, is evidence of the strength of traditional values. While the system and the values it represents may be seen as contrary to principles

36

Ibid., pp. 62-63.

37

Ibid., p. 70.

of modern management, it is actually quite compatible with Japanese management practise, and it is mainly American management which encourages high labour mobility. In fact, job insecurity could affect social stability in China, and for that reason may have negative effects beyond the workplace.³⁸

Although the family motive predominates in enterprises, once a threshold satisfaction of worker bonuses and welfare payments has been achieved, other motives can come into play. The incentive system makes a hierarchy of motives possible, since profit retention provides an incentive to increase profits, and restrictions on the use of profits limit bonus payments and ensure that the family motive is not completely dominant.³⁹ Other important enterprise goals or objectives which may motivate a director/manager include: expansion (and the associated prestige and power), engineering or technological achievements (and their recognition), as well as profit and compliance with policy directives. One of the main components of the economic reform and adjustment program begun in 1978, was an attempt to improve the efficiency of existing enterprises, and reform of incentives to link rewards to performance was

38

Burns and Rosen Policy Conflicts in Post-Mao China, pp. 207-213.

39

Byrd and Tidrick "Factor Allocationa ...", p. 66.

viewed as the key to raising efficiency.

Changes in technical aspects of enterprise management, such as accounting systems, seem to have been relatively unproblematic. However, recent attempts at reform in areas such as personnel management, and in particular those relating to incentives and increasing motivation, have encountered some difficulties, despite official support. "Bonusses, which had been abolished during the Cultural Revolution, were reintroduced to provide incentives to individual workers".⁴¹ The justification for this was that it was necessary to break the "eating from one big pot" system, that is, to get rid of excessive egalitarianism which was seen as discouraging individual initiative. But the structure of wages, which is centrally prescribed, remains fairly egalitarian (increasing with seniority), and "worker attitudes generally stress egalitarianism".⁴² Individual bonusses are supposed to be allocated according to productivity but egalitarian distribution remains prevalent.⁴³ Managers have the formal authority to base individual bonusses on performance, but rarely do so because of the strong egalitarian ethos. In many enterprises workers have successfully resisted the introduction of

40

Tidrick and Chen China's Industrial Reform, p.1

41

Ibid., p. 5.

42

Byrd and Tidrick "Factor Allocation ...", p. 73.

43

Tidrick and Chen China's Industrial Reform, p. 4.

piece-rate systems, "because they lead to harder work, increased individual competition, and little more pay on the average".⁴⁴ Managerial bonuses are often at or below the enterprise average, and "managers would not dare to award themselves" large bonuses.⁴⁵ Ironically, with the increase in use of bonuses workers expect to be paid extra for ordinary tasks, and managers accept the expectation. The incentive systems which increase the resources available for wage and bonus payments are effective to some extent, for even when rewards are distributed in an egalitarian fashion, these systems seem to stimulate additional effort by workers.⁴⁶ Thus it appears that, while "excessive egalitarianism" is often associated with socialism and the political system, in Chinese enterprises the egalitarian ethos appears to be broadly-based, as a result of post-1949 political socialisation. Changes in the system of payment to conform to Western ideas of management and motivation, including individual bonuses and piece-rates have apparently failed in many cases. This highlights the necessity of introducing compensation schemes which are congruent with prevailing cultural values, rather than simply transplanting Western techniques.

44

Byrd and Tidrick "Factor Allocation ...", pp. 73-74.

45

Ibid., p. 73.

46

Ibid., pp. 73-74.

Government attempts to limit average bonuses, and a tax introduced to control bonus payments have frequently been evaded by enterprises.⁴⁷ While the average bonus for a factory has been limited to about three months of basic wages, many enterprises, especially those controlled by lower levels of government,⁴⁸ have exceeded the limit. Government intervention in labour and compensation practices is viewed as undesirable by Western managers. According to an American author of a book on Chinese management, only when managers gain complete control over the size and competence of the work force and compensation will we see substantial changes in efficiency and productivity as a result of worker participation and motivation.⁴⁹ This shows a lack of appreciation of the Chinese context, and the factors affecting current management practices.

According to Byrd and Tidrick if enterprises were unrestricted, the combination of egalitarianism, and the strength of the family motive, would likely lead to sharp increases in wage and bonus payments.⁵⁰ In addition linking wages to productivity will worsen the distribution of income, and workers may be rewarded for increased profits which result from price distortions or factors other than

47

Tidrick and Chen China's Industrial Reform, p. 4.

48

Byrd and Tidrick "Factor Allocation ...", p. 73.

49

C. Carl Pegels, Management and Industry in China, (New York: Praeger, 1987), p. 147.

50 Byrd and Tidrick "Factor Allocation ...", p. 75.

their own efforts. Hence government control over wages and labour policies may be necessary in the current Chinese context. For it appears that it is not a political decision which is maintaining egalitarianism and impeding labour mobility, so much as cultural and social factors. In order to make production more effective, rather than attempt to change values, it would appear to be more practical to adapt management techniques to existing values such as the family orientation, group orientation, and risk avoidance which are prevalent in ethnic Chinese groups under a variety of political systems, and which have not apparently been a
51
barrier to economic progress.

At present there is some debate in China as to whether traditional culture is a barrier to modernisation, which echoes a similar debate which reached its height during the May 4th Movement of 1919. The current debate is discussed in detail by Zi Zhongyun, who identifies the two extreme views as a "positive school", represented by Feng Youlan and other well-known Chinese philosophers, and a "negative
52
school", represented by those such as Gan Yang. The former emphasize the positive aspects of traditional culture, such

51

Nancy Adler, R. Doktor and S.G. Redding, "From the Atlantic to the Pacific Century: Cross-Cultural Management Reviewed", 1986 Yearly Review of Management of the Journal of Management, Vol 12 No 2, 1986, pp. 295-318.

52

Zi Zhongyun, "The Relationship of Chinese Traditional Culture to the Modernisation of China: An Introduction to the Current Discussion", Asian Survey, Vol 27 No 4 (April 1987), pp. 442-458.

as the focus on society and social values rather than the individual, and the emphasis on harmony and morality; the latter are critical of the Chinese traditional emphasis on personal relations, blood ties and kinship, as opposed to "modern culture" which is based on working relationships and legal relationships.⁵³ Since the revolution the Party has made efforts to eradicate many traditional "feudal" practices, such as lavish celebrations of family-based ceremonies, and ancestral worship, and encouraged individuals to stand up for their own rights against the pressures of traditional values.⁵⁴ According to Zi this reached an extreme during the Cultural Revolution, when all cultural heritage was denied.⁵⁵

However, since the Cultural Revolution, and perhaps as a result of it, there has been a "withdrawal to more traditional cultural patterns of behaviour, but with norms that are now infused with greater emotional intensity than in the past".⁵⁶ As Zi points out "whether one regards it as a treasure or a burden, a national traditional culture that has lasted for several thousands of years cannot just be thrown away, nor is it possible or desirable to keep it

53

Ibid., p. 449.

54

China News Analysis, "On Culture: Abstractions and Reality", No. 1337 (June 15, 1987), pp. 2-6.

55 Zi "The Relationship of Chinese Traditional Culture ...", p. 454.

56

Pye "Reassessing the Cultural Revolution", p. 608.

57
intact". The problem is to create a new culture which is both modern and Chinese. Schurmann suggests that personal relationships in Chinese management and business have been a major factor in the success of Chinese business in places such as Hong Kong.
58

The people of the PRC recognise, and make use of, the common Chinese culture they share with ethnic Chinese overseas, and the latter provide a variety of examples of how traditional Chinese culture can endure in the process of modernisation. For example, Redding discusses the maintenance of traditional familism and personal relationships in management in Hong Kong, in conjunction with the professionalisation of management.
59
In China, the recent resurgence of "traditional expressions of local consciousness" has appeared as an unexpected consequence of an improvement in material well-being due to economic modernisation policies, in some areas,
60
which suggests that modernisation will not inevitably be predicated on or lead to the disappearance of traditional culture. In a recent book, Communist Neo-traditionalism,

57

Zi "The Relationship of Chinese Traditional Culture ...", p.451.

58

Schurmann, Ideology and Organisation ..., p. 230.

59

S.G. Redding, "Cognition as an Aspect of Culture and Its Relation to Management Processes: An Exploratory View of the Chinese Case", Journal of Management Studies, (May 1980), pp. 127-148, p. 141.

60

China News Analysis "On Culture ...", p. 5.

Walder suggests that the present system of patron-client relations and personal relations in Chinese organisations evolved in response to the inability of the Communist bureaucracy to function effectively, and is not simply a traditional system.⁶¹

Not only the political organisation, social system and values which have an impact on management, but also the Chinese world view. This influence is most apparent in interactions involving Chinese and foreigners, such as situations in international business negotiations. Pye discusses some of the impacts of the Chinese world view in his book Chinese Commercial Negotiating Style (1982) and in a recent article on negotiating with the Chinese.⁶² One frequently cited characteristic is the Chinese emphasis on the concrete as opposed to the abstract. This is clearly reflected in the Chinese language, which is based on concrete referents. In business discussions they tend to operate either at a high level of generalities, or at the concrete level, and avoid the middle-level of generalization⁶³ which is commonly emphasized in science-oriented cultures.

61 Andrew G. Walder, Communist Neotraditionalism: Work and Authority in Chinese Society, (Berkeley: Univ of Calif Press, 1986).

62

Pye Chinese Commercial Negotiating Style, and Pye "The China Trade: Making the Deal".

63

Pye Chinese Commercial Negotiating Style, p. 52.

The focus on the concrete is evident in Chinese pragmatism, with its stress on action over reflection, and on learning through action, and on achievement of the desired practical results.⁶⁴ Another important aspect of the Chinese world view is its high-context nature. This has been variously characterised as "wholistic" or similar to the Western "total system" concept and is essentially a view of all things as being interrelated.⁶⁵ Thus the Chinese see nothing wrong with changing a contract after it has been signed, if the conditions under which it was agreed to change. This has proven to be problematic for foreigners, who view a contract as final and binding.⁶⁶

The concrete and high-context nature of the Chinese view is particularly evident in the Chinese concept of guanxi⁶⁷ which has a great influence on Chinese management. Guanxi involves personal connections which usually stem from "shared particularistic relationships that have an objective, situational context", such as a shared ancestry, place of origin or being former classmates.⁶⁸ It allows a dependent person to demand special consideration from

64

Lucien Pye, "On Chinese Pragmatism in the 1980's", The China Quarterly, No 106 (June 1986), pp. 207-234.

65

Adler, Doktor and Redding "From the Atlantic ...", and Redding "Cognition as an Aspect of Culture ...".

66

Pye "On Chinese Pragmatism in the 1980's", p. 215.

67

Pye Chinese Commercial Negotiating Style, p. 88.

68

Pye "On Chinese Pragmatism in the 1980's", p. 216.

someone in a more favoured position with whom they have such connections - a kind of patronage which gives the benefactor "face", or status. In dealings with Western countries, the Chinese often use "old friends" in a similar way, by establishing a kind of dependency relationship (giving the foreigners "face") then demanding special consideration in subsequent dealing. This is different from the Western concept of friendship which is based on reciprocity, and often causes misunderstanding in business dealings between Westerners and the Chinese.⁶⁹ This kind of relationship, and the generally high-context nature of Chinese social relations may be problematic for the transfer of management techniques from the West, because managers find it difficult to implement "scientific" management practices in face of social and peer group pressures. In fact, at least one Chinese official has recommended the use of foreign⁷⁰ personnel managers in joint ventures for this reason.

The Chinese view of management is primarily as a technical practise, which is not surprising, as under centrally planned economic systems managers of enterprises have basically performed engineering functions, transforming allocated inputs into defined outputs according to given plans. The usual route to managerial positions is through

⁶⁹

Pye Chinese Commercial Negotiating Style.

⁷⁰

Steven Hendryx, "The China Trade: Making the Deal Work", Harvard Business Review, No. 4 (July-August 1986), pp. 75-84, p. 84.

apprenticeship, learning-by-doing, and influence, but the high echelons of enterprises tend to be filled by people⁷¹ with political or technical backgrounds. The emphasis is on technical and specialist managers, who tend to be narrowly oriented, leads to fragmentation, and the need for more generalist managers is largely ignored. In addition there is an almost total neglect of "the so-called 'soft' topics in management, such as Organisational Behavior and Personnel Management (as compared to the 'hard' topics like⁷² Accounting and Finance)". In fact, the importance of psychology-oriented courses and their content, such as motivation and incentive systems, in management is a topic of active debate in China. An article in the Chinese intellectual newspaper, Guangming Ribao, discussed the question at length, and concluded that an essential characteristic of good management is a recognition of the importance of people, and that behavioural science research has already become an important aspect of management reform in China. However, the article stresses the need to develop behavioural science "with Chinese characteristics" which will be applied according to Marxist guiding principles, in the framework of an indigenous management science developed

71

N.T. Wang, Enterprise management Training in China: A Case Study, Paper presented at the Roundtable on Managing Human Development, UNDP, Sept. 1987, Budapest, Hungary., p. 2.

72

H.F. Schwind and Gao Shan, "Canadian and Chinese Management Compared and Contrasted", Canada-China Journal, Vol 4 No 2 (1985), pp. 8-9, p. 8.

with input from other's experiences. However, such topics are still low in the priorities for management education, which tends to be highly oriented towards economics or engineering.⁷⁴

Management education has a relatively long, if interrupted, history in China. By the early 1930's approximately 20 universities offered management related subjects and by 1933 Nankai University in Tianjin had an MBA program. However, after the founding of the People's Republic courses in management were reduced in number and de-emphasized, and during the Cultural Revolution formal management education was further reduced in the turmoil which brought most higher education to a standstill. After 1976, with the ascendance of Deng Xiaoping there was a renewed focus on education, and especially management education and training.⁷⁵ In 1981 a policy decision was announced that by 1985 all cadres should be trained on at least one course in enterprise management. Since then university departments of management, and management training institutes have been established or re-established, and many

73

Guangming Ribao, "Dui Xingwei Kexuede Renshi Yu Pingjia" (Understanding and Evaluating Behavioral Science), Oct. 7, 1984, p. 3.

74

Schwind and Gao "Canadian and Chinese Management ...", p.8.

75

M.W. Luke Chan and Zhian Guan, Management Education in the People's Republic of China, with Special Reference to Recent Support Programs by Foreign Countries, (Hamilton: McMaster Univ, 1984) QSEP Research Report No 11, pp. 5-6.

ministries have set up their own management training centres. The Chinese Enterprise Management Association⁷⁶ (CEMA) oversees national developments.

Warner, in a discussion comparing various types of management education and training, points out that these are shaped by , and reflect the industrial and cultural context. For example, the Japanese system of in-house and on-going management training reflects their stability of employment , and loyalty to the enterprise. He categorises the Chinese management education system as a "mass" system as opposed to an "elite" one. In his dichotomy, a "mass" system is characterised as vocational (rather than educational), specialist (rather than generalist), and internal to the enterprise (versus external). In addition it is more broadly-based in terms of the number of managers trained and the social groups from which they are drawn. Management courses in China tend to be specialised by sector, for example into forestry or aviation management, rather than by function , such as marketing or information systems , as they are in West. And many managers are trained for work in a specific enterprise, often one where they are already employed and return after training, rather than for the

76

Malcolm Warner, "Industrialization, Management Education and Training Systems: A Comparative Analysis", Journal of Management Studies, 24:1 (Jan 1987), pp. 91-112., p. 87, p. 103.

77
market.

However, China appears to be moving towards a more elitist model, along with the move to merit-based higher education. The relative merits of the educational or vocational approaches are the subject of discussion in the West. The success of the Japanese approach in application is weighed against the limitations imposed by such narrow training. Apparently it is at the "level of senior management training that a more generalist approach may be more appropriate".⁷⁷ Warner concludes that "a greater liason between the educational and business " spheres is an important ingredient in a management training strategy. and points to the success of countries which have linked the educational, technical and vocational elements.⁷⁸

In China research in management is not emphasized, and is difficult since much of the specific information required is not accessible or is simply not available. Most of the existing Chinese management literature consists of introductions to well-known works or text books. Of the published articles which are original research, most appeared to be devoted to grandiose topics of an abstract or purely theoretical nature. Wang suggests this is due to the Chinese intellectual tradition of concern with the entire

77

Ibid., p. 87, pp. 98-99, p. 103.

78

Ibid., p. 101, p. 110.

country or world, and the dearth of specific information. It may also be due to a reluctance to criticise specific policies or activities for political reasons. He stresses the need for specific, applied research which would be relevant to Chinese problems, and which would also provide instructional materials relevant to the Chinese situation and reduce reliance on foreign case studies. This would facilitate the adaptation of state-of-the-art management ⁷⁹ methods to Chinese conditions.

As Wang points out, the Chinese search for appropriate management techniques has been oriented towards self-reliance, on the assumption that they had mastered management techniques and that foreigners could not understand China. In developing management education and capabilities China has sought the assistance of various countries, including Canada, the U.S., Japan and Europe. However they have requested that they be given "Western" management training and material, and will adapt it to the Chinese context themselves. But, as Wang points out, recent graduates of the MBA programs, for example, still have much to learn about management, and are not trained to do management research. On the other hand, foreign experts, although not China experts, may be able to contribute to management research in China, particularly in the areas of

79

Wang Enterprise Management Training in China ..., pp. 17-18.

research methodology and analytical techniques. Thus cooperative research on specific projects may be the most useful means of developing China's management capabilities and education system. This approach has been experimented with in some of the recent programs to transfer management techniques to China.⁸⁰

Warner, Wang and others discuss the debate over whether the transfer of management techniques from abroad is possible or desirable.⁸¹ Chan and Guan question the relevance of the content of foreign academic teaching to actual management requirements, and the practical importance of such education to Chinese problems.⁸² An example of the problems to be encountered in introducing Western management techniques in China: Bagchi discusses the two main dangers threatening the reform of management in China: inflation and unemployment; and a third which may come to the forefront in the future: increasing wage and income differentials (when managers and workers can share profits).⁸³ Political barriers are anticipated, although they are rarely discussed.

⁸⁰

Ibid., p. 19.

⁸¹

Warner "Industrialization, Management Education ...", Wang Enterprise Management Training in China

⁸²

Chan and Guan Management Education in the PRC ..., p. 11.

⁸³

Amiya Kumar Bagchi, Public Intervention and Industrial Restructuring in China, (New Delhi:ILO, 1987), pp.109-112.

CHAPTER 6

THE TRANSFER OF MANAGEMENT TECHNIQUES

The transfer of management technology has a long history, if we consider the colonial powers' introduction of their organisational and administrative systems into their colonies as early examples. These efforts, whether in the British tradition of training indigenous administrators to manage public affairs, or the French system whereby French administrators made decisions which were implemented by local officials, did serve as means for transferring Western administrative techniques abroad, but their primary concern was the colonial power's interest. In the post-World War II efforts at reconstruction and development in the early 1950's "there was a widespread belief that simply by informing a large number of people in the less-developed countries about known industrial administration ... and other techniques generally applied in North America ... one could expect that these techniques would rather rapidly be adopted and applied".¹ This was clearly naive, and up to the early 1960's it appears that most technical assistance

1

M. Hoffmann, "Development Needs the Businessman", Lloyd's Bank Review, No.68, (April 1963), p. 32, Quoted in David J. Ashton, "The International Transfer of management Skills", The Quarterly Journal of AIESEC International, Vol 3 No 3, (August 1967), pp. 4-11, p.4.

programs had failed to provide any significant managerial assistance.² Since then there has been considerable debate in management circles as to the best way to transfer managerial expertise in order to improve management in developing countries, and whether or not such transfers are useful or effective.

In the late 1960's a "World Conference on the International Transfer of Management Skills" (ITOMS) was convened, following a two-year project to "identify the knowledge, attitudes, skills and techniques, and philosophies necessary for managerial competence, and ... methods which have proven successful in their transfer to other environments".³ It was organised by the Association Internationale des Etudiants de Science Economique et Commerciale (AIESEC) and included participants from the international business community, government institutions, international organisations, and universities. The conclusions about improving the effectiveness of existing transfer agents recommended that practical training opportunities be expanded as an integral part of management education, and "the development of curricula designed to give students analytical tools and problem-solving experience instead of simply working knowledge of standard

2

Ibid.

3

Herbert Behrstock, "International Transfer of Management Skills", Prospect 4, (Winter 1969-70), pp. 5-8, p. 5.

packaged techniques". These can be viewed as opportunities⁴ for "learning-by-doing".

Tinbergen, a conference participant, highlighted the importance of organised training and management development contracts between firms of developed and developing countries as a vehicle for the transfer of management. But he suggested that the most important way in which knowledge about production is spread is by the industrial establishments which are located in the developing countries⁵ as independent or joint ventures. This is in contrast to the view expressed by Agarwala, the author of a book on the development of Indian management, who holds that universities occupy a unique and strategic position in the transfer of management capabilities, as they "are not only superior to business enterprises as vehicles of transference but are the only available agency to organize R&D and teaching". He suggests that while training can be, and is, organized by foreign business enterprises in ldc's, it "has a single firm orientation and little macro-diffusive significance". According to him, such enterprises are not suited to organise an R&D program that has as its purpose the development of management capabilities oriented to the

4

Prospect 4 "ITOMS in Retrospect: a brief analysis of the Turin Conference", (Winter 1969-70), pp. 50-54. (Report of AIESEC International Transfer of Management Skills World Conference, Nov., 1969, Turin, p. 50-51.

5

Jan Tinbergen, "The Industrialization of Developing Countries", Prospect 4, (Winter 1969-70), pp. 9-18, p.11.

needs of ldc's, nor are they organised to undertake formal teaching in ldc's. However, he admits that universities are limited in their ability to disseminate management capabilities, as they create a supply of, but don't generate a demand for, modern management. As a solution to the inability of either business or academia alone to do the job, Agarwala suggests that in a well-organised system of transference, teaching should be associated with the diffusion of management technology to under-managed business.⁶

The conference conclusions include some practical suggestions as to how the roles of business and educational institutions can be coordinated to integrate the supply and demand aspects of the transfer process. In the conclusions on the 'improvement of existing institutions' there are several proposals for integrating management experiences:

- Utilize the training potential of the private sector by providing more practical training opportunities for non-employees, including the extension of training programs to students, public sector employees and managers from other's enterprises.

- Develop curriculae taking into consideration the demands and advice of enterprises and the experience of similar

6

Amar N. Agarwala, "The University and the International Dissemination of Managerial Techniques", In E.M. Rogers and R.A. Solo (Eds), Inducing Technological Change for Economic Growth and Development, (Ann Arbor:Michigan State Univ., 1972), pp. 180-191, pp. 188-190.

institutions.

- Give educators experience in enterprises and the public sector to improve the basis for their teaching.

- Encourage more managers to teach so they can pass on their practical experiences and get feedback about their management techniques.

These suggestions can be applied to programs for the transfer of management, especially in cooperative programs which offer a combination of work and study experiences.

In his discussion of ITOMS Ashton agreed that efforts to transfer management have sometimes been discouragingly ineffective because of a lack of recognition of the need for practical training, and that "the abstract approach of the academician is rarely relevant except perhaps in the Ministry of Planning and Development". He agrees with the view that management is management, a universal profession whose principles can be applied everywhere, in theory. And, he believes that it is more correct to say that the environment in a particular ldc is not conducive to management, than it is to say that American management principles are not applicable to the ldc. However, he does note that "managerial practices ... are fragile social constructs, dependent upon a benevolent environment for their successful performance", and must be nurtured by appropriate cultural, social and politico-legal

7

Prospect 4 "ITOMS in Retrospect ...", pp. 52-53.

8
institutions. In other words, he views management, (ie Western management) as universal, and its application in ldc's as requiring an adjustment in their environment rather than an adaptation of management to suit local conditions.

According to Farmer and Richman, the most frequently cited source on the topic of management transfer, "Many cross-cultural management researchers have advanced the thesis that socio-cultural factors are the real obstacles in introducing advanced management practices and know-how into industrial enterprises in developing countries".⁹ While they acknowledge the need to adapt management to indigenous conditions in ldc's, they suggest the inevitability of convergence in management practices worldwide, as "managerial and technological necessity presses all types of culture towards a common road".¹⁰ These attitudes, which are still common, have profound implications for approaches to the transfer of management.

The development of Japanese management in the late 60's and early 70's brought the role of culture to the forefront in comparative management research, according to Nath. The

8
David J. Ashton, "The International Transfer of Management Skills", The Quarterly Journal of AIESEC International, Vol 3 No 3, pp. 4-10, pp. 7-8.

9
Richard N. Farmer and Barry M. Richman, Comparative Management and Economic Progress, (Homewood, Illinois:Richard Irwin, 1965).

10
Ibid., p. 393, p. 400, pp. 396-397.

successful performance of Japanese corporations compared with American and European ones has led to a number of studies of the Japanese system of management. Earlier assumptions that the Japanese had merely copied the American system of management were found to be unfair, as the Japanese had developed a system of their own particularly suited to their own culture and environment.¹¹ How they did so is of great interest, as it should offer insight into the successful transfer of management. However it is still not clearly understood.

The Japanese have a long tradition of absorbing foreign ideas and things. In a recent book on the Meiji Restoration Westney discusses Japanese borrowing from the West in the late 1800's in terms of selective emulation.¹² She emphasises that the idea of imitation does not do justice to the high level of innovation in the Japanese adoption of Western organisational patterns over time. The role of foreign advisors in Japan was particularly important, but care was taken not to rely exclusively on any one foreign country. In the case of some institutional models, such as newspapers, no single model was used, but rather the Western

11

Raghu Nath, "The Role of Culture in Cross-Cultural and Organisational Research", In R.N. Farmer (Ed) Advances in International Comparative Management, (London:JAI Press, 1986), Vol 2, pp. 249-267., p. 253.

12

D.E. Westney, Imitation and Innovation: The Transfer of Western Organizational Patterns to Meiji Japan, (Cambridge, Mass.:Harvard Univ. Press, 1987).

concept, was adopted. The transfer of Western management to Japan should be considered in this context.

Tsurumi describes the Japanese approach to importing technology, including management techniques, as follows:

"ever since the 1850's ... Western products and manufacturing techniques and elements of complicated governmental and parliamentary systems have been transplanted to Japan by alert Japanese travelling throughout Europe ... and the United States. When further instruction was needed, the Japanese hired engineers, scholars and businessmen from the West. This time-honoured practice is today repeated by many Japanese companies; they select obsevant individuals for specific 'search-and-bring-back' missions in the United States".¹⁴

The best-known example of a transferred management practise is the Quality Control (QC) circle, which the Japanese have applied to promote cooperation of teams to improve quality, involves working and learning together. The Japanese borrowed this idea from an American, but it was largely ignored in the U.S..¹⁵ As Warner points out, the adoption of American management methods played a part in the Japanese "take-off" after WWII, but in the 50's and 60's "there was an increasingly widely-held view that American

¹³

Ibid., pp. 2-7.

¹⁴

Yoshi Tsurumi, "Myths that Mislead U.S. Managers in Japan", Harvard Business Review, (July-Aug 1971), pp. 118-126, p. 126.

¹⁵

Haruo Shimada, "The Perceptions and reality of Japanese Industrial Management", In L.C. Thurow (Ed) The Management Challenge: Japanese Views, Cambridge:MIT Press, 1985), pp. 42-68, pp. 60-62.

methods did not fit", and that Japan should continue to
develop its own.¹⁶ Current Japanese management is really
quite different from American practices, and as early as
1971 American management literature included discussions¹⁷
about what could be learned from Japanese management.

In the U.S., the tradition of starting at the bottom
and working your way up to management faded with the use of
educational credentials. But in Japan, large modern
industries continue to rely on within-enterprise training
programs, rather than outside schooling. Of the big firms
which dominate the Japanese economy, over half provide in-
house continuing education for employees, and in-company¹⁸
training for technicians, engineers and managers. As
Mcmillan notes, the absence of an American-style MBA and
professional management training system in Japan is not
accidental and reflects Japanese educational traditions and¹⁹
cultural values. In fact the status of U.S. business
schools in Japan is not very high, partly due to lack of
effective management in some areas of U.S. business and

¹⁶

Malcolm Warner, "Industrialization, Management Education
and training Systems: A Comparative Analysis", Journal of
Management Studies, 24:1 (Jan 1987), pp. 91-112, p. 98.

¹⁷

Peter F. Drucker, "What We Can Learn from Japanese
Management", Harvard Business Review, (March-April 1971),
pp. 110-122.

¹⁸

Warner "Industrialization, Management Education ...", p.
98.

¹⁹

C.J. McMillan, The Japanese Industrial System, (Berlin:de
Gruyter, 1984). Cited Ibid., p. 99.

American economic performance, and a lack of relevance to Japanese business which stresses practical training and participation in operations.²⁰ According to a recent study, the Japanese continue to send students to the top business schools in the U.S. primarily to develop contacts with the future American business elite; to expose Japanese managers to U.S. culture and improve their English; and only²¹ peripherally for business education.

While early American studies of Japanese management suggested that it was likely to become more like American management over time, (the convergence theory), more recent studies suggest that, on the contrary, Japanese management practices may well be "the wave of the future, and failure to emulate them will only lead to further decline in Western competitiveness". The "scientific management" movement in the U.S. promoted the presumption of a technological imperative, which led to American industrial organisation being dictated by production requirements. Japanese management is apparently more attuned to the needs of the human workforce. The latter is believed to resemble the structuring of advanced technology industries, where the high degree of automation facilitates a "decoupling" of the social organisation of the factory from the organisation of

20

P. Marer and T.W. Sharkey, "The Image of U.S. Business Schools in Japan", In R.N. Farmer (Ed), Advances in International Comparative Management, (London:JAI Press, 1986), Vol 2, pp. 141-157, p. 143.

21

Ibid.

the technical flow, and allows the substitution of a
"social" for a "technological" imperative.²²

The Japanese transfer of management did not consist of blind imitation of American management practices, or industrial organisation. Ideas, gathered by Japanese abroad or from foreign experts in Japan, were adapted to the Japanese context as practical solutions to problems. Tsurumi suggests that it is a "heroic assumption" that a short and superficial exposure of a few Japanese in the U.S. will achieve the transfer of U.S. management practices to Japan.²³ Formal educational channels were not relied on, and management practices were introduced in a mass rather than elite channel, to practitioners rather than academics, hence their relevance and application were promoted. The government played an important role in the diffusion of new practices by establishing a management study centre, which promoted the development of new management practices, and their diffusion throughout Japanese industry. It has been suggested that management techniques were adapted to Japanese society, because the "social" imperative, such as the need to provide employment,

22

J.R. Lincoln, Mitsuyo Hanada and K. McBride, "Organisational Structures in Japanese and U.S. Manufacturing", Administrative Science Quarterly, 31 (1986), pp. 338-364., pp. 361-362.

23

Tsurumi "Myths that Misllead U.S. Managers in Japan", p. 125.

careers, and welfare, and thus maintain legitimacy in a tight institutional environment, is more salient in Japan.²⁴

The success of Japanese management practices has led to efforts to transfer them to the West, for example by U.S. firms, or by Japanese firms setting up U.S. subsidiaries. Westney discusses how this process has been a selective one: "the Japanese model has been invoked to legitimate management demands for less restrictive work practices in the U.S., but other aspects of the Japanese model such as tying annual increases in management salaries to the rate of increase won by the labour union, are rarely mentioned".²⁵ Japanese management does not consist of one set of techniques, but rather an approach to control. The effect of its introduction in the West on social and political organisation is evident in some recent examples. In Britain, Japanese management practices such as "paternalistic personnel policies" have caused some resentment among workers who view them as infringements on their personal lives.²⁶ It has had an impact on industrial relations in Britain where Japanese companies pioneered anti-strike

²⁴

L.C. Thurow, The Management Challenge: Japanese Views, (Cambridge:MIT Press, 1985).

²⁵

Westney Imitation and Innovation: The Transfer of Western Organisational Patterns ..., p. 27.

²⁶

Wolf Reitsperger, "British Employees Responding to Japanese Management Philosophies", Journal of Management Studies, 23:5 (Sept 1986), pp. 563-585.

deals, and in the U.S. where Japanese examples have prodded American companies into offering greater job security for "calmer" wage demands.²⁷ These provide examples of the adversarial relationship between workers and management being replaced by a more cooperative one (which may, however be further from the reality of the relations involved).

Japan's economic success has made it a model for other Asian countries, especially since it proves that non-Western cultures and society are not incompatible with economic growth and prosperity. Farmer and Richman, and others suggest that non-Western cultural patterns, as well as patterns of social and economic organisation which are inimical to Western scientific management, must be changed in order for those countries having such patterns to develop.²⁸ However the Japanese example suggests that this is not a prerequisite for managerial effectiveness or economic development, (unless this is defined as a repetition of Western development patterns), and management can be adapted to the indigenous environment. The success of the Asian "Dragons" and especially of Taiwan, and Hong Kong, belies suggestions that Chinese culture may be a barrier to

27

Gregory Clark, Quoted in Economist, "Japan: A Survey", Dec 7, 1983, p. 29.

28

Farmer and Richman Comparative Management and Economic Progress, p.397, and

Lee Charles Nehrt, Managerial Policy, Strategy and Planning for S.E. Asia, (Kowloon: Chinese Univ. of Hong Kong, 1974), p. 86.

modernisation. In addition, claims that certain types of political or economic organisation, such as unfettered free-enterprise, or Western-style democracy, are necessary for effective management, are contradicted by the economic success of Japan, where the government has played an important and interventionist role, and Taiwan, which has until recently been extremely repressive politically.

In a number of studies on the transfer of management to ethnic Chinese economic communities, such as Hong Kong and Taiwan, the findings indicate that while there has been some adoption of Western methods and theories, much of the successful economic performance is in the small business sector, which is still predominated by the characteristic Chinese family management organisation.²⁹ A study by researchers at the Chinese University of Hong Kong suggests that "there is evidence that the use of (management) concepts and techniques originated from the U.S. may sometimes even be detrimental to organisational effectiveness".³⁰ This does not mean that management technology cannot be transferred from the West to China, but does suggest that a direct application of techniques or an uncritical learning of theories will be ineffective in the

²⁹

Nehrt Managerial Policy ..., p. 108, pp. 131-133, p. 155.
Harris in Mehmet.

³⁰

R.G. Graham and Leung Kwok, "Management Motivation in Hong Kong", The Hong Kong Manager, (Feb/March 1987), pp. 17-24, p. 17.

development of Chinese management capabilities, and in particular the creation of an indigenous capacity for the adaptation and development of management suited to Chinese needs.

Transfer of Management to China

The transfer of management from the West to China has a relatively long history, which was discussed earlier. Political events in China resulted in the emphasis shifting from study of Western management to central planning and administration which left little scope for the development of management practices. However, in the late 1970's, there was renewed interest in management as a means of increasing economic efficiency on the part of the Chinese leadership. There was considerable debate in China as to whether "capitalist" management techniques could be of any benefit to China, but the conclusion was that China could adopt their "essence" and apply it to Chinese circumstances. Western countries responded eagerly to requests for assistance in developing Chinese management capabilities. These included plans for improving management through the use of consultants, management training for joint ventures and more formal educational channels.

There is abundant anecdotal evidence of the problems encountered by Western businesses trying to introduce Western management practices. However, such efforts may still provide important models for the Chinese to develop

management methods suited to their own needs, or as trial grounds for new techniques. But as Agarwala suggests, their experiences are not likely to be shared or diffused broadly. Similarly, while consultants may make significant individual contributions, their impact on the development of management capacity is likely to be limited, unless their experiences are shared. At present there appear to be few mechanisms for the pooling of experiences of consultants. For example, it is a little known fact that a Canadian consultant provided some of the earliest management consulting services to China after the Cultural Revolution. The focus of most of the development assistance programs to transfer management techniques to China, is on formal educational channels and executive-training type programs.

The main coordinating body for management education in China is the Chinese Enterprise Management Association (CEMA), which is under the control of the State Economic Commission.³¹ It was founded in 1979, "to study and deal with problems in the system and methods of management and the related economic policies", and to "improve enterprise management, enhance management capability and serve socialist modernization and construction through its³² activities". It has a central office in Beijing, and more

³¹

Guangming Ribao, "Capitalist Management/Administration Methods, Should We Learn Them? How?", Nov. 15, 1984, p. 1.

³²

Malcolm Warner, "The 'Long March' of Chinese Management Education, 1979-84", The China Quarterly, No 106 (June 1986), pp. 306-325., pp. 328-329.

than 25 local associations in different parts of the country, and is involved in training, publishing, research, and management consulting. It also has links with a network of eight or nine national management centres which the State Economic Commission is setting up in cooperation with various countries.³³

The earliest of these cooperative projects for management development was the National Center for Industrial Science and Technical Management Development, located on the campus of Dalian Institute of Technology (henceforth the "Dalian Center"). Its function is to train middle-managers from Chinese enterprises, ministries, and university faculty who teach management. The program began in 1980, with a cooperative effort in case development, which resulted in 39 case studies of Chinese management practices, subsequently used in teaching at Dalian, and also in the U.S. as examples of management in centrally planned economies. Translated American texts, and American curricula were used, but in class discussions these were³⁴ applied to actual Chinese managerial situations.

The general assessment of these programs is positive. Surveys of the participants reveal some positive examples of

33

Ibid. discussing CEMA 1983 documents.

34

Max Boisot, "Action Learning with Chinese Characteristics: The China-EEC Management Programme", Management Education and Development, Vol 17 Part 2 (1986), pp. 128-136., p. 130.

the application of what they have learned. However, there are also reports of difficulties in applying what they have learned for various reasons.³⁶ Stross, and a PhD student attempting to evaluate the Dalian program, have encountered a lack of willingness of Chinese participants to discuss their experiences.³⁷ If these were positive, it is hard to understand such reluctance. The local CEMA associations in Northeast China are reportedly dominated by Dalian graduates, and their involvement should promote the application and further diffusion of their knowledge.³⁸

Another management centre was set up in 1982-84, in cooperation with the EEC. The Director, Boisot, discusses the reasons why the Europeans pressed for a project-based MBA program, as opposed to, the " 'China as sovereign consumer' model which other centres were being asked to work to" :

"Teaching strategies in China are strongly oriented towards the mechanical learning of theories in a traditional classroom setting. The problem of how to apply and test a theory for relevance is rarely addressed". The proposed program was to include student enterprise projects requiring

35

William A. Fischer, "The Management Center in Dalian", China Exchange News, Vol 11 No 2 (1983), p. 13.

36

Ibid., p. 14.

37

Zhongguo Qingnian Bao, "A Memorandum of Fate", Dec 2, 1987.

38

Randall Stross, personal communication, August 1988.

access to Chinese enterprises, and would allow both students and faculty to gain familiarity with the management problems of such firms, and to adapt teaching materials to those problems. The theoretical basis for such a program was the "action-learning" philosophy, which Boisot considers an appropriate model for teaching management in China.³⁹

Despite initial resistance, the Chinese partners were won over and the program proceeded. Enterprises selected by the SEC and Boisot were instructed by the State Council to cooperate. Some interesting problems were encountered: Many students saw the enterprise projects as a distraction from the 'real' work of preparing for exams. For some, it was a replay of the Cultural Revolution when they were sent down to the countryside or into factories to learn from the peasants and workers. In addition, one or two of the enterprises had difficulty seeing what possible benefit they could gain from this collaboration with mere students, and some student teams had trouble extracting useable information from the enterprises. There were also some very positive results: Despite various problems, the students have been able to collect and analyse large amounts of data on daily management processes in enterprises, and how they are dealing with current industrial reforms. The students

39

Les McLean, Overview of the Development of the China/Canada Enterprise Management Training Centre at Chengdu, Sichuan, (Toronto:OISE Educational Evaluation Centre, 1986), p. 29.

are learning to crosscheck information from enterprises with
bureaus, customers and suppliers, when uncertain of its
quality. Some teams conducted market surveys which are being
used by the enterprises themselves, and there have been
requests by some enterprises for student help in solving
specific problems, and even requests for consulting work by
the students from some European firms.⁴⁰

According to Boisot the insights gained through this
program confirm that "western management cannot be taught in
this culture in an unadapted form,...(and) a viable training
curriculum for Chinese managers will have to be " built up
slowly based on indigenous materials.⁴¹

Wang, in his case study of management training in
China, agrees with the emphasis on practical training, and
suggests that more research should be oriented towards
application.⁴² He suggests that cooperation on specific
research and consulting problems would be useful, and would
yield instructional materials relevant to China.⁴³ He and
others, mention the important role played by foreign experts
in Japan, in the past, and more recently in Taiwan and

40

Boisot "Action Learning ...", p. 132.

41

Ibid., p. 134.

42

Ibid., p. 135.

43

N.T. Wang, Enterprise Management Training in China: A Case Study. A Paper Presented at the Roundtable on Manageing Human Development, Budapest, Sept. 1987, UNDP Development Study Program, pp. 18-20.

Korea, for example. He points out the cost-effectiveness of organising an MBA program in China, rather than sending the students abroad, and the consequent minimisation of brain-drain, and, that domestic field studies will redirect research away from "think pieces", to concrete, problem-solving topics. In summary, while he sees the importance of a core of MBA training and in-depth field research, he suggests that, since the production of MBAs will not meet the needs of enterprises for a long time, that the "main thrust for training must be the dissemination of practical knowledge through executive development at various levels as well as through consulting".⁴⁵

On the other hand, Hayhoe suggests that "university cooperation in the management sciences must go beyond the pragmatic task of training good practitioners who are appropriately qualified to a concern for theoretical research in the foundations of the discipline".⁴⁶ Such a need is not self-evident as the Japanese example has proven. This is an example of the debate as to the mass versus elite channels for development. Warner discusses this debate with

44

Ibid., p. 22, and Rudi Volti, Technology, Politics and Society in China, (Boulder, Colo.:Westview, 1982), p. 72.

45

Wang Enterprise Management ..., p.23.

46

Ruth Hayhoe, Chinese Higher Education and the International Community, Background Paper Commissioned by the U.I.S.E. Evaluation Team for CIDA's Canada-China Management Education Program Evaluation, 1986.

specific reference to management education, and contrasts the Japanese mass system, with the more elite American and European systems.⁴⁷ The need for the Chinese to emulate the latter, rather than the former is not clear.

Hayhoe is critical of the management cooperation programs as forms of economic penetration.⁴⁸ This is clearly true of the Dalian Center, which has as an explicit aim to "train a group of managers who would be familiar with American technology and equipment, favourably disposed to deal with American companies, and who would continue to exercise both attitudes as they rose through the Chinese bureaucracy to more important positions".⁴⁹ Whether this has any significance for the transfer of management is not clear. Elsewhere, Hayhoe herself points out that, the Chinese "feel the cultural eclecticism of the present interaction is some kind of defence against the emergence of domination by advanced capitalist nations".⁵⁰

Volti's and Lee's discussion of the difficulties of assimilating new ways of doing things, such as managerial behaviour, and the efforts of Communist societies "to devise

47

Warner "Industrialization, Management Education ...".

48

Ruth Hayhoe, "Penetration or Mutuality? China's Educational Cooperation with Europe, Japan and North America", Comparative Education Review, (Nov 1986), pp. 532-559.

49

McLean Overview of the Development ..., p. 15.

50

Hayhoe Chinese Higher Education ..., p.11.

effective systems of economic administration that do not undermine the existing political and ideological order", suggest that the introduction of Western management techniques may have serious implications for political and social organisation in China.⁵¹ The institutionalisation of a new technology can be facilitated by the development of professional organisations which serve as legitimating structures. However, Volti suggests that the "rise of organisations which allow the development of a professional mentality and a consequent detachment from the concerns delineated by the Party leadership" poses a threat to the Party's ability to maintain control over the general course⁵² of economic and social change. Chinese control over management through the CEMA, can be seen as an effort to minimise its threat to the current system. Efforts to change management in a way that redistributes power or economic benefits are likely to find resistance from those with vested interests. Just as was the case with agricultural techniques and medicine in the past, political barriers to the introduction and dissemination of management techniques are expected.

51

Volti Technology, Politics and Society in China, p. 7, and Lee "Political Absorption of Western Technology: ...".

52

Ibid. Volti, p. 91.

CHAPTER 7

THE TRANSFER OF MANAGEMENT FROM CANADA TO CHINA: FOUR CASE STUDIES

The transfer of management techniques from Canada to China is part of a much larger effort to assist China in the development of human resources under the auspices of the Canadian International Development Agency (CIDA). At present Canadian Overseas Direct Assistance (ODA) is focussed on three priority sectors: Agriculture, Energy and Human Resource Development. The latter is considered to be of particular importance, both in its own right and as a basis¹ for other programs. According to a recent report on Canadian ODA, priorities have shifted over the years from capital assistance in the 50's, to education in the 60's, back to capital assistance in the 70's, and it is only recently that HRD has re-emerged as a priority. The report recommended that "a basic-needs human development element be strongly integrated into all bilateral country programming", and that "CIDA ... direct more attention to developing projects and programs ... (aimed at meeting) the basic needs

1

For Whose Benefit, Report of the Standing Committee on External Affairs and International Trade on Canada's Official Development Assistance Policies and Programs, May 1987., P. 14.

of the swelling ranks of urban poor".² It specifically mentions the desperate need for "educated people with practical hands-on training" in the third world, and the potential of one of CIDA's programs in China, the Canada/China Human Development Training Program, for meeting
3A such needs.

Plans for cooperation in the development of management between Canada and China originated in 1981 when China became eligible for Canadian development assistance. The Canada/China Human Resource Training Program which has been developed since then has four major components, three of which primarily are aimed at the development of Chinese management through the transfer of Canadian management technology. Those three component projects, the Canada/China Enterprise Management Training Centre (henceforth referred to as the Chengdu Centre, after the city where it is located), the Canada/China Management Education Program (MEP), and the Canada/China Human Development Training Program (HDTP), are the subject of this analysis.^{3B}

2

Ibid., p. 15, p. 64.

3A

Ibid., p. 18.

3B

Due to financial and time limitations, and questions of confidentiality of information, the primary sources referred to here are the OISE evaluations, which are public documents. The information used was substantiated by other sources, such as CIDA files and informal discussions with people working on the projects directly. Rather than submit this paper to CIDA officials for clearance, I chose to restrict my references to publicly available information.

Those projects include a variety of models for the transfer of management techniques, four of which form the basis for these case studies. Those four are:

- 1 in-China executive-training type (Chengdu Centre);
- 2 in-China cooperative MBA (York/Nankai);
- 3 in-Canada academic MBA (Western/Qinghua);
- 4 in-Canada individual work-study placement (HDTP).

The third and fourth are both part of the MEP, and in many ways represent the two extremes of that programs varied component linkages.

There are many other CIDA programs in China which contribute to the development of managerial capabilities, such as those organised by the Industrial Cooperation division. However, here I am not attempting an exhaustive study of the transfer of management technology from Canada to China, but rather an examination of a number of contrasting types of projects with different approaches to that transfer. Consequently I will limit my discussion to those three. A CIDA officer suggested that separate consideration of the individual projects is not appropriate as they are parts of an integrated approach to the transfer of management, some fulfilling the need for vocational training, others the need for management researchers and teachers. In response to this I argue that, the projects are not integrated but separate, and there is no provision for communication between participants in the various

projects. In fact, even within projects there has been concern expressed about the lack of communication between various participating institutions, even when they are⁴ located in the same city in China. I believe that the lack of linkages between the different types of management development justifies their separate consideration.

Among the first proposals for development projects received from the Chinese authorities was one for strengthening faculties of economic management at various institutions in China. In 1982 preparations began for collaboration in the establishment of programs in education, management and training. Later that year a conference, the "China/Canada Universities Conference on Cooperation in Management Education", was held, involving Chinese representatives from universities and the Ministry of Education, and representatives from universities in Canada, as well as CIDA. The conference served as a forum for the exploration of differences between management education in Canada and China, as well as differences in concepts of management, and brought to light a number of areas which were possibly problematic in the cooperative development of⁵ Chinese management education.

4

Doris Ryan and Thomas Fleming, Evaluation of the Canada-China Management Education Program, (Toronto:OISE, 1986), p. 157.

5

Association of Universities and Colleges of Canada (AUCC), China/Canada Universities Conference on Cooperation in Management Education, (Ottawa:AUCC, 1982).

For example, Professor Xiang, Director of the Department of Industrial Management at Tianjin University, specifically noted that the question of adaptability of Western management techniques to the Chinese situation was one that had to be solved by the Chinese. He stated that the personnel who adapt and apply the knowledge must be Chinese, and that "we cannot ask foreigners to help us in managing our enterprises".⁶ The Chinese requested that the Canadians teach them management as they would teach Canadians and the Chinese would adapt what they learned to their own context. There were clearly problems with this approach, as Wang and Boisot had discovered, and fortunately it was not strictly adhered to in the projects.

Following these discussions, a project was proposed which was to be the first in international cooperation in management science entered into by the Chinese Ministry of Education (M of Ed).⁷ The project which resulted is aimed at strengthening the management education programs in eight of China's designated 'key' universities. The general objectives are "to help train teachers who will master the knowledge of modern management science, strengthen their teaching and research capabilities, and promote through cooperation both friendship and mutual understanding between

⁶ Xiang Zi-gang, In Ibid., p.64.

⁷ AUCC 1982, p. 81.

8

the universities of Canada and China".

The project was to be organised on the basis of linkages between the eight Chinese universities and Canadian universities, or consortia of universities, with the details of cooperation left up to the participants in each linkage. The resulting programs varied widely, but have been⁹ generalised into a number of transfer models, with the most intensive involving an integrated teacher training program offered in China, and the least intensive involving the provision of specialized lectures or courses in China, and the opportunity for a few Chinese students to study for an MBA or in some cases a PhD in management at a Canadian institution. The former model is the one followed in the York University linkage with Nankai University (York/Nankai, subsequently); the latter, in the University of Western Ontario linkage with Qinghua University (Western/Qinghua, subsequently). These are two of cases used as models for this analysis. Although the programs are aimed at improving Chinese management, Marcel Masse, the president of CIDA at the time of their inception, pointed out that they are meant to be two-way exchanges, and a "Chinese visitor" suggested that in the management area we might learn something from¹⁰ the Chinese. However, specific provisions for such

8 Ryan and Fleming Nov 1986 Eval sum of CCMEP.

9

Ryan and Fleming Evaluation ..., p. 34.

10

AUCC, China/Canada Universities Conference ..., p. 31, p. 79

mutuality are not clear in the organisation of the programs.

Another project, the Chengdu Centre, is part of the same network of management training centres as the Dalian Centre, discussed earlier. Located at the Sichuan Management Institute in Chengdu, the enterprise management training program was established to enable middle and senior managers of China's state-owned enterprises to learn Canadian¹¹ management techniques in China, in the Chinese language. The Centre operates under the purview of the Chinese State Economic Commission (SEC), and the Association for Community Colleges of Canada (ACCC) is the executing agency for CIDA. The objectives of the program are to introduce modern management concepts and methods through teaching by Canadian faculty, train a large number of managers, and assist in building a Chinese faculty to take over teaching and training.¹² The Chinese goal, to upgrade the management performance of existing managers, was clear, and what was¹³ required was an executive management training centre. Hence it was explicitly determined that the centre should stay¹⁴ away from "book learning" and emphasise practical learning.

11

Les McLean, Overview of the Development of the China/Canada Enterprise Management Training Centre at Chengdu, Sichuan, (Toronto:OISE Education Evaluation Centre, 1986), p. 2.

12

Ibid., p. 1.Eval sum.

13

Ibid., p. 6.

14

Ibid.P. 6 Eval sum.

Some Chinese faculty were sent to Canadian community colleges for formal training, but this was of a basically vocational nature. The Chinese Enterprise Management Association (CEMA), a national organisation of managers, which is involved in consultancy and the diffusion of information on management, is listed as a partner in the project. It is hoped that, as was the case with Dalian, Chengdu graduates might participate in the CEMA network, and profit from and contribute to the exchange of management concepts.¹⁵ This project represents a third model for management transfer.

The other project, the Human Development Training Program, was described in glowing terms in For Whose Benefit as a pioneer project in the area of using Canadian business as a teaching resource. World University Services of Canada (WUSC) is the Canadian executing agency for CIDA, and administers the program, which aims to help upgrade the skills and knowledge of Chinese professionals who hold or "will hold" important administrative and technical positions in China. Chinese participants are placed in Canadian private and public sector institutions, such as banks, oil and gas companies, international trade and law firms, etc. Upon completion of their training they are supposed to¹⁶ return to China to share their new knowledge and skills.

15

Ibid. p. 29

16

World University Service of Canada, Canada-China Human Development Training Programme, (Ottawa:WUSC).

The project is meant to cater on an individual basis to
17
identified needs in China, but it is not clear how the
programs will actually help participants to solve problems
in their work in China. The onus is on the individuals
themselves to analyse their experiences, and adapt them to
the Chinese situation. Although this program is not aimed
solely at the transfer of management skills, that is
considered to be an important aspect of it. This project
represents the fourth transfer model considered here.

Theoretical Evaluation of the Models

In the previous discussion of the theoretical
literature a number of key elements in the transfer of
technology were identified. It was postulated that learning-
by-doing is an important element of the effective transfer
of technology. This is especially likely to be true when
the technology is management, since it is so context-
dependent, and when the transfer is taking place between
such different cultural, economic, social and political
environments as exist in Canada and China. The importance of
"action learning" has been substantiated by psychological
studies which have demonstrated that new knowledge is
tightly bound to the context in which it was learned, and is

17

Alister Cumming and Barbara Burnaby, Final Evaluation
Report on the China/Canada Human Development Training
Program: Models of Organisation and Pedagogy, and Their
Potential Impact, (Toronto:OISE Education Evaluation Centre,
1986)., p. 3.

difficult to transfer to other contexts. Consequently many development programs are located in the trainees native work context.¹⁸

The conscious analytical approach involved in learning-by-doing facilitates the re-interpretation of the concepts which the technology is based on into a form compatible with the indigenous cultural, social and environmental context. Thus absorption of the technology is promoted and negative reactions due to inappropriate or incongruent aspects can be minimised.

Judged according to the opportunities for learning-by-doing afforded by them the programs can be assessed as follows:

The Chengdu Centre offers considerable benefits according to this criterion, mainly due to its inclusion of opportunities for the managers to analyse their own experiences in a new management framework. Thus they can apply their new knowledge directly to their work context, and in so doing adapt it to the Chinese context.

The Management Education Program, York/Nankai model, also offers considerable potential for learning-by-doing as it is a cooperative education program which requires the students to go into enterprises and solve real problems. This takes place in China, and hence the adaptation of the technology should be inherent in the process of analysing problems and

¹⁸

Ibid., p.32.

applying the knowledge. However, the Western/Qinghua model offers few such opportunities. The lectures given in China, while conveying information, give the audience no opportunity for application of the knowledge. The students of management in Canada, if they do have an opportunity for any practical application of their knowledge, must apply it in a Canadian context. By the time they return to China it will be difficult for them to adapt it to the Chinese context.

The Human Development Training Program suffers from a similar lack of opportunity for applying the new knowledge in a Chinese context as part of the program. Thus, it would be expected that the Chengdu Centre and York/Nankai programs would be most effective in this aspect of the transfer process. As discussed earlier, the failure to adapt the technology to the Chinese context may jeopardise its ultimate acceptance or application.

Another important aspect of the transfer process identified in the theoretical literature was the channel used. The relative merits of a mass approach, including vocational elements, and aimed at training a broad group of practitioners, as opposed to an elite approach, aimed at educating a few specialists who are expected to pass on their knowledge to others, was discussed. In light of the Chinese official emphasis on mass education, and the lingering suspicion of intellectuals, who were villified as the "stinking ninth" category in less tolerant times, this

is likely to be especially important in transfers to China.

It should be noted that there are two main 'elite' groups in China: the educated elite, who have little political power; and the bureaucratic elite, who hold considerable political power. The groups are not mutually exclusive but are often composed of different people. Thus when discussing the training of an 'elite', it must be clarified whether this is an educated or a political elite, as the former are less likely to be able to directly effect changes.

Based on their relative mass or elite approaches the programs can be assessed as follows:

The Chengdu Centre has a decidedly mass approach to the transfer of management. The focus is on practical application of management knowledge, rather than theory, and hence the relevance of the technology transferred and adopted should be ensured. As the recipients are also the users the problem of linking up those with the knowledge and those who might use it is overcome.

The York/Nankai model of educational cooperation is basically an elite program, focussing on the theoretical study of management, and management research. However, because of its cooperative work-study element, there is an applied aspect which should help to ensure the relevance of the research to Chinese problems. This will also help to diffuse the new technology to users who have been involved in the research. The Western/Qinghua model, by contrast, is

an elite and individualistic program. It relies on a few highly educated individuals, often with no practical experience in applying their knowledge, whose research may well be irrelevant to China's problems, to adapt their new knowledge to the Chinese context, and have them pass it on to other Chinese, so that it will eventually be broadly applied. But the adaptation and diffusion are not automatic. The notion of training the trainers, is good, in theory, but not if it consists of training theoreticians, to train other theoreticians, with little attention to the concern for the practical relevance of their knowledge, or experience in its application to China's problems. The ultimate goal of improving Chinese management must not be lost sight of.

The WUSC program is similarly flawed, in that it places a heavy emphasis on the training of a few individuals, who are entrusted with the herculean task of transforming practices in their workplace when they return. In a society such as China, where the collective is of more importance than the individual and the emphasis is on conformity rather than virtuosity, this would be a particularly difficult task. The problem lies not only with the social context in China, but also the socialisation of the individuals, as they often are not accustomed to taking individual initiatives and responsibility for their own activities.

In summary, the Chengdu Centre appears the strongest in this respect, followed by the York/Nankai model. The other

two types of program, with their elite and individualistic foci, appear to have serious shortcomings in this area.

The final critical element in the transfer of management, discussed previously, is a consideration of the ultimate effects which the program may have. These include effects such as brain drain which can be a serious side-effect of a program located outside China. Another problem with location abroad is the loss of opportunities to pursue applied research on topics relevant to the indigenous work context. In addition there is the more direct effect of socialising the trainee into a capitalist Western society, and in fact creating a disaffected, and potentially destabilising force. The threat of so-called "spiritual pollution" is still a source of concern in China. In addition, an implicit assumption of the superiority of Western management, and by association, Western culture and society, and even capitalist ideals, to which it is inextricably connected, must be viewed as latter-day imperialism, and cultural penetration. A lack of recognition of, or provision for a potential Chinese contribution to the field, is often viewed as indicative of such an attitude.

With respect to these two indicators of ultimate effectiveness, location and mutuality, the programs can be assessed as follows:

The Chengdu Centre's location in China avoids problems associated with study abroad, and especially with Chinese

students, such as "spiritual pollution", or simply not returning. However, the program itself offers few opportunities for a two-way exchange of ideas, and was structured so that the information flowed from the Canadians to the Chinese. The Chinese actively discouraged the Canadians from learning enough about Chinese society to introduce Chinese examples into their teaching, and the Canadians were not in a position to do research in China.¹⁹ Thus the program is restricted in terms of the ultimate benefit it may have in, for example, sharing an innovative Chinese management technique. Otherwise it would appear to be promising, due to its location, and nature.

The Management Education Program, York/Nankai model, is also located in China, primarily. Thus it shares the Chengdu Centre's avoidance of problems due to location abroad. The model, by its cooperative design, specifically offers an opportunity for 2-way exchange, as the Canadians are exposed to the projects of their students, which should give them some insight into Chinese management. The Canadians apparently were able to gain access to Chinese enterprises, as part of the program, and being in China for relatively long visits could take advantage of such opportunities. By contrast, the Western/Qinghus model, primarily is located in Canada, and the professors involved in lecturing in China

19

McLean Overview of the Development of the China/Canada Enterprise Management Training Centre ..., p. 29.

had considerable difficulty getting access to Chinese enterprises, hence opportunities for 2-way exchanges were limited. Its location makes it more prone to problems such as "defection" of students. Thus its effectiveness would be expected to be less than the preceding model.

The Human Development Training Program, being located in Canada, is likely to suffer from similar problems to the Western/Qinghua model. Opportunities for the Chinese participants to make a contribution to the Canadian understanding of management were not included as a specific part of the program.

From the standpoint of their ultimate effects, the in-China models appear to be preferable, especially in light of the "brain drain" problem, and the need to focus on Chinese management needs as part of the transfer process. As for mutuality, there was a definite lack of awareness of the existence of any kind of management in China, and hence an attitude that there was nothing to learn from the Chinese. However, even Canadians who were interested in learning more about Chinese management were often discouraged by the Chinese. Thus the ultimate effectiveness of the programs may have been impeded by Chinese restrictions on the model. Cooperation in management research and adaptation of the techniques to Chinese needs may be useful in overcoming social and political barriers to management reform in China.

The correlation of the hypothesized key elements in the transfer of management with the four models discussed is summarised in Table 1.

Table 1. Program Models and Their Inclusion of
Key Elements in the Transfer of Technology.

PROGRAM MODEL	KEY ELEMENTS		
	learning-by- doing	mass approach	location/two-way exchange
Chengdu Centre	+	+	+/-
MEP York/Nankai	+	+/-	+/+
Western/Qinghua	-	-	-/-
HDP (WUSC)	-	-	-/-

If the theoretical model has any predictive value, it would be expected that the effectiveness of the programs would vary considerably, with the Chengdu centre being the most effective, followed by the York/Nankai model, and the other two models being considerably less effective.

Substantive Evaluation

Following the first "Phase" of each program, CIDA commissioned a formal evaluation, and it is the findings of these evaluations which form the basis for the following

discussion. In addition, information was gathered from papers prepared by participants, and discussions with participants and administrators involved in them, as well as press reports from Chinese and Canadian sources. A conference of representatives from executing agencies for CIDA's programs in China also provided some interesting information.

The formal evaluations were done by various individuals at the Ontario Institute for Studies in Education (OISE), and tend to concentrate on administrative concerns, rather than considering questions of ultimate effectiveness. This was probably what CIDA required. Still, the lack of reference to theoretical literature on technology transfer or the transfer of management is surprising. From the discussions of the educational theories it is clear that they are inadequate to deal with this kind of technology transfer program, and that evaluation as an educational program is inappropriate. (as some of the evaluators themselves have suggested).²⁰ But the evaluations were thorough, and included surveys of, and interviews with, many of the Canadian and Chinese participants and administrators. Hence they offer some interesting information and insights into the programs for management transfer.

20

Cumming and Burnaby, Final Evaluation Report on the China/Canada Human Development Training Program ..., p.72.

As the evaluators point out, the ultimate effectiveness of the programs may not be evident for many years, and even then it will be difficult to attribute positive developments in Chinese management directly to any one program. For example, there is a degree of risk in the proposition of training people who are expected to become the "future elite". However there are indicators of how the programs have fulfilled immediate expectations, discussions of problems encountered and how they have been addressed, and positive developments, which allow a current assessment of their relative efficacy.

Ideally, an effective transfer programme should involve the adaptation and absorption of the technology (management techniques and their theoretical bases), and include research and development activities, the results of which are diffused to users, and potential users, of the technology, who in turn provide feedback useful for the refinement of the technology, and its further development. Thus the recipient acquires a capacity for indigenous development of the technology. In addition, it should enable recipients to participate in international management fora, to ensure the continuing exchange of information on a reciprocal basis. In the long term any contribution to developing knowledge of Western research methods, may be useful in "planting a seed" which can form the basis for future development.

FINDINGS:

Chengdu Centre

Although it appears to be the most promising model, the initial results of the program were disappointing. On closer examination, it appears that the problems were in large part due to departures from the proposed model. For example, where a practically-oriented program was planned by the Chinese SEC and CIDA, organisers at the lower level, and participants, had different ideas. The training centre was thus set up as a school, with the aim of "teaching trainees" rather than helping them learn new ways of managing, and the early emphasis on formal examinations and grades (which were adjusted to fit a Normal Distribution) was a serious irritant.²¹ The participants were well-educated, and experienced managers, however they initially had to be coerced into participating in seminars and small-group work,²² over their strong objections.

Later in the program, such participation, which is the basis for action learning, was promoted by graduates who were convinced of its value, and they were enlisted to speak²³ to new groups of trainees with respect to its merits. In addition, the evaluation policy was changed to include a

²¹

McLean Overview of the Development of the China/Canada Enterprise Management Training Centre at Chengdu ..., p. 7, p. 20.

²²

Ibid., p. 19.

²³

Ibid.

final report by the trainee on the application of the content they had been taught. Thus the model was adjusted to conform more closely with a learning-by-doing approach, although it still appears to be more educational and less like the executive training model at Dalian, than anticipated.

The advantages of training existing managers in their own environment has been evident in that some of the trainees have already applied their new knowledge, for example, in the creation of responsibility centres in a locomotive works, and a firm operating ten bakeries.²⁴ However, the training of future faculty for the school in Canadian community colleges, which tend to offer terminal vocational courses,²⁵ is problematic. These colleges are essentially practice oriented, and not geared to training teachers. The Centre's Chinese administrators would like to add a degree program, such as an MBA, since under the current arrangements the Chinese faculty tend to find themselves in an "academic no man's land",²⁶ and unable to move to other institutions, such as universities. This highlights a problem with the mass approach - it does not provide for research which could feed information on practise back into the educational system and allow

24

McLean EVAL sum p. 11.

25

Ibid. sum eval p. 7.

26

McLean p. 30.

generalisation from it, and the teaching required to disseminate the resulting knowledge.

The location in China was good from a Chinese perspective, but it was difficult to find Canadians who would spend long periods of time there, without their families, so 3 month "tours of duty" were favoured.²⁷ Some of the Canadians returned for more than one tour, and so the benefit of their previous experience was not lost. As was mentioned previously, they felt their teaching was hampered by a lack of knowledge about the Chinese context, which the Chinese officials were not eager for them to acquire.

Mutuality, or two-way exchange, was something that developed fortuitously as the program progressed. Initially the Canadian attitude was that they were to transfer a technology which they had and the Chinese did not, with no explicit anticipation of a creative contribution from the Chinese.²⁸ The Canadians were surprised by the management background and abilities of the Chinese trainees, and found them to have considerable managerial skills.²⁹ Some enterprising Canadians, on their own initiative began acting as consultants for Chinese enterprises in Chengdu. The first such arrangement is rumored to have come about when a

²⁷

Ibid., p. 4.

²⁸

McLean p. 30.

²⁹

Ibid. Eval sum p. 6.

curious Canadian looked into a nearby factory and became involved in discussion of it. Now consulting has been integrated into the Centre's activities on a more formal basis, which suggests that it has proven to be quite successful. Such activities promote the research and development activities of the Centre, and promote the adaptation of relevant management techniques. This kind of diffusion is very desirable as the initial investment in training has an immediate benefit as well as a longer-term multiplier effect.

Canada/China Management Education Program

1 York/Nankai Model (Cooperative education in China)

This program has exceeded expectations, and been heralded in the Chinese press as an important new model for cooperation in the development of management. To paraphrase an article from Tianjin Daily: The universities "have cooperatively created a new model of business administration training". The students "theoretical background is integrated and solid" and they develop "knowledge of advanced foreign theories without breaking away from Chinese practice".³⁰ Wen Hui Bao adds: "This new training alternative is more widely beneficial as well as more efficient and economical." ... Under the Chinese professor's supervision

³⁰

Tianjin Daily, "The Attractive Nankai-York Model", June 15, 1986.

the students "work out their graduation thesis which integrates what they learn with the practice in Chinese business administration". "Hence, the 32 students have learned modern theories of management in rather short time and apply the theories to research and try to solve the problems in our enterprise management".³¹ The Canadians are just as enthusiastic about the program, and it has become a model for the MEP as a whole.

This model integrates educational and vocational aspects, and hence has a combined elite/mass approach. Although the students are part of an educated elite, their links with enterprises in the solution of practical problems provides a "mass" linkage. The thesis topics that students have worked on show a remarkable relevance to actual Chinese problems.³² Relations between universities and enterprises in China were not well-developed, perhaps because the "scope of knowledge might not be meeting the needs of the enterprises". But consultancy work by faculty was beginning³³ and was hoped to change the situation. Such consultancy has been undertaken by participants in this program, and that should be useful for diffusion and two-way transfer.

31

Wenhui Bao, "Inviting Foreign Professors to China Giving Lessons", (sic) May 20, 1986.

32

Ryan and Fleming, Evaluation of the Canada/China Management Education Program, p. 159.

33

Wally Crowston, Quoted in "Cooperative Manager-Training Programme Between China and Canada", Outlook Weekly, May 19, 1986. (A Chinese weekly magazine).

The inclusion of a cooperative work-study element has been most successful. The students, who are destined to be university teachers of management, are relatively young, and less than half had any work experience in a business or industrial enterprise.³⁴ As Professor Wally Crowston, the coordinator of the program pointed out, the Chinese put too much emphasis on theoretical courses like Statistics, but not enough attention is given to applied sciences, such as Marketing and Organisational Behavior, and business students and business schools in China rarely have contact with local industries and companies.³⁵ Thus despite official pronouncements of integrating theory with practise, this appears to be rarely done in China. The Canadians are thus helping the Chinese to move towards their stated ideal.

In China, university-enterprise contacts are rare, and the development of the work/study program was facilitated by the fact that the chairman of the Department of Management at Nankai University is also the vice-president of the Association of Tianjin Enterprises, and personally knows managers of enterprises and trade organisations.³⁶ The Canadian faculty were provided with opportunities to visit

34

Wally Crowston, Annual Report 1986, (Report on the Canada/China Management Education Program).

35

AUCC, China/Canada Universities Conference ..., p. 52.

36

Ryan and Fleming, Evaluation of the Canada-China Management Education Program, p. 87.

Chinese enterprises and observe Chinese managerial practices, and several were able to use visits to Chinese plants as the basis for case studies in their teaching.³⁷ This provides a basis for two-way exchanges, and bodes well for ongoing cooperation in management.

An important aspect of this program is the awarding of a Chinese MBA, upon its completion. This is in contrast to many other programs which award foreign degrees and perpetuate the view of Chinese degrees as inferior. In addition to the in-China MBA program, there is provision for advanced study by some students in Canada, and joint research by faculty.

2 Western/Qinghua model (individual study in Canada; short lecture tours in China)

This model appears to be quite problematic, and the participants were unenthusiastic about continuing it under the current arrangement.³⁸ Canadian professors involved in a similar program pointed out the critical need for Chinese students to have access to Chinese enterprises, when they described their Chinese students:

They "seemed to know surprisingly little about the workings of their own economy and organisations, ... had little if any work experience, ... and while they intellectually understood the distinction between bosses and workers, they seemed to have no real sense of the difference in the nature of the work done at managerial

37

Ibid., p. 136.

38

Ibid., p. 190.

versus non-managerial levels".

The Chinese students who came to Canada to study management had difficulty with courses requiring familiarity with North American institutions and capitalist economies, such as Organisational Behavior, Marketing, Macroeconomics and Finance.⁴⁰ They also had trouble with the active role students are expected to take in the classroom. While the Canadian program is practically oriented, in that it uses case-studies, there was little opportunity for Chinese students to visit Canadian enterprises. If they had, it is not clear that this would enable them to apply the knowledge gained, upon their return to China. Their lack of knowledge of the Chinese situation is a barrier to the pursuit of research into problems relevant to Chinese management needs. The Chinese placed considerable emphasis on the participants acquiring knowledge about the theoretical aspects of management, but the Canadians believe that, while they will be well prepared for teaching roles, the students will not be "conversant in management theory to the extent that may be required".⁴¹

This program is elite in approach, both from the standpoint of being academically oriented and also relying

39

Dallas Cullen, E.J. Chambers, and C. Hoskins, Teaching in China: A Perspective Two Years Later, (Edmonton:Univ. of Alberta, 1986), pp. 8-9.

40

Ryan and Fleming Evaluation of the Canada-China Management Education Program, pp. 103-104.

41

Ibid., p. 95.

on educating a few individuals as keys to the transfer. Clearly there is no provision for linking the theories learned in Canada, to the Chinese context or practises. It is not evident that participants will be qualified to do research in China, or will develop any links with Chinese enterprises. The responsibility to do so is theirs, as the program does not facilitate such activities.

The Canadians who visited China for short times (two weeks), with the intention of "undertaking case research of use to both universities and countries, and giving lectures" found it difficult to gain access to enterprises, and noted that the university seemed to have little contact with⁴² industry. A typical comment was that even where visits were arranged, it was at the insistence of the Canadians, and there was a lack of enthusiasm or understanding of the⁴³ need for such activities, on the part of the Chinese.

While the Canadian wish to understand the Chinese situation may appear to be an attempt at two-way transfer, the Chinese interpreted it as self-serving. They suggested that the Canadian university's own interests were⁴⁴ prominent, in the program as a whole. The Canadian university's stated goal is to create long-term benefits,

⁴² Ibid., p. 187, p. 132..

⁴³ Ibid.

⁴⁴ Ibid., p. 117.

45

contacts and opportunities between Canada and China, and not necessarily to improve Chinese management. There does appear to be some element of cultural penetration in this model, as the knowledge is presented as part of a cultural, ideological package, and the student is expected to understand the whole package. The Chinese contribution is as a "case" rather than a participant in the development of management.

The location in Canada has been accompanied by the apparently inevitable brain drain. According to one Canadian professor, most of the Chinese who came wanted to stay, and some had made concrete plans to do so.⁴⁶ According to a CIDA official the "disappearing trainee" problem has been particularly acute with the management program.⁴⁷ In one of the linkages, there was a 60% disappearance rate.⁴⁸ With such high rates of non-returning participants, this kind of program may actually have a negative effect on the development of Chinese management. The politically sensitive issue of how to deal with those who do not want to return to China has caused some anxiety in Canadian-Chinese relations.⁴⁹

⁴⁵ Ibid., p. 189.

⁴⁶ H. Crookell, Summer 1987, personal communication.

⁴⁷ Conference 1986, CIDA Official.

⁴⁸ Conference 1986, University participant.

⁴⁹ Diane Lary, Conference 1986.

Canada/China Human Development Training Program

This program was presented in a very positive light in For Whose Benefit, without any evidence of its success or efficacy. In fact, though it is likely to be difficult to evaluate, there is evidence of serious weaknesses in the program. Although the program is supposed to offer trainees experience in Canadian enterprises and organisations, the experience tends to be of an observational rather than
50
participatory nature. The Chinese participants are separated from their work context for long periods of time while in Canada, and the possibility of applying what they observe to their own work is limited by their capacity to analyse the basic concepts underlying the work they observe. They often spend much time familiarising themselves with the Canadian context, institutions, organisation and equipment, and upon their return, find they cannot apply what they have learned because a similar environment or the appropriate
51
equipment is not available. In addition, there are often political barriers to their changing things in their unit when they return. Some of the trainees themselves complain that they are "just robots" in China and have no control over their work and activities.

50

Cumming and Burnaby, Final Evaluation Report on the China/Canada Human Development Training Program ..., p. 32.

51

Ibid., p. 72.

The highly individualistic nature of the program is clearly problematic. Participants express concern that they will not be able to apply what they learn, due to lack of support from their colleagues.⁵² Some suggested that it was difficult to see how they could change things acting individually, but that maybe as a group, they could.⁵³ However, they are not organised as a group and there were no provisions for them to get together and share their experiences and insights, in the original project design.. The project now includes provisions for group seminars while they in Canada, and also for conferences for those who have returned to China, so they may keep in touch with each other and Canadian experts in the field.

The problem of brain drain has not been so acute in this program, perhaps because the participants are well-placed, or upwardly-mobile in the Chinese organisations they come from. But there are a number of former participants who have remained in Canada, and work at various jobs, including nannies and foreign student counsellors at universities. There is little evidence of mutuality in this program. Although the purported aim was to establish horizontal contacts, the relations have emerged as hierarchical, and suggestions from the Chinese participants are rare.⁵⁴

52

Ibid.

53

Ottawa Citizen, find it.

54

Cumming and Burnaby, Final Evaluation Report on the China/Canada Human Development Training Program ..., p. 29.

Summary

While the various models have different approaches and aims, and different strengths and weaknesses, there are some elements which clearly contribute to a more effective transfer of management techniques. For example, the importance of learning-by-doing, as it was incorporated into the EEC cooperative work-study programs in China, was confirmed by the success of the York/Nankai coop MBA, and also by the Chengdu Centre's evolution from an educational to a work-study focus. The value of learning-by-doing as a means for reinterpreting the theoretical knowledge into terms familiar to the participant, and applying the new knowledge to a relevant work context is particularly important. The inclusion of a parallel opportunity for contextual analysis of Western management theories would be difficult to incorporate into the in-Canada programs. Although this kind of contextual analysis is incorporated in the formal part of the Interpreter Training Program.

The importance of a mass approach is confirmed, but qualified. That is, there is a need for broad diffusion of technology, and preferably with a practical rather than a theoretical orientation. What appears to be most effective is an integrated mass/elite approach, since this provides a means for theoretical development on the basis of Chinese

experience, as well as for developing practical applications and diffusion of both theoretical information and practical techniques from institutions to users. The usefulness of a combined mass/elite approach was supported by the success of the York/Nankai program.

The problem with an individualistic, and elitist approach such as the HDTP, might be overcome, for example by following the Japanese example of sending individuals abroad on specific seek and find missions. In these cases, the individual is acting as an agent for the group, and searching for a solution to a jointly defined problem. Hence on return they are not perceived as an individual trying to impose change on the group, but as acting in the service of the group and bringing back information for the benefit of the group. Although it is not explicit, the "future elite" who are the targets for this program, appear to be pessimistic about their ability to exercise influence in China in the near future, and the benefits will probably not be apparent for a long time. That does not detract from their value, but more immediate assistance may be necessary.

There is another problem with an approach that targets individuals as key links in a program for diffusion. That is the problem of information-sharing, or rather the lack thereof. Unfortunately, there is a well-documented problem with information-sharing in China, and individuals often jealously guard their information, recognizing its value. This is a barrier to diffusion within the group, and is also

a hindrance to the broader diffusion of technology to other groups. However, conferences and seminars in China may help facilitate and encourage information-sharing and the diffusion of imported technology through this program. 55

With respect to the ultimate effects of the transfer programs, the importance of location in China is clear from the standpoint of not encouraging brain drain, or acculturation into Western society. However, the problem of participants not returning to China could be reduced by the introduction of more specific contractual obligations which require return to China and a specified length of work there.

One of the most interesting aspects of the Canadian programs to transfer of Western management to China has been the evolution of consultancy activities in conjunction with the more formal academic, and theoretical aspects of the program. The involvement of Canadians in consulting, in association with a particular institutional setting in China is likely to have a positive impact on the development of Chinese management. This kind of activity can provide a model for Chinese academics, who are now beginning to do some consulting work. The successful application of

55

K.C. Yeh, "Review of Studies on the Mainland Economy", In Shaw, Yuming, (Ed), Mainland China, (Boulder, Colorado:Westview, 1986), :393-420.
Kieran Broadbent, Information-Sharing in the PRC, (Ottawa:IDRC, 1984).

management techniques is likely to provide a useful "demonstration effect", resulting in increased demand for the technology and promoting its diffusion. In addition, when consulting is linked to research and development, and educational activities, the lessons learned can be absorbed. This overcomes the main shortcoming of consulting as a vehicle for technology transfer, namely, that there was no mechanism for the benefits of the accumulated experience to be shared.

Adler, in her discussion of the transfer of management, suggested that the key to the development of appropriate management techniques, was: asking the right questions, and observation and analysis of the situation in context.⁵⁶ Consulting activities, when combined with an appropriate research and development oriented institutional environment appear to be a useful means for pursuing such ends. They should allow the development of an indigenously focussed system for developing and applying management techniques relevant to China's needs, and also promote the popular diffusion of appropriate management techniques in practise. And in China, theory often follows practise, so practical application on a trial basis might actually help diffuse fears of loss of control on the part of various interest groups, for example. Thus potential political barriers to the technology might be circumvented to some extent.

⁵⁶

Nancy Adler, International Dimensions

CHAPTER 8

CONCLUSION

China's historical experience with technology transfer from the West may be unique among developing countries, in that as a semi-colony late Imperial China suffered the humiliations of imperialism, without enjoying the full material benefits of colonialism, such as foreign¹ technology. However, the problems of developing countries importing Western technology are common, and despite its uniqueness the Chinese experience may offer some lessons for other developing countries.

Since the late 1800's the Chinese attitude towards foreigners, and especially the West, has ranged from relative openness to violent rejection, in a cyclical pattern. In particular since the Communist Revolution the transfer of technology from the West has been a highly politicized issue in China. The contradictory xenophilic admiration of and status accorded to Western technology, and the xenophobic distrust of foreign things as corrupt and dangerous, have been reconciled through an emphasis on the Sinification of imported technology. Hence the adaptation of Western technology to Chinese conditions and needs is

1

John K. Fairbank, The Great Chinese Revolution: 1800-1985, (New York:Harper and Row, 1986), p. 366, paraphrasing Sun Yatsen.

es; socially salient, from a political standpoint as well as a practical one. At present there is an openness to Western technology and ideas which is similar to that in the early 1900's.

While the openness to the West in that period tended to modernise an elite which became a separate scholar-managerial elite, the later Maoist era favoured the modernisation of the peasants. Under Mao's influence there was an emphasis on horizontal technology transfer and "mass science", which stressed the application of technology to practical problems. However, the mass emphasis was carried to an extreme, and tended to marginalize experts, so that their talents were not used. In fact, many of the experts belonging to the new scholar-managerial elite were victimized, and their skills are only now being applied. This is true, for example, of medical personnel trained by Canadian medical missionaries, as Minden has found. Experts are still discriminated against in many ways, such as low pay and lack of recognition of the value of their work, and are a relatively powerless elite compared with the bureaucratic elite in the Party.

In some sectors, such as public health, China has been successful in dramatically improving conditions through a combination of Western technology and Chinese experience, and reforms in political, social and economic organisation. However, despite much importation of foreign technology in the late 1970's, there have been serious problems in its

utilisation. In a conscious effort to control the import of technology and its diffusion, the Chinese adopted a technology policy, which addressed many of the perceived problems in earlier transfers, such as restrictions on sharing the technology etc.. The problems of absorption and diffusion still remained, and recognizing this the Chinese turned their attention to the development of human resources, and an emphasis on "soft technology" such as management, in an effort to improve the absorption of imported technology.

Over the last decade reforms have been introduced which give enterprise managers in China increased latitude in decision-making and responsibility for performance. These reforms, which were in part aimed at reducing political interference in management, have encountered considerable resistance, especially from Party Secretaries and cadres who lose power as a result of them. While management is typified as a technical activity by the current Chinese leadership, the "linking of ideological work and production demands more than good administrative skills of the factory manager"² and the need for managers to be ideologically correct makes the political nature of the managerial function explicit. In addition, there are "strands of power and obligation that bind workers to units in Chinese

3
industry", and people's lives are closely tied up with their workplace, so changes in management are likely to have far reaching consequences.

Nevertheless, the government has proceeded to introduce programs to improve management at all levels. In the early 1980's China approached a number of Western countries for assistance in the development of Chinese management capabilities. The transfer of technology in this field takes place through many channels, such as joint ventures, consultancy and educational cooperation. Earlier experience in the transfer of management techniques from the West to developing countries such as India led researchers to believe that as the former two channels offered no cumulative effect or opportunity to learn from their experience, the latter was the most promising for transfer, despite the lack of links of educational institutions to users. Consequently, most of the cooperative programs in management transfer developed between China and the West have had an educational orientation.

One of the earliest such cooperative educational programs was the EEC one, which overcame the problem of lack of linkages to users by having a cooperative work/study organisation, and engaging in consulting activities, tied in with the program. Although, the Chinese were quite

specific about their desire to be given information on management, and to decide how to adapt it to their circumstances, they were convinced of the necessity of learning management by applying theories to concrete Chinese problems. The success of the EEC experience, in overcoming enterprise and student opposition to the work/study combination, and later demand for them as management consultants was concrete evidence of recognition of the value of their activities and their approach. Canadian programs were developing at the same time, but too soon to benefit from the EEC experience.

The case studies examined here represent four contrasting models of management transfer. They are CIDA projects aimed, ultimately, at improving China's managerial capabilities. The models are:

- 1 In-China, vocational approach;
- 2 In-China, cooperative work/study leading to Chinese MBA;
- 3 In-Canada, educational;
- 4 In-Canada, professional development.

The evaluation of these four models served to reaffirm some of the findings of previous programs, and clarify some of the issues that affect the transfer of management. In addition some new insights on the problems, and indications as to how they might be overcome are presented.

One of the major issues identified in the theoretical literature on technology transfer, and in China's experience with such transfers, is the problem of absorption. The

literature suggests the importance of learning-by-doing, a conscious effort to apply the technology in practise, as a prerequisite for absorption. The case studies support this view. For example, in the case of management transfer, the learning-by-doing can be effected through work/study or consulting work, as was done so successfully in the second (York/Nankai) model. The first model (Chengdu) was originally planned to have a practical approach, but in fact, had an overly academic one initially. This was changed to a more applied approach by necessity, and with considerable success. The other models offer a counter-example, in that their lack of opportunity to apply what is learned, in a relevant context, is clearly a problem and a hindrance to absorption. The need for practical application of theoretical knowledge is particularly acute in China, where there is a tendency for educational institutions, and management to have no links with users, enterprises, or practical management, and students often have no work experience or knowledge of actual management.

Another issue which has been identified in the transfer of technology, and the transfer of management is the relative merits of a mass or vocational approach, as opposed to an elite, educational one. The contrast between the Maoist mass orientation and the previous (and current) elitist one offers a poignant example of the two extremes. The problem with the elite approach has been that the

technology is often not diffused to the broader population, and is often not relevant to their needs. The elite, as the educated elite in China, may not have the political power to apply their knowledge, thus it may be of little practical use to train them. The mass approach on the other hand, may not offer any means for further development of the technology, but merely be a way of ensuring application of existing technology. The case studies confirm that there are problems with a purely elite or mass approach, and provide evidence that an integrated mass/elite approach is probably the most effective.

The Chengdu approach, with its mass emphasis, appeared to be problematic in that the researchers there had no links to the academic/research community. On the other hand the Western/Qinghua elite approach suffered from a lack of linkages with practitioners. The most successful approach was the York/Nankai one, which integrated practical work with research, providing a feedback of information into the research network, and an outlet for diffusion of research through the consulting activities of faculty. The elite approach of the HDTP, which relies solely on an individual's ability to change their unit when they return to China, based on a brief experience in a foreign environment, is overly optimistic. Recognition of this has resulted in the promotion of networks, and seminars for individuals involved in the program, to improve their chances of success.

Other issues that have barely been mentioned, such as the problem of brain drain, appear to be quite problematic for in-Canada programs. This must be considered in weighing the value of various approaches. The in-China degree program has the additional value of promoting the value of indigenous educational institutions, rather than encouraging the unhealthy tendency to worship foreign degrees as inherently better than Chinese ones.

It has been suggested that Japanese management practices evolved as a response to social imperatives rather than technical ones. In the same way, Chinese management practices may evolve through an application of Western management research questions and methods to Chinese enterprise problems, rather than through a direct application of Western management practices. Hence a new, and uniquely Chinese, management system would be developed. This would clearly be more politically acceptable in China than the adoption of Western management techniques as they are.

In the introduction, technology transfer theories and experiences were discussed, and an attempt was made to develop a middle-range, or "grounded" theoretical framework for the understanding of the transfer process, and test its predictive value by applying it to a group of transfer programs. In so doing, the usefulness of the theory was evaluated, as was the effectiveness of the programs. The

findings, while referring specifically to the transfer of management technology, may well be applicable to technology transfer programs in general. The pursuit of consulting activities in conjunction with educational cooperation programs may offer a valuable model for the effective transfer of management, and other "soft" technologies.

Due to methodological limitations, such as questions of confidentiality, and financial and time constraints, the case studies are largely based on information gathered by others, and summarised by them in evaluations of the projects. I would have preferred to interview participants personally, or have access to first-hand information. One area which has been neglected in past research is consulting activities by individuals involved in such projects. This type of activity may be very important, and given more time and resources I would have investigated the role of such activities in the absorption and diffusion of imported technologies.

In order to evaluate better the effectiveness of the various projects and models, long-term follow-up studies are necessary. CIDA has recently set up a "tracking system" to maintain a data bank of information on all CIDA-sponsored trainees from China who have been trained in Canada. This should facilitate future follow-up studies. Post-return evaluations are being carried out on some of the projects,

but they are complicated by problems such as the Chinese side's lack of enthusiasm for unearthing problems which they would prefer not to be confronted with, and which they view as internal Chinese concerns.

Some interesting insights into problem areas in the projects is available through observation of the changes made in the design of future projects. For example, the new management transfer project being organised is to be based mainly in China. The theoretical training will be done in China, and will be useful in helping the Chinese to understand what they do in China, in a theoretical framework. This is to be followed by a brief study tour in Canada. In addition, there have been discussions of a proposal that units negotiate contracts with trainees prior to their departure for Canada, specifying what their position, activities and benefits will be when they return. This will serve to alleviate trainees' uncertainty about the utilisation of their expertise, and their own opportunities for advancement, which have discouraged returned trainees in the past. It is hoped that such an arrangement will encourage participants to return to China.

Although many of these programs are conceived of as primarily educational in nature, their consideration in a technology transfer theoretical perspective is useful, and offers a more focussed approach for their evaluation. For example, the technology transfer theoretical models include

a consideration of further diffusion of the technologies, while the educational perspective is usually limited to a "private capital" -type consideration of personal development. With the increasing prevalence of technology of a "soft" or informational nature, there is likely to be more technology transfer through training channels. Theoretical research on technology transfer, and the diffusion of innovation will have to evolve in response to the changing nature of technology and technology transfer. This thesis is a preliminary attempt to move in that direction.

BIBLIOGRAPHY

- Adler, Nancy, R. Doktor, and S.G. Redding, "From the Atlantic to the Pacific Century: Cross-Cultural Management Reviewed", 1986 Yearly Review of Management of the Journal of Management, Vol 12 No 2 (1986):295-318.
- Adler, Nancy, International Dimensions of Organizational Behavior, (Boston:Kent, 1986).
- Adler, Nancy, An Examination of Managerial Values in the People's Republic of China, (1987), A Symposium Proposal submitted for presentation at the 1987 Academy of Management Meetings.(unpublished)
- Agarwala, Amar N., "The University and the International Dissemination of Managerial Techniques", In Rogers, E.M. and R.A. Solo (Eds), Inducing Technological Change for Economic Growth and Development, (Ann Arbor: Michigan State Univ., 1972):180-191.
- Arrow, K., "The Economic Implications of Learning By Doing", Review of Economic Studies, June 1962.
- Ashton, David J., "The International Transfer of Management Skills", The Quarterly Journal of AIESEC International, Vol 3 No 3 (August 1967):4-11.
- Association of Universities and Colleges of Canada (AUCC), China/Canada Universities Conference on Cooperation in Management Education, (Ottawa:AUCC,1982).
- Bagchi, Amiya Kumar, Public Intervention and Industrial Restructuring in China, (New Delhi:ILO, 1987).
- Barnett, H.B., Innovation: The Basis of Cultural Change, (Toronto:McGraw Hill, 1953).
- Barth, Frederik, "On the Study of Social Change", American Anthropologist, Vol69 1967:661-669.
- Baum, Julian, "Peking's Old Guard Refuses to Step Aside", Christian Science Monitor, March 23-29, 1987 p. 3.
- Behrstock, Herbert, "International Transfer of Management Skills", Prospect 4, (Winter 1969-70):5-8.

- Boisot, Max, "Action Learning with Chinese Characteristics: The China-EEC Management Programme", Management Education and Development, Vol 17 Part 2 (1986):128-136.
- Broadbent, Kieran, Dissemination of Scientific Information in the People's Republic of China, (Ottawa:IDRC, 1980).
- Burns, John P. and Stanley Rosen, (Eds) Policy Conflicts in Post-Mao China, (Armonk, N.Y.:M.E. Sharpe, 1986).
- Byrd, William, and Gene Tidrick, "Factor Allocation and Enterprise Incentives", In Tidrick and Jiyuan (Eds), China's Industrial Reform, (Washington:IBRD, 1987):60-102.
- Cassen, Robert, and Associates, Does Aid Work?, (Oxford:Clarendon Press, 1986).
- Chan, M. Luke and Guan Zhian, Management Education in the People's Republic of China, with Special Reference to Recent Support Programs by Foreign Countries, (Hamilton:McMaster Univ., 1984), QSEP Research Report No 11.
- China News Analysis, "Industry: New Management Rights", No 1344 (October 1, 1987):2.
- China News Analysis, "On Culture: Abstractions and Reality", No. 1337 (June 15, 1987):2-6.
- Christoff, P.S., Relations Between the U.S. and the P.R.C. in the Modernisation of Science and Technology in China, (Washington: The American University, 1984), PhD Dissertation.
- Cumming, Alister and Barbara Burnaby, Final Evaluation Report on the China/Canada Human Development Training Program, (Toronto:OISE Education Evaluation Centre, 1986).
- Davies, Stephen, The Diffusion of Process Innovation, (Cambridge:Cambridge Univ. Press, 1979).
- Drucker, Peter, "What We Can Learn from Japanese Management", Harvard Business Review, (March-April 1971):110-122.
- Drucker, Peter, Management, (London:Pan, 1977).
- Ellul, Jacques, The Technological Society, (New York:Alfred Knopf, 1973).

- Fairbank, John K., The Great Chinese Revolution: 1800 - 1985, (New York:Harper and Row, 1986).
- Farmer, Richard N. and Barry M. Richman, Comparative Management and Economic Progress, (Homewood, Illinois: Richard Irwin, 1965).
- Fayol, H., General and Industrial Management, (London: Pitman, 1949).
- Fisher, William A., "The Management Center in Dalian", China Exchange News, Vol 11 No 2 (1983), p. 13.
- Fry, Gerald W., "The Economic and Political Impact of Study Abroad", Comparative Education Review, (May 1984):203-220.
- Graham, R.G. and Leung Kwok, "Management Motivation in Hong Kong", The Hong Kong Manager, (Feb/March 1987):17-24.
- Guangming Ribao, "Dui Xingwei Kexuede Renshi Yu Pingjia" (Understanding and Evaluating Behavioral Science), Oct 7, 1984, p. 3.
- Guangming Ribao, "Capitalist Management/Administration Methods, Should We Learn Them? How?", Nov. 15, 1984, p. 1.
- Halty-Carrere, M., Technology Development Strategies for Developing Countries: A Review for Policy Makers, (Montreal: Institute for Research on Public Policy, 1979).
- Hayhoe, Ruth, Chinese Higher Education and the International Community, Background Paper Commissioned by the O.I.S.E. Evaluation Team for CIDA's Canada-China Management Education Program Evaluation, 1986.
- Hayhoe, Ruth, "Penetration or Mutuality? China's Educational Cooperation with Europe, Japan and North America", Comparative Education Review Nov 1986:532-559.
- Hendryx, Steven, "The China Trade: Making the Deal Work", Harvard Business Review, No 4 (July-August 1986):75-84.
- Hobsbawm, H.J., Industry and Empire, (U.K.: Pelican, 1968).
- Hofstede, Geert, "The Interaction Between National and Organisational Value Systems", Journal of Management Studies, Vol 21 No 3 (July 1984):349-357.
- Hsu, Immanuel C.Y., The Rise of Modern China, (Toronto: Oxford Univ. Press, 1975).

- Huang Kunyi, "China's Patent System Takes Shape", Intertrade, Feb 1984, 19-23.
- International Development Research Centre (IDRC), Absorption and Diffusion of Imported Technology: Proceedings of a Workshop, (Ottawa:IDRC, 1983).
- Ji Chongwei, "Technical Transformation and the Use of Foreign Funds", China's Foreign Trade, Vol 6, 1983:8-9.
- Jung, Hwo and Jung, Petee, "The Hermeneutics of Political Ideology and Cultural Change: Maoism as the Sinicization of Marxism", Cultural Hermeneutics, Vol 3 (1975):165-198.
- Kapferer, Bruce, "Transactional Models Reconsidered", In B. Kapferer (Ed), Transaction and Meaning, (New York:Random House, 1976):2-3.
- Kleinman, Arthur M., "The Background and Development of Public Health in China: An Exploratory Essay", In Myron Wegman, Lin Tsungyi, and E. Purcell (Eds), Public Health in the People's Republic of China, (New York:Josiah Macy Jr. Foundation, 1973):10-21.
- Kroeber, A.L. and C. Kluckhohn, Culture: A Critical Review of Concepts and Definitions, (Cambridge, Mass:Harvard Univ Press, 1952), Peabody Museum Papers Vol 47 No 1.
- Kuznets, Simon, Secular Movements in Production and Prices, (Boston:Houghton, 1930).
- Laurent, Andre, "The Cultural Diversity of Western Conceptions of Management", International Studies of Management, Vol 13 Nos 1-2 (1983):75-96.
- Lee, Rensselaer W., "Political Absorption of Western Technology: The Soviet and Chinese Cases", Studies in Comparative Communism, Vol 15 Nos 1&2 (Spring/Summer 1982):9-33.
- Lincoln, J.R., Mitsuyo Hanada, and K. McBride, "Organisational Structures in Japanese and U.S. Manufacturing", Administrative Science Quarterly, Vol 31 (1986):338-364.
- Lowe, E.A., "Introduction: Conference and Special Issue Organisation", Journal of Management Studies, Vol 21 No 3 (July 1984):253-258.
- Marer, P., and T.W. Sharkey, "The Image of U.S. Business Schools in Japan", In R.N. Farmer (Ed), Advances in International Comparative Management, (London:JAI Press, 1986), Vol 2: 141-157.

3 of/de 3

MicroD

- McLean, Les, Overview of the Development of the China/Canada Enterprise Management Training Centre at Chengdu, Sichuan, (Toronto:OISE Educational Evaluation Centre, 1986).
- McMillan, C.J., The Japanese Industrial System, (Berlin:de Gruyter, 1984).
- Minden, K.P., Missionaries, Medicine and Modernisation, Canadian Medical Missionaries in Sichuan, 1925-1952, (Toronto:York Univ., 1981), PhD Dissertation.
- Mintzberg, H., The Nature of Managerial Work, (New York:Harper and Row, 1973).
- Mytelka, Lynn, "Effective Technology Transfer in Africa", In Nathan Rosenberg and Claudio Frischtak (Eds), International Technology Transfer, (New York :Praeger, 1985), pp. 79-156.
- Nath, Raghu, "The Role of Culture in Cross-Cultural and Organisational Research", In Farmer, R.N., (Ed), Advances in International Comparative Management, (London:JAI Press, 1986), Vol 2:249-267.
- Nathan, Andrew J., Chinese Democracy, (Berkeley:Univ of California Press, 1986).
- Nehrt, Lee Charles, Management Policy, Strategy and Planning for S.E. Asia, (Kowloon:Chinese Univ. of Hong Kong, 1974).
- Orleans, Leo, "Chinese Students and Technology Transfer", Journal of Northeast Asian Studies, Vol 4 No 4 (Winter 1985):3-25.
- Ottawa Citizen, "Students Who Refuse to Come Home Causing Major Problems for China", Oct. 17, 1987, p. E16.
- Pye, Lucien, Chinese Commercial Negotiating Style, (Cambridge, Mass:Delgeschlager, Gunn and Han, 1982).
- Pye, Lucien, "On Chinese Pragmatism in the 1980's", China Quarterly, No 106 (June 1986):207-234.
- Pye, Lucien, "Reassessing the Cultural Revolution", China Quarterly, No 108 (Dec 1986):610-611.
- Pye, Lucien, "The China Trade: Making the Deal", Harvard Business Review, No 4 (July-August 1987):74-84.

- Redding, S.G., "Cognition as an Aspect of Culture and Its Relation to Management Processes: An Exploratory View of the Chinese Case", Journal of Management Studies, (May 1980):127-148.
- Reed, M.I., "Management as a Social Practice", Journal of Management Studies, Vol 21 No 3 (July 1984):273-285.
- Reitsberger, Wolf, "British Employees Responding to Japanese Management Philosophies", Journal of Management Studies, Vol 23 No 5 (Sept 1986):563-585.
- Roberts, John, "The Moral Character of Management Practice", Journal of Management Studies, Vol 21 No 3 (July 1984):286-302.
- Rogers, Everett M., Diffusion of Innovations, (New York:Macmillan, 1983).
- Rosen, M., "Myth and Reproduction: The Contextualisation of Management Theory, Method and Practice", Journal of Management Studies, Vol 21 No 3, (July 1984):303-322.
- Ryan, Doris, and Thomas Fleming, Evaluation of the Canada-China Management Education Program, (Toronto:OISE, 1986).
- Sagasti, Francisco, Science and Technology for Development: A Review of Schools of Thought on Science, Technology, Development and Technical Change, (Ottawa:IDRC, 1983).
- Sayles, L.R., Leadership, (New York:Methuen, 1979).
- Schram, Peter, "Economic Management", In J.M.H. Lindbeck (Ed), China: Management of a Revolutionary Society (Washington:Univ. of Washington, 1971):193-220.
- Schurmann, Franz, Ideology and Organization in Communist China, (Berkeley:Univ of Calif.Press, 1968).
- Schwind, H.F. and Gao Shan, "Canadian and Chinese Management Compared and Contrasted", Canada-China Journal, Vol 4 No 2 (1985):8-9.
- Shimada, Haruo, "The Perceptions and Reality of Japanese Industrial Management", In L.C. Thurow (Ed) The Management Challenge: Japanese Views, (Cambridge:MIT Press, 1985):42-68.
- Schurmann, F., Ideology and Organization in Communist China, (Berkeley:Univ. of California Press, 1968).

- Siggel, Eckhard, "Technology Transfers to Developing Countries through Consulting Engineers: A Model and Empirical Observations from Canada", The Developing Economies, Vol 24 No 3 (Sept 1986):229-250.
- Singer, Martin, Canadian Academic Relations with the People's Republic of China Since 1970, (Ottawa:IDRC, 1985).
- Soete, Luc, "International Diffusion of Technology, Industrial Development and Technological Leapfrogging", World Development, Vol.13 No.3,(March 1985):409-422.
- Solo, Robert A., "The International Corporation and Consulting Firms as Agencies of Change", In R.A. Solo, and E.M. Rogers (Eds), Inducing Technological Change for Economic Growth and Development, (Ann Arbor:Michigan State Univ. Press, 1972):229-238.
- Stewart, Frances, International Technology Transfer: Issues and Policy Options, (World Bank Staff Working Paper No. 344, 1979).
- Stewart, Rosemary, "The Nature of Management? A Problem for Management Education", Journal of Management Studies, Vol 21 No 3 (July 1984):323-330.
- Stross, Randall, The Stubborn Earth, American Agriculturalists on Chinese Soil, 1898-1937, (Berkeley:Univ. of California Press, 1985).
- Thurow, L.C., The Management Challenge: Japanese Views, (Cambridge:MIT Press, 1985).
- Tidrick, Gene and Chen Jiyuan, "Enterprise Organisation", and "Characteristics of the Twenty Firms", In Tidrick and Jiyuan (Eds), China's Industrial Reform, (Washington:IBRD, 1987):277-280, and 11-43.
- Tsurumi, Yoshi, "Myths that Mislead U.S. Managers in Japan", Harvard Business Review, (July -Aug 1971): 118-126.
- United Nations Conference on Trade and Development (UNCTAD), Technology: Strengthening the Technological Capacity of the Developing Countries Including Accelerating Their Technological Transformation, (Study by the UNCTAD Secretariat, May 7, 1979).
- Volti, Rudi, "Introduction" and "Technology and Polity: The Dynamics and Dilemmas of Managed Change", Studies in Comparative Communism, Vol 15 Nos 1&2, 1982:1-8, 71-94.
- Volti, Rudi, Technology, Politics and Society in China, (Boulder, Colorado:Westview, 1982).

- Walder, Andrew G., Communist Neo-traditionalism: Work and Authority in Chinese Society, (Berkeley:Univ. of California Press, 1986).
- Wallace, A.F.C., Culture and Personality, (New York:Random House, 1970).
- Wallace, A.F.C., "Paradigmatic Processes in Culture Change", American Anthropologist, Vol 74, 1972:467-478.
- Wang, N.T., Enterprise Management Training in China: A Case Study, Paper presented at the Roundtable on Managing Human Development, UNDP, Sept 1987, Budapest, Hungary.
- Warner, Malcolm, "The 'Long March' of Chinese Management Education, 1979-1984", The China Quarterly, No 106 (June 1986):306-325.
- Warner, Malcolm, "Industrialisation, Management Education and Training Systems: A Comparative Analysis", Journal of Management Studies, Vol 24 No 1 (Jan 1987):92-112.
- Westney, D.E., Imitation and Innovation: The Transfer of Western Organisational Patterns to Meiji Japan, (Cambridge, Mass:Harvard Univ. Press, 1987).
- Whitely, Richard, "The Fragmented State of Management Studies: Reasons and Consequences". Journal of Management Studies, Vol 21 No 3 (July 1984):331-348.
- Whorf, Benjamin Lee, Language, Thought and Reality, (New York:Wiley, 1956).
- Willmott, Hugh C., "Images and Ideals of Managerial Work: A Critical Examination of Conceptual and Empirical Accounts", Journal of Management Studies, Vol 21 No 3 (1984):349-365.
- Yeh, K.C., "Review of Studies on the Mainland Economy", In Shaw, Yuming (Ed), Mainland China, (Boulder, Colorado:Westview, 1986): 393-420.
- Zhang Renyu, Technology Issues in the Capital Goods Sector: The Experience of the People's Republic of China, (New York:United Nations, 1984).
- Zheng Guangliang, "The Leadership System", In Gene Tidrick and Chen Jiyuan (Eds), China's Industrial Reform, (Washington:IBRD, 1987):297-312.
- Zhong Ming, "New Rulings to Benefit High-Tech Investors", China Daily, June 7, 1984.

Zhongguo Qingnian Bao, "A Memorandum of Fate", Dec. 2, 1987.

Zhu Rongji, "Remarkable Progress in Technology Import",
Intertrade, Feb. 1984, 289-99.

Zi Zhongyun, "The Relationship of Chinese Traditional
Culture to the Modernisation of China: An Introduction
to the Current Discussion", Asian Survey, Vol 27 No 4
(April 1987):442-458.

END

17.02.90

FIN