INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or “target” for pages apparently lacking from the document photographed is “Missing Page(s)”. If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in “sectioning” the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.

University Microfilms
International

300 N. ZEEB ROAD, ANN ARBOR, MI 48106
18 BEDFORD ROW, LONDON WC1R 4EJ, ENGLAND

The Ohio State University

Ph.D. 1980

University Microfilms International

Copyright 1980
by
Clarke, Christopher McFarland

All Rights Reserved
THE POLITICS OF BUREAUCRATIC REORGANIZATION IN THE
PEOPLE'S REPUBLIC OF CHINA:
THE STATE COUNCIL, 1949-1979

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Christopher McFarland Clarke, B.A., M.A.

* * * * *

The Ohio State University
1980

Reading Committee:

David M. Lampton
Bradley M. Richardson
Philip D. Stewart

Approved by

Adviser
Department of Political Science
To Meredith *sine qua non*
ACKNOWLEDGMENTS

Any research project owes a debt to countless persons, known and unknown, who in some way contributed to its completion. I take pleasure in acknowledging some of the individuals without whom this dissertation might never have been possible. First, I extend my gratitude to the Department of Political Science, The Ohio State University, which was kind enough to finance my graduate studies for three years, assigning me to most rewarding and challenging teaching and research responsibilities. I further express my gratitude to the East Asian Studies Program of the Center for International Studies and to the Graduate School, The Ohio State University, which recommended me for a National Defense Foreign Language Fellowship (Title VI, NDEA). Receiving the fellowship allowed me to research and write this dissertation without distraction. Consequently, I also express my gratitude to the U.S. Department of Health, Education and Welfare for awarding me the fellowship.

I also wish to thank Mr. John Dolfin of the Universities Service Center, Hong Kong, for providing me with photocopies of a number of documents from the Center's collection, and to the Special Materials and Interlibrary Loan sections of the Ohio State University libraries for their cheerful assistance. In addition, I express my appreciation to Gale Cole for her excellent work in the preparation of the manuscript.
Thirdly, I wish to express my gratitude to the members of my dissertation reading committee. Bradley M. Richardson and Philip D. Stewart have constantly challenged me to look beyond the particulars of my findings. My five-year affiliation with David M. Lampton has encompassed both professional and personal interaction. He has extended to me the time, consideration, advice and attention that can only take place in the context of a warm personal friendship. I leave the University deeply in his debt.

Finally, I acknowledge my respect and gratitude to two people who have supported me morally, intellectually, emotionally and financially through a long period of schooling. I am pleased to express my appreciation to my father, John H. Clarke, for his encouragement and sacrifice in seeing me through my undergraduate studies. To my wife, Meredith, who cheerfully bore a large part of the burden over the past five years, I dedicate this dissertation.
VITA

June 23, 1949 .............. Born - New York, New York
1967. ........................ B.A., Fairleigh Dickinson University, Teaneck, New Jersey
1975-9. ........................ Teaching Assistant, Department of Political Science, The Ohio State University, Columbus, Ohio
1979-80 ........................ Graduate Fellow, National Defense Foreign Language Fellowship (Title VI, NDEA)
1979. ........................ M.A., The Ohio State University, Columbus, Ohio

FIELDS OF STUDY

Major Field: Political Science

Comparative Politics. Professors David M. Lampton, Bradley M. Richardson and Philip D. Stewart

Public Policy. Professors Bradley M. Richardson and Donald Sylvan
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>VITA</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF FREQUENTLY ABBREVIATED BOOKS</td>
<td>xi</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>A. The Chinese Government and Politics.</td>
<td>2</td>
</tr>
<tr>
<td>B. The Policy Process</td>
<td>8</td>
</tr>
<tr>
<td>C. Models of Chinese Politics and the</td>
<td>12</td>
</tr>
<tr>
<td>Public Policy Process.</td>
<td></td>
</tr>
<tr>
<td>II. THE MACHINERY OF POLITICS AND THE POLITICS</td>
<td>42</td>
</tr>
<tr>
<td>OF MACHINERY, 1949-1965</td>
<td></td>
</tr>
<tr>
<td>A. Introduction</td>
<td>42</td>
</tr>
<tr>
<td>B. 1949-1952: Rehabilitation and Reconstruction.</td>
<td>47</td>
</tr>
<tr>
<td>C. The First Five-Year Plan, Civilian Economic</td>
<td>53</td>
</tr>
<tr>
<td>Development and Machine-Building.</td>
<td></td>
</tr>
<tr>
<td>D. The Development of Agriculture and Machine-</td>
<td>58</td>
</tr>
<tr>
<td>E. The Retreat From the Great Leap Forward.</td>
<td>101</td>
</tr>
<tr>
<td>F. Summary.</td>
<td>113</td>
</tr>
<tr>
<td>G. The Machine Building Industry and the Military</td>
<td>116</td>
</tr>
<tr>
<td>H. Summary and Conclusions.</td>
<td>132</td>
</tr>
<tr>
<td>III. RAILROADS AND REVOLUTION IN CHINA, 1966-1975</td>
<td>186</td>
</tr>
<tr>
<td>A. Introduction</td>
<td>186</td>
</tr>
<tr>
<td>B. Background</td>
<td>189</td>
</tr>
<tr>
<td>C. System Overload: Peking</td>
<td>196</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>D. Factionalism: Intramural and Extramural in Shanghai, Harbin and Elsewhere</td>
<td>202</td>
</tr>
<tr>
<td>E. Exterior Disturbances: Chengchow</td>
<td>218</td>
</tr>
<tr>
<td>F. Canton: A Microcosm</td>
<td>221</td>
</tr>
<tr>
<td>G. Denouement: 1968 in Kwangsi</td>
<td>227</td>
</tr>
<tr>
<td>H. Synopsis: The Cultural Revolution on the Railroads</td>
<td>235</td>
</tr>
<tr>
<td>I. 1969-70: Return of Civilian Control</td>
<td>240</td>
</tr>
<tr>
<td>J. Railroads in the 1970's</td>
<td>244</td>
</tr>
<tr>
<td>K. Summary and Conclusions</td>
<td>258</td>
</tr>
<tr>
<td><strong>IV. THE COAL AND PETROCHEMICAL INDUSTRIES IN THE 1970'S</strong></td>
<td>293</td>
</tr>
<tr>
<td>A. Background</td>
<td>293</td>
</tr>
<tr>
<td>B. Fuels and Petrochemicals in the 1970's</td>
<td>309</td>
</tr>
<tr>
<td>C. Conclusions</td>
<td>346</td>
</tr>
<tr>
<td><strong>V. CONCLUSIONS</strong></td>
<td>384</td>
</tr>
<tr>
<td>A. Administration and Organization</td>
<td>386</td>
</tr>
<tr>
<td>B. Mao and Organization</td>
<td>392</td>
</tr>
<tr>
<td>C. Politics and Organization in China</td>
<td>395</td>
</tr>
<tr>
<td>D. Organization and Politics in the Post-Mao Era</td>
<td>399</td>
</tr>
<tr>
<td><strong>APPENDIX</strong></td>
<td></td>
</tr>
<tr>
<td>State Council, 1949-79.</td>
<td>408</td>
</tr>
<tr>
<td><strong>BIBLIOGRAPHY</strong></td>
<td>428</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chinese Agriculture, 1949-58</td>
<td>72</td>
</tr>
<tr>
<td>2. Sources of Budgetary Revenue, 1952-59</td>
<td>73</td>
</tr>
<tr>
<td>3. Increase in State Investment, 1950-62</td>
<td>74</td>
</tr>
<tr>
<td>4. Railways in Manchuria, 1934-38</td>
<td>192</td>
</tr>
<tr>
<td>5. Distribution of Operating Railways, 1949-50</td>
<td>192</td>
</tr>
<tr>
<td>6. Modern Railway Equipment Available at End of 1949</td>
<td>193</td>
</tr>
<tr>
<td>7. Source of Railroad Equipment Available in 1949</td>
<td>193</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Policy Process Model</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Changes in the Machine-Building Apparatus</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>The Organization of the First Ministry of Machine-Building in the 1950's</td>
<td>141</td>
</tr>
<tr>
<td>4</td>
<td>The Organization of the First Ministry of Machine-Building in 1978</td>
<td>142</td>
</tr>
<tr>
<td>5</td>
<td>Top Level Staffing of the First and Second Ministries of Machine Building, 1953-56</td>
<td>143</td>
</tr>
<tr>
<td>6</td>
<td>Organization of the Ministry of Railroads</td>
<td>263</td>
</tr>
<tr>
<td>7</td>
<td>Changing Structure of Coal, Fuel and Chemical Apparatus, 1949-1980</td>
<td>311</td>
</tr>
<tr>
<td>8</td>
<td>Ministry of Petroleum, Sample of Table of Organization</td>
<td>323</td>
</tr>
<tr>
<td>9</td>
<td>Sample Organization of a Petroleum Administration</td>
<td>324</td>
</tr>
<tr>
<td>10</td>
<td>Petroleum Complex of Chinese Government</td>
<td>350</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>APSR</td>
<td>American Political Science Review</td>
<td></td>
</tr>
<tr>
<td>AS</td>
<td>Asian Survey</td>
<td></td>
</tr>
<tr>
<td>CSM</td>
<td>Christian Science Monitor</td>
<td></td>
</tr>
<tr>
<td>CNS</td>
<td>China News Summary</td>
<td></td>
</tr>
<tr>
<td>CQ</td>
<td>China Quarterly</td>
<td></td>
</tr>
<tr>
<td>CCP</td>
<td>Chinese Communist Party</td>
<td></td>
</tr>
<tr>
<td>CB</td>
<td>Current Background</td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>Current Scene</td>
<td></td>
</tr>
<tr>
<td>DSJP</td>
<td>Daily Summary of Japanese Press</td>
<td></td>
</tr>
<tr>
<td>ECMM/SCMM (SPRCM)</td>
<td>Extracts from (Summary of) China Mainland Magazines/ later Summary of People's Republic of China Magazines</td>
<td></td>
</tr>
<tr>
<td>FEER</td>
<td>Far Eastern Economic Review</td>
<td></td>
</tr>
<tr>
<td>FFYP</td>
<td>First Five-Year Plan</td>
<td></td>
</tr>
<tr>
<td>FBIS</td>
<td>Foreign Broadcast Information Service</td>
<td></td>
</tr>
<tr>
<td>GLF</td>
<td>Great Leap Forward</td>
<td></td>
</tr>
<tr>
<td>JMJP</td>
<td>Jen-min Jih-pao (People's Daily)</td>
<td></td>
</tr>
<tr>
<td>JPRS</td>
<td>Joint Publications Research Service</td>
<td></td>
</tr>
<tr>
<td>NPC</td>
<td>National People's Congress</td>
<td></td>
</tr>
<tr>
<td>NCNA</td>
<td>New China News Agency</td>
<td></td>
</tr>
<tr>
<td>PR/BR</td>
<td>Peking Review/later Beijing Review</td>
<td></td>
</tr>
<tr>
<td>PRC</td>
<td>People's Republic of China</td>
<td></td>
</tr>
<tr>
<td>POC</td>
<td>Problems of Communism</td>
<td></td>
</tr>
<tr>
<td>SW</td>
<td>Selected Works of Mao Tse-tung</td>
<td></td>
</tr>
<tr>
<td>URS/URI</td>
<td>Union Research Service/Union Research Institute</td>
<td></td>
</tr>
<tr>
<td>WAN SUI!</td>
<td>Mao Tse-tung Ssu-hsiang Wan Sui!</td>
<td></td>
</tr>
</tbody>
</table>
LIST OF FREQUENTLY ABBREVIATED BOOKS

Cheng FFYP  

Cheng Eco.Rel.  

Cheng MBICC  

JEC 1968  

JEC 1972  

JEC 1975  

JEC 1978  

Klein & Clark  

Who's Who  
INTRODUCTION

Between 1949 and 1979 the state administrative structure of the People's Republic of China changed dramatically. The number of ministry-level organizations fluctuated from as few as 24 in 1949 to as many as 52 in 1965 to around 25 in the early 1970's. Presumably such changes are not random; they serve some purpose or reflect the end result of a political process involving the interaction of many forces. The task of this dissertation is to examine the Chinese political process, unravelling the interaction of such forces in order to explain changes in the structure of the Chinese state bureaucracy. Rather than deal with changes in the State Council in the aggregate, however, I have chosen to examine the segments of the administrative apparatus which oversee three key economic sectors, sectors in which substantial bureaucratic redesign has taken place. Before describing the analytic framework within which this investigation will take place, it is necessary to explain why I have chosen to examine the government structure (as opposed to the Communist Party or military apparatus), and why I have selected these particular cases for investigation.
A. The Chinese Government and Politics

In the study of Communist Party-dominated societies, one school of thought is of the opinion that:

Studying the formal structure of the Chinese Communist government is worthwhile only if one appreciates the manner in which it is utilized and controlled by the real rulers. The formal structure, once erected, constitutes a framework within which the leadership maintains its fiction of legality and "democracy," but it is usually not involved in the vital process of decision making.\(^3\)

In fact, according to this mode of thinking:

There are two principal reasons behind the ever-increasing size of the Chinese Communist Government structure:

(1) Dictatorial rule is in reality but rule through secret police, or a system of each keeping an eye upon the other; it therefore takes a far larger number of men to do the same amount of work in a dictatorial country than in a democratic country. (2) Dictatorial rule is based upon unitarianism, and is thus bound to be highly comprehensive...The daily increasing size of the Chinese Communist government structure is both a sign of the rapidly deteriorating state of the people and of the strengthening of Communist control over the entire country.\(^4\)

Even when accounting for the obvious anti-Communist bias of this approach, is it not correct to understand the Chinese Communist system as one basically of control by the Party over the government? Is not the real locus of power, and hence of interest for the analyst, the Communist Party rather than the state apparatus? Certainly a number of researchers have so argued,\(^5\) and the conventional wisdom seems to support such a view. Why, then, study the government? The most obvious answer is, because it is there, and because (almost) no one else has bothered to study it.\(^6\) Frederick Teiwes points out that government vice-ministerial posts are roughly equivalent in pay and...
status to provincial Party secretarial posts, yet more work has been done on provincial politics than on central administration. In the final analysis, Franz Schurmann's statement of 1966 remains true in 1980:

One of the most important yet least known areas of organization in China is that of state administration, or government.

However, the existence of the government and the lack of scholarly analysis related to it are not an adequate justification for this undertaking. It must be demonstrated that Chinese governmental organizations are important and perform some function more significant than serving as "puppets" for the Communist Party. It is my contention, without dismissing the reality of Party supremacy, that this is so. The government is the mechanism through which China administers policy, i.e., through which China deals with many of its problems.

The artificiality of separating implementation from policy formulation and decision-making has been the subject of increased interest in the study of public policy. It is now clear that a great deal of policy formulation and decision-making is inherent and unavoidable in administration. From their crucial position in the public policy process, State Council agencies derive considerable powers of implementation, and hence, decision-making. The importance of such agencies in Chinese politics is revealed by the attention the Chinese themselves pay to organization. They have developed an elaborate, costly state bureaucracy. They periodically reorganize its structure. Political leaders invest a great deal of their time overseeing its functioning, reading reports and attending meetings. They have set
up an elaborate system of recruitment, pay and evaluation of bureau-
cratic personnel. The mass media are full of information about the
state apparatus, its functions, its successes, its failures. The
frequency with which the Chinese engage in campaigns to "rectify" and
"clean up" the shortcomings of lower-level cadres indicates that the
Party leaders are well aware of the power of the implementors. Thus
the government bureaucracy is important, among other reasons, because
the Chinese think and say it is important. In addition, powerful
Party leaders hold posts in the government administration. With a
few exceptions in the early 1950's, all of the vice-premiers of the
State Council have been important Party members, frequently holding
positions on the Politburo. Many key politicians maintain widespread
networks allied to one or more functional areas within the state
bureaucracy. At times, these networks have become so tightly knit
that they have been denounced as "water-tight independent kingdoms".
Thus, a second reason for the importance of the government is that
its component parts can provide personal power centers, foci of fac-
tionalistic or patron-client relationships.

Agencies mandated with administrative tasks must also be equipped
with resources to perform those tasks. Organization itself is a
scarce resource and valued commodity, the more so in an "underdeveloped"
country with the goal of modernizing its economy and controlling its
populace. As Schurmann pointed out,

Organization requires decisions - decisions require power.
Through the structures of organization power is trans-
fomed into action.

Thus organization (its extent, its form, its direction, and its
control) is a highly political issue. A growing body of literature in American politics shows that attempts to reorganize the governmental bureaucratic structure generates heated political controversy. The same is true of China. But Chinese government organs also control other scarce resources. The key resources of knowledge and expertise, in a managed economy, are controlled largely by the government.

A vast quantity of vital information, paper work, statistics, reports, directives, complaints, disciplinary action, is channelled upward and downward through a government network of functional specialists performing parts of a complex process. This is the nature of the bureaucratic division of labor, and the Chinese are not immune to its implications. No generalist on the Politburo could possibly find the time or possess the knowledge to oversee the complicated process of government. Mao more than once complained that the Politburo had been reduced to a mere voting machine, presented with reports that it had no alternative but to ratify. This attests to the power of those who control expertise and information. Furthermore, the government of China controls scarce financial and technological resources. The huge government budget for example controls the bulk of funds for investment in China.

All of this is not to argue that the State Council is "more important" than the Party or army (although, in certain respects, one might argue it to be). It is true that the State Council, is subordinate politically to party leadership, but its role as translator of party decisions into state action has made it by far the most powerful of the various institutions established by the constitution.
Thus, the central government is an important field of political activity and of potential political conflict, a significant arena of power, and, because it has been relatively neglected by recent China scholars, a valuable area for study. If this argument is accepted, why then choose the three economic sectors dealt with in this dissertation?

China always has been, and continues to be, a basically agricultural society. It is likely to remain so for the foreseeable future. However, since the 1860's China has sought to develop itself into a strong, unified and modern country. One prerequisite for this formula in the twentieth century is a thriving industry. And yet, despite the fact that China has made great efforts, and achieved some successes, industrial development still has far to go. Interestingly, however, as late as 1978, economist Christopher Howe could write, "There are no general studies of China's industrial growth in English although there are a number of very valuable analyses of individual sectors." It could be added with equal validity that not only have many industrial sectors received little or no attention, but that there have been almost no attempts to discuss in depth the interrelationship between political conflict and industrial growth either generally or in particular sectors. This is in contrast with the situation in other areas of governmental responsibility. Culture, health, education, and water conservation for example, have received extensive treatment, as has agriculture.

For a society attempting to build its industry, three crucial sectors are machinery, transportation and fuels. Machinery is the sine qua non of industrial modernization. Between 1949-60, China
built this industry from a negligible component of her economy into an important and thriving sector. Moreover, as the subject of analysis in this dissertation is organizational change, the rapid and substantial fluctuation in the number of ministries involved in this sector provides an excellent opportunity for study. By contrast, the railroad industry has been beset by problems since it was first established in the 1870's. The People's Republic has not been notably successful in establishing a thriving, dynamic rail system. Moreover, the changes in the government's railroad bureaucracy are intriguing: a ministry of railroads existed from 1949 until the Cultural Revolution. It disappeared, and in 1970 was amalgamated into a ministry of communications, only to reappear in 1975. These changes seem to demand explanation. Finally, the Chinese fuels industry has been the subject of intense interest (and study) in the West since massive reserves of oil were discovered in the late 1950's and mid-1960's. Yet none of these studies explicitly deals with the political aspects of oil in the PRC. In addition, unexpected changes in the governmental fuels bureaucracy occurred. From 1956-70 three agencies operated in closely related spheres (coal, chemicals, and petroleum). In 1970 they were merged into one ministry; in 1975 they were split into two (coal and petrochemicals). In 1978, there were again three ministries, (coal, petroleum and chemicals), with rumblings of the immanent formation of a new energy controlling board of some sort. (See Appendix) Thus all three areas (machine-building, railroads, fuels) provide instances of bureaucratic redesign in key sectors of the Chinese economy.
B. The Policy Process

Because government agencies are a key element in the Chinese political system, changes in their status and staffing generate political controversy. As stated, I have chosen to view these changes as the output of a policy process involving the interaction of a number of economic, social and political forces. In order to "explain" a particular instance of bureaucratic redesign, it is necessary to identify the specific variables which have produced that outcome.

In its simplest form, the framework for analyzing the output of the policy process (in this case, an organizational change) consists of three elements. Political actors perceive conditions in the environment which they define as a "problem," and consequently take some action pursuant to the solution of that problem. Actually, however, public policy is made not within an environment but within several environments. (See Figure 1) At the macro-level, public policy is shaped within a "general external" environment. This consists in part of historical traditions and societal beliefs and values (i.e., political culture). It also consists of the configuration, at any given time, of the political, economic and social patterns and structures of a society. In other words, the relationship of classes, the nature of the economic system, the forms of political interaction, the divisions within society, and the collective historical and cultural experience of a polity partly determine the problems that that society faces, the way members of the society perceive those problems, and the types of processes by which solutions are chosen and implemented. Moreover, the level of political and economic
I. ENVIRONMENTS

A. GENERAL
1. External
   a. historical traditions
   b. political culture
   c. economic, social and political patterns
   d. resources
   e. random events
2. Internal
   a. government structure
   b. government processes
   c. resources

B. SPECIFIC
1. Previous policies, commitments, "sunk costs"
2. Previous statements, positions
3. Specific social traditions
4. Specific government structure
5. Specific government processes
6. Resources

II. PERCEPTION

A. CULTURAL AND HISTORICAL ELEMENTS

B. PERSONAL CHARACTERISTICS
1. Personality
2. Background
3. Education
4. Generational experiences
5. Personal relationships

C. SOCIAL AND POLITICAL ROLES
1. Elite/non-elite
2. Party/non-Party
3. Class
4. Bureaucratic position
5. Organizational affiliation

III. ACTIVITY

A. GOVERNMENTAL
1. Policy Formulation
   a. information gathering
   b. definition of situation
   c. examination of alternatives
   d. choice of solution
2. Policy Legitimation
   a. elite consensus or coalition-building
   b. opposition neutralization
   c. public legitimation
3. Policy Implementation
   a. policy actions
      1) recruitment
      2) allocation
      3) disbursement
   b. implementation process
      (program conduct)

B. SOCIETAL (IMPACT)
1. Program Usage
   a. voluntary vs. coercive
   b. widely vs. little-used...
2. Policy Results
   a. intended
   b. unintended
   c. foregone

Figure 1
The Policy Process Model
development (along with the socio-political and economic patterns), determine the total pool of human and material resources within a given society. Finally, random events such as changes in the international system or uncontrollable natural forces like the weather can set the agenda of problems for a polity and the resources and constraints available to solve those problems.

Public policy is also shaped within a "general internal" environment. This consists of the governmental and political decision-making structures and processes, and the portion of social resources that the leadership is capable of mobilizing. In previous pages it was shown that the way in which a government is structured has political ramifications. The organizational configurations of the political process also contribute to the perception of problems, and to the manner in which political actors deal with those problems. Similarly, the processes of governmental and political interaction, both formal and informal, are instrumental in the definition of problems, the selection of solutions, the legitimation of policy, and its implementation. I will return to the importance of government structure and process in a moment.

The third environment within which public policy is formed is the "specific" environment of any given problem. This is composed of previous policies and commitments related to the problem, statements made and positions taken by the leadership about the nature of the problem and its solution, specific social traditions related to the problem, resources available to deal with the particular problem, and the specific organizational structure and processes within which the problem
and its solutions are embedded.

However, for something to become a public policy "problem" it must be perceived as such by someone. Moreover, that "someone" must be able to generate action for the solution of the problem. Usually this involves the political leadership, but it may also entail the activities of counter-elites or various publics. A number of factors shape the perceptions of political actors, but they fit broadly within three categories. Historical and cultural elements form the "cognitive map" of the world around each human being. What differentiates the perceptions of individuals raised within the context of the same historical and cultural tradition, however, are personal factors and social position or role. Within the same cultural milieu, each person experiences somewhat different patterns of socialization and education, family and personal relationships, and sub-cultural influences. In addition, each political actor "represents" a rather unique configuration of class, status, bureaucratic position and organizational affiliation. As will be discussed below, each of these factors influences the perceptions of a political actor and the actions he is likely to take.

Finally, once political actors perceive a problem, the process of public policy action begins. Actors gather and interpret information, define possible solutions, examine alternatives and decide upon some course of action. Once having chosen a preferred solution or program of action, actors attempt to legitimize it by building consensus or forming coalitions with other key political actors, by neutralizing their opposition, and by building support among
constituents, potential beneficiaries and other "publics". Those actors then attempt to allocate resources with which to implement their course of action, and monitor its progress for intended and unintended consequences. Thus, the impact of the solution will modify the economic, social and political patterns, the traditions and beliefs, and the resources of the society (i.e., the "general external" environment). It will also modify, to a greater or lesser extent, the structure and process of government, and the "specific environment" within which the next decision about the problem will be taken. This "feedback loop" closes the process of public policy, making it a recurring and self-perpetuating one.

To summarize, in order to explain the output of the public policy process (in this case, an instance of organizational change), we must answer three questions: Who are the relevant political actors? What are their perceptions of the environment (and how are they shaped)? What actions do they take? In answering these questions I have benefited from the insights of a number of theories, models, frameworks and hypotheses advanced by previous students of Chinese politics, bureaucratic politics, and political development.

C. Models of Chinese Politics and the Public Policy Process

In attempting to describe and explain the "general external" environment, some scholars have emphasized China's historical or political cultural traditions. While these approaches may be useful in differentiating the political "style" of China from that of other nations, or in making Chinese political behavior more intelligible to
the non-Chinese, they are not very helpful in explaining why political actors raised within the same historical and cultural tradition disagree about goals and policies. Other scholars have attempted to describe and explain the Chinese "general external" environment by means of cyclical processes of change. Skinner and Winckler, from a sociological perspective, constructed a rather elaborate model of the "interaction between the Chinese Communist Party and the peasantry" in which "the Party has shifted its primary reliance from exhortation to coercion, and then to remuneration. Repeatedly the peasantry has passed from a tentative enthusiasm through disillusion to a calculative indifference." Likewise, Alexander Eckstein proposed defining Chinese political-economic behavior in terms of a cyclical process of "economic fluctuations" not unlike the business cycle of capitalist economies. Although at the grossest level, these models appear to provide a broad grasp of the changing Chinese socio-political and economic experience, when applied in more specific cases of analysis they obscure a welter of counter-currents and contrary examples. Thus, for example, we see in 1959, during a period of general mobilization and bureaucratic retrenchment, the establishment of a new Ministry of Agricultural Machinery. This event is contrary to the expectations of such cyclical models. Its explanation, as discussed below, must be sought elsewhere. Moreover, both cyclical models depend on Mao as the "prime mover" of cyclical dynamics. With Mao gone, they must either be substantially altered or discarded altogether.

In attempting to describe the relationship between the "general internal" and "general external" environments in China, some students
have made use of a "totalitarian" framework. In Friedrich and Brzezinski's classic formulation, a "totalitarian" regime displays six characteristics: an ideology; a single party, typically led by one man; a terroristic police; a communications monopoly; a weapons monopoly; and a centrally directed economy. Particularly in the early 1950's, this model seemed to bear a strong resemblance to Chinese political reality. It is, however, highly misleading. First, the model presents a static picture of politics in a "totalitarian" regime. Thus it can neither predict nor explain the kinds of changes that have occurred in the dynamics of politics since 1949. The reason for this failure is the model's misplaced emphasis on the nature of ideology and of the Party. The notion of an "elaborate ideology, consisting of an official body of doctrine...to which everyone living in that society is supposed to adhere," obscures the fact that ideologies are general world-view systems with ambiguous action consequences. The interpretation of these ambiguities, and the power to interpret them are the objects of intense political struggle. Ideology, domestically as well as internationally, can be a force that divides rather than unites. Similarly, the emphasis in the "totalitarian" model on the existence of a small, highly disciplined, "hard core" party, typically led by one man and "passionately and unquestioningly dedicated to the ideology," draws our attention away from the real dynamics of politics. In no society is there a monolithic leadership in agreement about the interpretation of its guiding ideology. Rather, the Party and its leadership are composed of individual human beings with different backgrounds, experiences, interests, policy preferences, personal
ambitions, perceptions of reality and goals for the future. Moreover, many of these individuals also fulfill bureaucratic responsibilities. In their own right, organizations are both political actors and centers of power. They "act" on the basis of acquired habits and procedures, and in pursuit of corporate goals and interests, and even maintain distinctive world views. In other words, public bureaucracies can be seen as both "infrastructure" for the implementation of political goals and as "social sectors" acting within the political process. To a large extent, the perceptions of political leaders are shaped by the organizations with which they are most closely connected or in which they work. The consequences of the inherent conflict between organizations and their personnel over the distribution of scarce resources are acknowledged by Chinese and Soviet leaders.

For example, in 1957, Nikita Khrushchev made the following comments to New York Times editor Turner Catledge:

The Presidium of the CPSU Central Committee meets regularly at least once a week. The Council of Ministers also meets at least once weekly...More often than not, when questions are examined at meetings of the Central Committee Presidium, different points of view are expressed...Of course, very heated debates sometimes arise.

Similarly, in a 1971 interview with an Arab newsman, Chinese Vice Premier Li Hsien-nien reportedly said,

We have been racing against time to cope with the enormous increase in population. Some people estimate the population of China at 800 million and some at 750 million. Unfortunately, there are no accurate statistics in this connection...The Ministry of Commerce insists on the bigger number in order to be able to provide goods in large quantities. The planning men reduce the
figure in order to strike a balance in the plans of the various state departments.49

Along the same lines, in 1977 Li told a visiting American delegation:

We have a State Planning Commission. When they have a debate there, it is extremely heated and animated, even more so perhaps than your congressional debates...The different sectors all compete with one another.50

However, individuals' perceptions, goals and interests do not always coincide with those of the bureaucracy they "represent." Put more graphically, where you stand does not always (or entirely) depend upon where you sit.51 This problem may become even more difficult for analysis when an individual (to change metaphors) wears more than one hat. Frequently, in the Chinese case, important state leaders are also top-ranked Party or military members, head more than one state agency, or also represent a geographic regional interest. Determining just where they "stand" on a given issue is often quite complicated; it is made more difficult by the absence of extensive and reliable information,52 and by the need of a "collective leadership" to present a united front (in the process, obscuring the positions of individuals). By focusing our attention on a "leadership" in pursuit of a set of ideologically determined goals, the "totalitarian" model draws us away from the interaction between individual and organizational motivations,53 and between individuals and organizations in conflict, consensus and coalition-building.

Three models of Chinese politics are, however, available which shed light on these problems. One model focuses on leadership and the role of individuals in decision-making. Some proponents of this approach see Chinese politics as a naked struggle for control of the
levers of state. Others view Chinese politics as the quasi-pluralistic struggle between a number of leadership groups and individuals representing a variety of personal, occupational, and social "interest groups," who disagree about issues of public policy and form variable coalitions over time on various issues. At least one variant of this approach argues that the dynamics of Chinese politics were fundamentally altered by the Cultural Revolution experience, from a situation in which there was basic leadership agreement over the "rules of the game" but dissension over policy, to a system in which alternative leadership groups struggled for power in order to implement conflicting policy programs. A third variation of the "leadership model" examined the role of Mao: his policy preferences, political resources and constraints and his position in the Chinese political balance of power. It is indisputable that leadership is a key variable for understanding Chinese politics. However, as discussed above, in a situation where key political figures hold important governmental positions, it is to be expected that the relationship of personal predilection towards policy and organizational responsibility will not be a simple one. An examination of the three economic sectors studied in this dissertation supports this expectation. For example, we will see Teng Hsiao-p'ing elevated by Mao to the position of General Secretary of the Party in 1954, presumably to serve as Mao's supporter at the top of the CCP apparatus. By the early 1960's, Teng's bureaucratic responsibilities, perceptions of the environment and policy positions will cause him increasingly to oppose the Chairman. Similarly, in 1959 Ch'en Cheng-jen was apparently
hand-picked by Mao to head the new Ministry of Agricultural Machine-Building which Mao had insisted be created. By 1966 Ch'en had seemingly been coopted by his organizational responsibility and his changed perceptions of reality. Both Teng and Ch'en were purged by Mao and his supporters during the Cultural Revolution.

A second model that helps us isolate and explain the dynamics of the relationship of individuals and organizations in the public policy process centers around the propensity of Chinese politicians to act through factions or personalistic cliques. This model has occasioned a lively debate, with some scholars submitting its implications to empirical test and finding it wanting. However, one of the findings of the following case studies is that personal networks and "factionalistic" ties do play an important role in the staffing of government agencies. Both Teng Hsiao-p'ing and Ch'en Cheng-jen, mentioned above, had longstanding ties to Mao. Similarly Sung Jen-ch'iu ng's appointment to head the Third Ministry of Machine-Building in 1956, discussed in detail in Chapter Two, bears all the earmarks of political compromise in which Sung's ties to different leadership groups assured his acceptability to all. With the breakdown in leadership consensus on the rules of political conflict during the 1960's, factionalistic relationships appear to have become even more important in the 1970's. Thus we see Wan Li, selected as Minister of Railroads in 1975, is a close associate of Teng Hsiao-p'ing; when Teng falls, Wan falls. Likewise, we see the emergence in the 1970's of an "oil clique" of bureaucrats and officials with ties to one another through the petrochemical apparatus.
The third model of Chinese politics which I have found useful in explaining the relationship between individuals and organizations in conflict, links the "general internal" environment to the "general external" environment. This model concentrates on social cleavages, their cause and ramifications. This is an extremely revealing mode of analysis at the mass level and is especially useful in explaining periods of political mass mobilization in China such as the Cultural Revolution. The notion that organizations have economic, social and political constituencies aids in explaining the actions of organizational leaders in mobilizing certain social segments, and the willingness of those segments to be mobilized. As leadership consensus began to break down in the 1950's, Chinese leaders sought support for their policy and personal positions outside the leadership by mobilizing social segments with coinciding interests or grievances. Mao initiated this tactic in the mid 1950's, as will be seen in Chapter Two. In 1966-7, he definitively changed the socio-political patterns of the "general external" environment, and hence the nature of Chinese politics, by widening the arena of conflict through mobilizing non-Party, non-elite segments and directing their attacks against his colleagues. We will see an example of this in Red Guard and worker attacks on the Ministry of Railroads in Chapter Three. The result was that in the 1970's, other leadership groups were able again to mobilize such social segments for their own political purposes. Once the tactic of using segments of the populace against leadership opposition had been used for the first time by Mao, it could be used again by others with a degree of impunity.
While the relevant political actors in each instance of organizational change will be different, the importance of Mao and his perceptions is a constant. In fact, between 1949 and 1976 one of the key elements in the process of organizational change in China was the conflict between Mao's perceptions of China's social problems and the solutions he deemed appropriate, and the "imperatives" of political, economic and technological modernization. Theorists of political and economic development have produced a sizeable body of literature on the role of organizations in creating stable patterns through which to channel the rising tide of social demands during the process of modernization. These theorists have also displayed concern about the relationship of "political policy-making institutions and bureaucratic policy-implementing structures." Several schools of thought on these questions have emerged. One school projects a unilinear process of political development in which the shift from "traditional" through "transitional" to "modern" forms of social organization is accompanied by the growth of bureaucracies more or less of a Weberian ideal-type. This involves the emergence of,

(1) specialized, highly differentiated administrative roles, (2) recruitment on the basis of achievement... rather than ascription, (3) placement, transfer, and promotion on the basis of universalistic rather than particularistic criteria, (4) administrators who are salaried professionals who view their work as a career, and (5) administrative decision making within a rational and readily understood context of hierarchy, responsibility, and discipline.

Most often, the concomitant of this mode of thinking has been the wish, indeed the expectation, that such development will be accompanied by a trend toward the growth of Western liberal-democratic
principles of political and social activity. In contrast, other authors have stressed the quest on the part of political leadership for greater control and greater certainty concerning public demand and governmental ability to meet that demand, and the consequent bureaucratic "tendency towards omnivorousness" that is inimical to widespread political participation. Thus the tension between "capacity" and "equality" is one of the central themes in this body of literature.

Partly in reaction to this school of thought and to the manifest failure of its expectations for "democratic" development since the mid-1960's, another approach was advanced. It emphasized the establishment of political order and the growth of institutions capable of controlling the rise of social demands, and of keeping a rough congruence between such demands and the capacity of the political-economic system to deal with them. Explicitly refusing to equate "democratization" with "modernization", the emphasis of this approach on strong governmental institutions has occasioned accusations of fascist proclivities. Yet a third school has also declined to equate modernization with the emergence of Anglo-American democratic traditions, preferring to examine,

What the national goals of a society are, what role in accomplishing them the public sector is expected to play, and, given these aspirations, what patterns of public administration seem to be the most efficaciously related to goal achievement.

Certainly, one of the more highly visible and contentious issues in Chinese politics, at least since 1958, has been how to reconcile the need of all societies for specific, autonomous structures to
perform necessary functions with key social goals like equality and the mass-line style of leadership. Mao Tse-tung consistently resisted the notion that organizational and industrial "rationality" precluded the possibility of achieving such social goals simultaneously with economic modernization. Although the intensity of his concern with this contradiction varied over time, between 1949 and 1976 Mao remained motivated in part by his desire to establish a Chinese pattern of development which involved both central control of the economy and substantial enterprise autonomy; centralized leadership within the work place and worker participation in management; economic and social goals.

It will become clear from the evidence presented in the following case studies that the conflict between Mao and other leaders over the appropriate means of organizing society for the accomplishment of both economic and social goals was one of the central elements in changing the configurations of China's economic, social and political patterns and of her governmental structures and processes. Some students of Chinese politics have, with greater and lesser degrees of sophistication, viewed these changes through a Marxist-dialectical perception of political reality. At one end of the continuum of sophistication is the unadulterated species of argument based on the "struggle between two lines". This model until recently has been accepted, oddly enough, by all leadership groups within China (at least at the public, verbal level) as well as by many of their Western apologists. Some Western Marxist analysts, however, while accepting the basic notion that there is a correct "line" and an opposing "erroneous line",
leave latitude for the existence in China of a variety of social and personal interests and opinions. In any event, according to the dialectical view, Chinese political and economic progress are fuelled by the interaction between differing "lines." Before dismissing such a notion out of hand as the claptrap of obscurantists, this model bears close scrutiny, if for no other reason than because some one-half of mankind shapes its picture of reality by it. One of the most persuasive cases of the dialectical model is Stephen Andors' *China's Industrial Revolution*. He argues, with respect to industrial management and planning that the record from 1949 to 1977 does not show an oscillation between "rightist" and "leftist" extremes of central control and worker control as affirmed by some scholars. Rather he observes a dialectical cumulative "learning experience" in China whereby the gains made for worker participation in management achieved during a "leftist" period are consolidated and adjusted more closely to the realities of the economic enterprise during the subsequent "rightist" interlude. In any event, each major period of change, "left in its wake a China that would never be the same." Evidence presented in the following case studies will reveal that patterns of government organization and reorganization similarly conform to a "dialectical incrementalist" process. However, it will also be clear that while Chinese leaders began increasingly to diverge from Mao with respect to perceptions of the environment and the selection of appropriate alternative solutions, these leaders were neither united in their perceptions nor in their preferred solutions. In short, there was not a struggle between "two lines" but between a number of leaders
with different perceptions, bureaucratic interests, organizational affiliations, and ties to society. They formed shifting coalitions, sometimes with Mao, sometimes against him. Mao, in turn, sought alternative sources of political support when opposed by his leadership colleagues. As a result of the widening of the arena of political conflict, the dynamics of politics changed dramatically between 1949 and 1976. Because of Mao's central role in the Chinese political system, his death in 1976 again fundamentally altered the political process. Whether Mao is viewed as the "prime mover" in a recurrent cyclical process or the balancer of forces in a coalitional leadership model of Chinese politics, his passing left a radically different system. While it remains to be seen whether the new direction taken by the Chinese leadership in mid-and late-1979 constitutes an attempt to return, in some respects, to the political system of the early 1950's, the following case studies will show that the changes in the dynamics of Chinese politics over the last 30 years preclude any return to the status quo ante.

To summarize: 1) Organizational change in this dissertation is viewed as an output of the policy process. 2) The policy process involves the perception of a social "problem" by some political actor capable of generating activity towards its solution. 3) Perceptions of political actors are shaped by the historical and cultural context within which they are raised; by their personality, experience and background; and by the social roles they perform. 4) Once a problem has been defined, political actors gather and interpret information; examine alternatives and select a solution; attempt to build consensus
(or coalition) within the leadership, to neutralize opposition, and to legitimize their preferred solution; attempt to allocate resources and overcome constraints in the implementation of their course of action; and monitor the results of their policy's implementation.

5) The impact of a solution changes elements in the environment, serving as a "feedback loop." As the task of this dissertation is to explain the causes of organizational change, my primary interest will be to determine which political actors are relevant to the change, what their perceptions of the environment are, and the nature of the process through which a solution of bureaucratic redesign is chosen. A secondary consideration will be to examine the impact of such a change, especially when it becomes a causative factor in another change. 75
NOTES

1. Frederick Mosher differentiates between "incremental" and "epi­sodic" changes. The former occur slowly and continuously; the latter occur more quickly and are more radical in scope. It is only with the latter type that I am concerned. See Mosher, "Some Notes on Reorganizations in Public Agencies" in Roscoe C. Martin, ed., Public Administration and Democracy. Syracuse: Syracuse University Press, 1965, pp. 129-50; and Mosher, "Organizational Change," in Mosher, ed., Governmental Reorganizations: Cases and Commentary. NY: Bobbs Merrill, 1967, pp. 493-514.

2. This seems the appropriate place briefly to discuss my reasons for selecting a research strategy of examining case studies. If macro­level models (like the cyclical models of Chinese politics) are intended to contribute to theory-building in political science, and to a broad understanding of the processes of politics, the case study is a method of assembling "an empirical base from which theoretical propositions may be induced," a means of empirical testing of propositions derived from such models, and a pedagogical tool providing opportunities for a variety of learning experiences. Thus the selection of a case study approach should not be seen as an alternative to a more "theoretically relevant" research strategy, but as a concomitant in the symbiotic and iterative process of data gathering and theory formulation. If we were artificially to dichotomize research strategies as case study vs. theoretical ("correlational") studies, it would be necessary to keep in mind Bruce Russett's warning that "both kinds of studies are critical to the development of scientific knowledge." See his "International Behavior Research: Case Studies and Cumulation," in Michael Haas and Henry Kariel, eds., Approaches to the Study of Political Science. Scranton: Chandler, 1970, pp. 425-43. See also "Decision-Making Analysis in the Single Case," Chapter 1 in Glenn D. Paige, The Korean Decision. NY: Free Press, 1968, which discusses his definition of a "case" and the utility of the case study approach. (quote above from p. 10)


4. Communist China: 1955. Hong Kong: Union Research Institute (URI), p. 4. Much of the early work coming out of URI was of this bent. E.g., see Chao Yung Seen, Railways in Communist China. URI #EC10, 1955.

5. E.g., Frederick Teiwes writes, in the introduction to Provincial Party Personnel in Mainland China, 1956-1966 (NY: Columbia, 1967): "The Party, rather than provincial governments, has been chosen for this analysis since both Communist documents and interviews
5. With emigres clearly indicate the primacy of the Party in the Chinese system. In agreement with such a position is J. R. Townsend, *Political Participation in Communist China*. Berkeley: University of California, 1969, and implicitly much of the recent China literature. Interestingly, Stalin in his later years began to de-emphasize the Party and rely increasingly on the government apparatus. See Z. K. Brzezinski, *The Soviet Bloc*. Cambridge: Harvard, 1976 and L. Schapiro, *The Communist Party of the Soviet Union*. NY: Vintage, 1971. One of the keys to Khrushchev's rise to power (as it had been Stalin's in the 1920's) was his reaffirmation of Party supremacy. See R. Conquest, *Policy and Power in the USSR*. NY: Harper, 1967. A corollary of this argument is the fact that in the Chinese government, almost invariably when a non-Party dignitary holds the post of Minister, a Party member of long (and frequently high) standing is Vice Minister, presumably as political watchdog. This makes an interesting comparison with the norm in the American Cabinet, where the secretary-level positions are frequently politically awarded with the under-secretary level jobs going to "experts" from within the agency (e.g., Stephen Hess, *Organizing the Presidency*. Washington: Brookings, 1976, pp. 30, 98), or where a President elected on a slim margin awards secretary-level positions "to impart reassurance to uneasy factions in his party and to important constituent groups whose acquiescence was needed to govern." (Hess, pp. 81-3) Eisenhower seems to have been a partial exception; his top-level personnel were noted for their "functional professionalism" rather than personal or political loyalty, or creativity. (Hess, p. 68)

7. Teiwes, op.cit., p. 96, note 228.


9. The simplest definition of public policy has been proposed by Thomas Dye: "Public policy is whatever governments chose to do or not to do." (Understanding Public Policy, 2nd ed. Englewood Cliffs: Prentice Hall, 1975, p. 1) However, due to the nature of Party "control" over what the government will do in China, this definition does not seem entirely appropriate. As discussed below, I will utilize a definition which focuses on the process of identifying and attempting to solve social problems. Such a definition certainly also has its problems. It does, however, have the benefit of dynamism, thus linking the study of public policy to the more general theoretical issue of adaptation, whether in its cultural/anthropological, sociological or biological forms. It also nicely fits with Sidney Verba's modification of the framework employed in Leonard Binder, et al., Crises and Sequences in Political Development (Princeton: Princeton University, 1971). Verba prefers to view the "crises" of identity, legitimacy, penetration, participation and distribution as endemic problems with which a society must cope. See "Sequences and Development," pp. 283-316. The extent of government involvement in Chinese society is partly shown in the following table:

Ministries, Commissions and Agencies in Broad Functional Categories (as of 1965)

<table>
<thead>
<tr>
<th>Ministries</th>
<th>Commissions</th>
<th>Agencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Affairs</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>Internal Affairs</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Culture &amp; Education</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Foreign Affairs</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Military</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Administrative Affairs</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>40</td>
<td>9</td>
</tr>
</tbody>
</table>

(Source: Chang Wang-shan, op.cit., p. 76)


11. (continued)


In 1953-4 the suggestion was made that the ministries be enumerated (as they are in the 1936 Soviet Constitution). Liu Shao-ch'i explained the reason for not doing so in the 1954 Chinese Constitution thus: The suggestion was not accepted "because certain changes will in certain circumstances have to be made in the structure of the State Council as the work of national construction develops." (Cited in Chang Wang-shan, *op.cit.*, pp. 18-19.) This indicates that the Chinese do attach importance to the organizational form of the government and that changes in that form do reflect changing perceptions of reality. In this respect, the organization of the Chinese government bears an interesting resemblance to that of the U.S. Presidency:

> The organization of the presidency, with few exceptions, is not rooted in statute and has changed so many times, often so substantially, as to suggest that it will continue to change in response to needs, whims, pressure, the desires of incumbents, and even new information. (Hess, *op.cit.*, p. 4)

Perhaps too, some Chinese leaders share the American preoccupation with the (organizational) "quick fix":

> Americans assume that there is an inevitable relationship between policy content, implementation, and organization, and that therefore adjustments in organization can produce better policy and better delivery. (Hess, *op.cit.*, p. 4)

Moreover, changes in the Chinese state apparatus play an interesting political role. Bad policy can be (and has been) blamed on bad implementation. Thus the state bureaucracy can serve as a scapegoat, preserving the aura of infallibility of the Party and/or leaders. Harding. *op.cit.*, p. 119. (F. Rourke, *op.cit.*, p. 6)

13. (continued)


16. For a definition and enumeration of "functional systems" in the Chinese context see Barnett, op.cit.


19. (continued)

20. See e.g. Rourke, Bureaucracy, Politics and Public Policy, pp.
45-86; Elmore, op.cit., p. 606; Bardach, op.cit., pp. 125-9;
Rourke, Bureaucracy and Foreign Policy, pp. 18-28. Taketsugu
Tsurutani discusses the importance of controlling information
and expertise in the relationship of the Japanese bureaucracy
to the Liberal Democratic Party. Political Change in Japan.

21. For example, on January 12, 1958, during the Nanning meeting,
he reportedly said: "Cheng-chih-chu ch'eng-wei yi-ko piao-chueh
chi-hui...Ni ke shih-chuan-shih-mei ti wen-chien, pu t'ung-kuo
pu hsing." ("The Politburo has become a voting machine - You
give it a perfect document and it won't do not to pass it.")
"Tsai Nan-ning Hui-yi shang ti Chiang-hua" ("Speech at the
Nanning Meeting") Mao Tse-tung Ssu-hsiang Wan Sui! n.p.,
1969, pp. 145-54 (quote p. 149). Also when Teng Hsiao-p'ing's
CCP Secretariat in March 1961 presented Mao with the "Sixty
Articles on Agriculture," he demanded to know, "Which Emperor
decided this?" (Ahn, op.cit., p. 54)

22. Cheng Chu-yuan, China's Allocation of Fixed Capital Investment,

p. 87.

24. This is at least one implication of Thomas Rawski's thought-
provoking Economic Growth and Employment in China. Cambridge:

25. Christopher Howe, China's Economy: A Basic Guide. NY: Basic

26. For example, the transport industry, communications, textiles,
building materials. Many of the excellent sectoral analyses are
10 to 25 years out of date. E.g. Yuan-li Wu, Economic Development
and the Use of Energy Resources in Communist China. NY: Praeger,
1963; Wu, The Steel Industry in Communist China. NY: Praeger,
1965; Wu, The Spatial Economy of Communist China. NY: Praeger,
1967; Cheng Chu-yuan, The Machine-Building Industry in Communist

27. There are, of course, notable exceptions. General treatments:
Jan Prybyla, The Political Economy of Communist China. Scranton:
International Textbook Co., 1970; Peter Nan-shong Lee, op.cit.;
Barry Richman, op.cit.; Stephen Andors, op.cit. Sectoral:
Benedict Stavis, The Politics of Agricultural Mechanization in


Other areas have been less well covered presumably for a lack of information (e.g. public security), or for a lack of interest in a "tangential" area or a technical one (e.g. sports, forestry).

29. Of course there are others - notably metallurgy. For a number of reasons including task manageability I was forced to limit my examination to three. The existence of Cheng Chu-yuan's path-breaking account of machine-building influenced me to choose this sector. The metal industry is also sorely in need of academic attention. Wu's fine account is now over 15 years out of date. Also the dictates of manageability and the desire to cover the entire 30 year history of the PRC in order to derive maximum generalizability require that each case study cover in detail approximately a decade. In each case, the period incorporating maximum organizational change was selected: for machine-building, 1949-65; for railroads, 1965-75; for petroleum, 1970-80.

30. The same is not true for metallurgy.

32. This is a "framework" rather than a "theory" in the sense discussed by Sidney Verba ("Sequences and Development", pp. 283-316) in that it "directs one's attention to certain significant phenomena and the relationships among them without presenting a coherent and interdependent set of propositions". (p. 283) Despite attention to perceptual, environmental and processual factors, there will of course remain invisible elements throughout the process. Especially in dealing with a "closed society," we can never be sure we have identified all the causative factors, nor can we assume that only the visible aspects of the implementation and impact processes exist or are relevant. Our only hope for avoiding this problem is thorough investigation combined with imaginative and reasoned reconstruction. We cannot avoid, however, the dilemma of missing information. Also it is useful to remember that with a framework (or "sequential model") such as the one employed here, "the focus is not on any single link but on the entire chain of events...Coherence can be given to a sequential model in either of two ways. One can select some resultant condition of a system and ask questions about the sequence of events by which that resultant condition is approached, or one can select an underlying dimension and relate each change in the system to a movement along that dimension." (Verba, "Sequences and Development," p. 288) This dissertation undertakes the former task.

33. A number of other authors have profited from this notion of policy as a response to perceptions of the environment. E.g. see Patricia Griffin, The Chinese Communist Treatment of Counter-Revolutionaries, 1924-1949. Princeton: Princeton University, 1976. See also Tsurutani's discussion of political action as a function of perception of environment or "political ecology," Political Change in Japan, pp. 126-242.

34. "Internal" and "external" are in relation to the governing set of institutions of the society under examination.

35. This framework implicitly accepts the notion that "Organizational arrangements are static only on paper. In practice, they are constantly drifting as sand responds to tide. People come and go. Relations between officials change. New problems arise." Hess, op.cit., p. 217.


42. Friedrich & Brzezinski, op.cit., pp. 21-2.


50. Cited in Kenneth Lieberthal, "Chinese Politics in 1978," paper distributed by the China Council of the Asia Society, November, 1978, pp. 10-11. In 1979 Li told another American delegation a similar story. As a consequence of the Spring 1979 decisions to "readjust" the economy, the share of investment allocated to heavy industry had been lowered. Consequently, according to Li, the "morale" in the heavy industry sphere was "not high." Quoted in David M. Lampton, "Going Forward and Looking Back: Chinese Politics in 1979," forthcoming, draft p. 11. The level of disagreement among Chinese leaders is nowhere more clearly shown than in an official Chinese account of a series of meetings in

51. Ilchman & Uphoff, *op.cit.*, p. 83. Hess also discusses the utility of appointing strong and independent politicians to Cabinet posts in order to provide a president with good advice not necessarily based solely on the adviser's organizational position.


54. E.g. Richard Thornton, *China: The Struggle for Power*. Bloomington: Indiana University Press, 1973; Rice, *op.cit.*; Franz Michael, "The Struggle for Power," in Richard Baum & Louise Bennett, eds., *China in Ferment*. Englewood Cliffs: Prentice Hall, 1971. All largely fit into this category. For a clearly articulated explanation and defense of the "power" approach, see Moody, *op.cit.*, esp. pp. 9-28. The best description of this view was made by a medical doctor with pre-1949 experience in China. He asked me what field I was in, and when I replied "Chinese politics," he commented that the key to understanding this subject is simple: "Who has the longest knife?"


62. Fred Riggs, "Bureaucrats and Political Development: A Paradoxical View," in La Palombara, ed., *op.cit.* (note 10), pp. 120-67, see p. 120.

64. Joseph La Palombara, "Bureaucracy and Political Development: Notes, Queries, and Dilemmas," in La Palombara, ed., pp. 34-61, see pp. 49-50. This emphasis on structural differentiation as being a key component of development pervades the essays in Binder et al., op.cit.


67. See essays in Binder et al., esp. Binder, "The Crises of Political Development"; and James Coleman, "The Development Syndrome: Differentiation - Equality - Capacity," pp. 3-80. This volume, in my opinion, contains the most sophisticated development of the school of thought emerging from the Committee on Comparative Politics of the Social Science Research Council.


70. See Harding, The Organizational Issue...

71. Andors, op.cit.; Peter Nan-shong Lee, op.cit., esp. pp. 483-90. It was precisely the Marxist and Maoist concern with the unpleasant side-effects of "modernization" that made Chinese society in the 1960's attractive to Western leftists. It is the apparent willingness of the current leadership to overlook or accept these side-effects that explains the violent disappointment and sense of rejection on the part of people like Charles Bettleheim (China Since Mao. NY: Monthly Review Press, 1978.) I will argue in the conclusions that this shift in China represents a "regression" from Mao's premature involvement with the politics of post-industrial society to the realities of politics in a society in transition from pre-industrialism to industrialism.


41


75. It might be argued that the more important or interesting question is, "What difference does a change in organizational structure make?" For reasons of manageability alone, it is impossible to deal systematically and equally with the whole "policy process" of organizational change. In addition, if one purpose of case studies is to contribute to theory building, and if one purpose of theory building is to assist in prediction, a strong argument could be made that the more important and interesting task is the investigation of the cause, not the effect, of organizational change. Moreover, the practical difficulties of assessing the effects (and effectiveness) of reorganization make the question a very thorny one. E.g. see Frederick Mosher, "Some Notes on Reorganizations in Public Agencies," esp. 148-50 and Mosher "Organizational Change," pp. 494-7.
A. Introduction

Between 1949 and 1965 machinery production was transformed from a negligible component of the Chinese economy into one of the fastest growing and most important sectors of China's industry. Because the State Council apparatus in charge of this sector changed so dramatically during this period, and because the machine-building industry occupies a crucial political cross-roads, an examination of the fluctuations in machinery production and in its bureaucracy should shed some light on the politics of organizational change in China.

As a supplier of capital goods for all spheres of the economy, the machinery sector affects, and is affected by, almost all political-economic decisions. First, basic decisions about development strategy determine the structure of machinery output. Levels of investment, sectoral priorities, foreign trade and assistance policies, and decisions about the size and location of industrial plants all shape the nature of the machinery industry. However, in addition to serving as a reflection of basic economic priorities, China's machine-building industry is affected by the performance of other economic sectors. Like all industry, the machine-building sector relies on high agricultural performance for support and investment. But more
directly, machine-building is especially dependent on the performance of the iron and steel industries for raw materials, and on the transportation industry both for inputs and for the delivery of finished products. It is also dependent on the fuels and power industries because they support the transportation industry and because they provide the fuels, power and lubricants which allow the machines to operate. Conversely, the performance of the machine-building industry in large part determines the capability and performance of most other economic sectors, including heavy and light industries, agriculture, and defense, which are dependent upon this industry for mechanization.¹

The relationship of machine-building and agriculture is particularly crucial. The machinery industry provides tools of varying levels of technological sophistication which are absolutely essential to high and stable yields of agricultural produce. Moreover, one of the most volatile political issues in China has been the nature of the relationship of agriculture and mechanization. Furthermore, for over two decades the export of agricultural products was the most important Chinese source of foreign exchange with which to purchase machinery and machine-technology from abroad.²

Between 1949 and 1965 the State Council apparatus concerned with the machinery industry underwent substantial transformation (Figure 2). In 1949 no ministries dealt solely with this sector. In 1952 two were created. In 1955 a third was added, with a fourth following in the next year. 1958 witnessed a retrenchment; only two machine-building ministries remained. A third was added in 1959, and between
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>Bureau of Machinery Industry, Ministry of Heavy Industry (All)</td>
</tr>
<tr>
<td>1952</td>
<td>1. First Ministry of Machine-Building (Huang Ching; civilian)</td>
</tr>
<tr>
<td></td>
<td>2. Second Ministry of Machine-Building (Chao Erh-lu; defense)</td>
</tr>
<tr>
<td>1955</td>
<td>1. First Ministry of Machine-Building (Huang Ching; civilian)</td>
</tr>
<tr>
<td></td>
<td>2. Second Ministry of Machine-Building (Chao Erh-lu; defense)</td>
</tr>
<tr>
<td></td>
<td>3. Third Ministry of Machine-Building (est. 5/55; Chang Lin-chih; farm implements)</td>
</tr>
<tr>
<td>1956</td>
<td>1. First Ministry of Machine-Building (Huang Ching; civilian)</td>
</tr>
<tr>
<td></td>
<td>2. Second Ministry of Machine-Building (Chao Erh-lu; defense)</td>
</tr>
<tr>
<td></td>
<td>3. Third Ministry of Machine-Building (5/56 renamed Ministry of Electric Power Equipment Ind.: Chang Lin-chih)</td>
</tr>
<tr>
<td></td>
<td>4. (New) Third Ministry of Machine-Building (Sung Jen-ch'iung; defense)</td>
</tr>
</tbody>
</table>

Figure 2
Changes in the Machine-Building Apparatus
1958

1. First Ministry of Machine-Building (2/58 absorbs part of Second Min.; Chao Erh-lu; civilian?)

2. Second Ministry of Machine-Building (2/58 created from former Second Min.; Sung Jen-ch'iuang; defense)

1959

1. First Ministry of Machine-Building (see 1958)

2. Second Ministry of Machine-Building (see 1958)

3. Ministry of Agricultural Machinery (added 8/59; Ch'en Cheng-jen)

1960

1. First Ministry of Machine-Building (see 1958)

2. Second Ministry of Machine-Building (Liu Chieh; nuclear)

3. Ministry of Agricultural Machinery (see 1959)

4. Third Ministry of Machine-Building (added 9/60; Chang Lien-k'uei; defense) (1/61 Sun Chih-yuan becomes Minister)

Figure 2 (continued)
Changes in the Machine-Building Apparatus
<table>
<thead>
<tr>
<th>Year</th>
<th>Ministry Name</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1963</td>
<td>1. First Ministry of Machine-Building (see 1958)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Second Ministry of Machine-Building (see 1960)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Ministry of Agricultural Machinery (see 1959)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Third Ministry of Machine-Building (see 1960)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Fourth Ministry of Machine-Building (added 5/25/63; Wang Cheng; defense; electronics)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Fifth Ministry of Machine-Building (added 9/28/63; Ch'iu Ch'uang-ch'eng; defense; heavy weapons and artillery)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Sixth Ministry of Machine-Building (added 9/63; Fang Ch'iang; defense; shipbuilding)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Ministry Name</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1964</td>
<td>1. First Ministry of Machine-Building (see 1958)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Second Ministry of Machine-Building (see 1960)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Ministry of Agricultural Machinery (see 1959)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Third Ministry of Machine-Building (see 1960)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Fourth Ministry of Machine-Building (see 1963)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Fifth Ministry of Machine-Building (see 1963)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Sixth Ministry of Machine-Building (see 1963)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Seventh Ministry of Machine-Building (added late 1964; Wang Ping-chang; defense; aircraft)</td>
<td></td>
</tr>
</tbody>
</table>

1965

All Ministries remained the same except that in December 1964 the Ministry of Agricultural Machinery was renamed the Eighth Ministry of Machine-Building.


Figure 2 (continued)
Changes in the Machine-Building Apparatus
1960 and 1965 five more were created. Such *prima facie* evidence of the inability of the Chinese leadership to find an appropriate bureaucratic configuration for the machinery industry demands an explanation. As discussed in the Introduction, it is my contention that such an explanation is to be found by an examination of the environmental factors, and the leadership's perception of those factors, which preceded the various changes.

B. 1949-1952: Rehabilitation and Reconstruction

The period of 1949 to 1952 in the People's Republic of China was a period of transition. Both the economic rehabilitation at home and the military confrontation in Korea had an impact on the structure of China's machine-building administrative apparatus. The Chinese themselves characterized the state of the machinery industry in 1949 as "deplorable." The machine-building industry was very small, geographically concentrated, technologically backward, largely underutilized, and confined to the production of a narrow range of equipment. As a result, among the original 24 ministry-level organizations mandated by the 1949 Organic Law, the Central People's Government (CPG) contained no ministry of machine-building. (See Appendix) The Ministry of Heavy Industry, headed at first by Ch'en Yun and after April, 1950 by Li Fu-ch'un, was responsible for a number of economic areas among which were metallurgy and machine-building. The latter functions were under the control of a Bureau of Machine Industry.

In the machine-building sphere, the immediate tasks for the period of rehabilitation were to restore unused capacity, to take
over industrial enterprises formerly owned by the Japanese or the Kuomintang government, and to consolidate small, inefficient enterprises into coordinated industrial firms. In order to accomplish these tasks, the Chinese leadership began to devise a developmental strategy. This strategy involved at least six sets of decisions. The first decision was to "lean to the side" of the Soviet Union. This policy was determined by a whole series of historical, ideological, political and strategic concerns but no less important than these were economic considerations. The Chinese were intent upon consolidating their regime, developing their economy, protecting their borders, and possibly projecting their influence. In order to accomplish these goals, modern technology, economic planning and management, and capital were essential. The Chinese themselves were unable at this stage to generate these factors in sufficient quantity by themselves. As a result, in December 1949, Mao travelled to the Soviet Union in order to further socialist camp solidarity and to obtain economic and military aid from the USSR. The result was a set of four agreements: a treaty of friendship and alliance; an accord on the joint administration of the Ch'ang-ch'un Railroad, Port Arthur and Dairen; a $300 million credit to the Chinese at interest; and the gratuitous delivery of property in Manchuria acquired by the Soviets from the Japanese in 1945. These initial agreements were soon supplemented by a number of additional protocols and understandings. Between 1950 and 1952, construction of 50 plants was begun; by November, 1952, the USSR had pledged to provide aid for the construction of 91 more. The number of projects constructed with Soviet aid was expanded and
consolidated several times between 1949 and 1959, but of the 156 enterprises built with Soviet assistance during this period, 86 were major construction projects in the machinery industry. 8

According to a Soviet source, from 1950 to 1952, the items of greatest importance exported by the USSR to the PRC were machines and equipment, ferrous metals, and petroleum. During this period, "machine and equipment shipments from the USSR were valued at 276.93 million rubles, which amounted to 21.6% of the total value of Soviet exports to China during that period." Moreover,

the Soviet Union's exports to the CPR were chiefly in the form of various types of equipment and machinery needed for the restoration and reconstruction of industrial enterprises that had been built prior to the formation of the CPR. 9

This presumably includes only civilian machinery. However, from 1950 to 1953 the Soviets were also engaged in a substantial resupply of war losses suffered by China in Korea. A Soviet author refers to a "relatively large amount of military shipments to China between 1950 and 1953," but is not more specific. Allen Whiting indicates that "there is little evidence of Soviet deliveries [of military equipment] to the PLA prior to CPV entry into North Korea," 10 but, subsequent to that, sizeable amounts of war material were provided to the Chinese. Samuel Griffith indicates that not only was the quantity of such aid substantial but that its quality was "generally excellent." 11 While this might be a slight overstatement, 12 it is clear that by 1952 large amounts of equipment, technologically more sophisticated than the rag-tag assortment of weapons utilized by the PLA in its initial Korean assault, 13 were in the hands of Chinese troops. As a result,
by 1952, the Chinese were responsible for the maintenance, repair and provision of spare parts for a newly equipped military force.

In September, 1952, Li Fu-ch'un retrospectively analyzed the central government's progress in the tasks of "Restoration and Development of Industry in China During the Last Three Years." The production efficiency of the machinery industry had been increased "four or five-fold." Some new products were being produced including steel rails, and mining and textile machinery. Li also pointed to an 82% increase in utilization of electricity-generating facilities during the period, and a 30% to 70% increase in the output of state-owned coal mines. Not only was there a modest increase in the output of machinery, but the variety of machines and China's ability to supply domestic needs improved. That much of this improvement was due to the restoration and reorganization of pre-existing facilities is shown by the leadership's recognition that even greater difficulties lay ahead. In the first place, while the limits of extending growth through rehabilitation had not yet been reached, the easiest and most promising prospects had presumably been tackled first. Li Fu-ch'un specifically identified continuing and strengthening "basic reconstruction activities" as an important task in the years following 1952. While this task was to be approached "as far as possible" by using Chinese indigenous resources, Li fully recognized that the "machinery equipment needed for our large scale industrial reconstruction still cannot be fully acquired with our own strength...We also lack technical personnel in the various branches of our industrial reconstruction." The June 23, 1953 "Directives for the Development
of the State-Owned Machine-Making Industry" (issued by the First Machine Building) made this point even clearer. The main mission under the First Five Year Plan (FFYP) in machine-building would be:

To bring adjustment and possible technical improvements to existing industrial units and to supply, in cooperation with Soviet Russia's technical assistance, necessary industrial equipment for the realization of the Five Year Plan. By gearing the improvements and production of the existing machine-making industry to the establishment of new units, the industry will gradually become independent and integrated.16

The acceptance of Soviet assistance, however, rather closely constrained the Chinese in their choice of development strategy. No doubt a Chinese Communist Party-dominated regime would have opted for substantial Party-government control of the economy in any case. But it is not altogether self-evident that such a regime would have adopted a semi-Stalinist style of forced-draft industrialization, with such strong emphasis on heavy industry. It is at least conceivable that without Soviet advice and the acceptance of a Soviet model, agriculture might have received somewhat more consideration between 1949 and 1958, and that the role of private enterprise might have been marginally enhanced and prolonged.17 The Stalinist model of development, however, was predicated on the primacy of heavy industry. In 1953, the official Chinese newspaper, People's Daily made this priority clear:

What is the foundation for developing production? Simply the expansion of industry and agriculture; and, of the two, industry comes first, in particular, heavy industry. Only if there is development of heavy industry...can China be guaranteed complete economic independence and security of national defense...and only in this way will the livelihood of the people continually improve.18
Moreover, this heavy industry was to take the form of large, urban, high-technology, low-labor, capital-intensive industrial plants under a highly centralized system of planning and ministerial control of enterprises. Development of this type would necessitate high levels of domestic savings and investment. In addition, the Soviet plan implied certain geographical consequence for the location of China's industry. Thus, on the eve of the formal codification of this development strategy in the FFYP, the Central People's Government made a number of structural changes designed to "strengthen the planning of our state economy," to strengthen "the leadership duties of the Central People's Government and that [sic.] of the provincial and municipal governments," and to simplify "the various strata of governmental machinery." 19 The leadership reorganized the national administrative regions and provinces, and the Government Administrative Council (fore­runner of the State Council). The 17th meeting of the CPG on August 7 established six new economic or financial ministries: First Machine Building, Second Machine Building, Building Construction, Geology, Food, Trade, and Foreign Trade. The 19th meeting of the CPG, in addition, created a State Planning Commission. 20

In 1949 six developmental issues faced the Chinese leadership:

1. Do we rely on foreign developmental assistance? If so, from whom?
2. To what level do we invest?
3. In what sector(s) do we invest most heavily?
4. What will be the extent of central planning and control?
5. What is the appropriate size of plants?
6. What is the appropriate geographical distribution of industry? (urban vs. rural; coastal vs. inland; interprovincial)
By late 1952 at the close of the period of rehabilitation and
the beginning of the FFYP, the Chinese had opted for seeking Soviet
aid, for an emphasis on high investment in heavy industry under
increasingly centralized direction, and for utilizing pre-existing
plants during the period of construction of newer enterprises. In
order to implement these decisions the Central People's Government
had created two ministries of machine-building. The First Ministry
of Machine Building was established to coordinate primarily civilian-
oriented machinery enterprises. The Second Ministry of Machine Build­
ing was reportedly in charge of coordinating defense related industry.

C.
The First Five-Year Plan, Civilian Economic Development and
Machine-Building

With the commencement of the FFYP, the Chinese leadership envi­sioned three goals for the machine-building sector. The first goal
was to complete the rehabilitation and consolidation of pre-existing
facilities. Li Fu-ch'un had alluded to this in his article of Sep­
tember 29, 1952, and the June, 1953 directives from the First Ministry
of Machine Building reiterated it. These facilities, in turn, were
to provide equipment for the construction of new plants in order even­
tually to achieve self-sufficiency. The second goal was to have
basically completed nationalization of all machine-building enterprises
during the FFYP.21

The third goal for the machine-building industry in the FFYP was
the construction of new plants. While only 156 (or 25%) of the 694
major projects of the plan were to be built with Soviet aid, over 60
percent of investment funds for the plan was to be spent in connection with 141 of these Soviet-assisted projects. Moreover, between 50% and 70% of the equipment needed for the 156 key projects was provided by the Soviet Union. Soviet supplies of equipment and machinery during the period of close Sino-Soviet cooperation reportedly totalled some $3,036,100 of which $1,817,800 was complete equipment for plants. Furthermore, these projects demonstrated a clear pattern of priorities. One or two large, key plants were to be built in each of a wide variety of machine-building sectors. Of the 86 major identified FFYP projects in the machinery industry, 53 were apparently of a civilian nature. These 53 projects were spread across 30 categories of production, or, on average, less than two plants per category. The bulk of these plants were in the fields of mining, metallurgy, power equipment, transportation and machine tools. On March 21, 1954, speaking before the National Conference of Factory Managers, Huang Ching, Minister of the First Ministry of Machine Building, demonstrated this priority:

The first thing is to develop the manufacture of mining, metallurgical, and power generation equipment; then in order to meet the needs of defense work we should develop communications, transportation, and the manufacture of locomotives, cars, ships, motor vehicles, tractors, and machine tools. Finally, other kinds of machinery and equipment should be manufactured.

Thus, with funds concentrated in a few key plants for each product, very little government revenue was allocated to small or medium-sized enterprises. This pattern of allocation also meant that agriculture was to be slighted. Of the 53 major civilian machinery projects only one was devoted to agricultural machinery, the huge Loyang Tractor
Factory. While several chemical fertilizer plants were expanded during the plan, it wasn't until the Great Leap that this sector received sustained attention. Chinese news releases on successes in machine-building during the 1953-54 period also document the existence of this imbalance. A New China News Agency (NCNA) article from December, 1953 notes that a model factory for agricultural tools was in fact a former Kuomintang machine-gun factory reconverted for civilian use. (One presumes it was either not a very efficient or modern plant, or was "surplus," or it would have been retained for military use.) Furthermore, in contrast to a "four or five-fold" increase in production efficiency in machinery industries in general (refered to in late 1952 by Li Fu-ch'un), NCNA considered a three-fold improvement and a 20% price reduction to be exemplary. Finally, the plant must have achieved near capacity because only a 5% increase in production was planned for 1954. By contrast, numerous articles were published extolling the substantial improvements achieved by the bigger plants receiving more modern Soviet equipment. For example, three NCNA articles in the first half of 1954 devoted to praising machine-building enterprises that overfulfilled the 1953 plan talked only of automobiles, tool-making, ship building, electric machinery and mining machinery. There was no mention of agricultural equipment plants. This set of sectoral priorities is also reflected in the output of Chinese college graduates and engineers. Only 5% to 6% of the graduates during the FFYP were in the fields of agriculture and forestry. Also, despite a 65% increase over 1952 in the 1953 output of the First Ministry of Machine-Building, the "production of medium and small
machine tools, electric motors, transformers, etc. did not meet the schedule." Official Chinese data also confirm that these significant increases in machinery output in 1953 did not take place in the tractor, agricultural pump, or farm implements industries. The result was that, according "to official estimates in 1954 the total requirement of commercial fertilizer for China was 7 million tons, of which the Communist Government could supply only 4.2 million tons while the demand for the remaining 40 per cent remained unmet." Only approximately 25% of the needed farming equipment was available from the state in 1954. Finally, of the roughly 1000 tractors in China in 1954, about 800 were on 59 mechanized state farms, and the Loyang Tractor Factory was not expected to even begin production until 1958.

If one effect of the Soviet-style FFYP on the machinery industry was imbalance between sectors of the economy, another effect was imbalance between geographic sections of the country. The decision to rehabilitate pre-existing facilities had meant concentrating resources in a few geographic areas. In 1949 the heartland of China's industrial capacity was the formerly Japanese-controlled northeast. The four centers of Shenyang, Harbin, Dairen and Changchun accounted for a substantial proportion of machine-building output. In fact, as late as 1958, "the northeastern region possessed 9 per cent of the nation's total territory and 7.6 per cent of the total population, yet it produced 30 per cent of the machinery and equipment." The east, including Shanghai, produced another 20% (on 4% of the territory, with 17% of the population), while the remaining 87% of the land and 75% of the population produced only half.
The First Five Year Plan sought to remedy this sectoral imbalance in the direction of less coastal, and more inland, industry. There were a number of reasons for the shift toward the interior in the FFYP. First, under a situation of close cooperation with the Soviet Union, many plants were to be sited along the adjoining railroads. This meant that inland areas of Manchuria, North China, and Northwest China were frequently selected. Secondly, there were considerations of national defense. As Cheng Chu-yuan points out, the 1950 Sino-Soviet Treaty of Friendship and Alliance specifically identifies Japan as the primary threat, with the implication being that attack from the sea (backed or led by the United States) would be the most likely form of aggression. The Chinese also still perceived a threat from American forces in Korea. Consequently, a removal of industry to the interior made strategic sense. Finally, the inland areas were both most in need of economic development and the largest reserves of proven and potential resources. Therefore, in order to avoid the perpetuation of a strikingly "dual" economy of developed coastal cities and backward rural hinterlands, with all of the adverse socio-political and ideological consequences entailed in such a system, and in order to minimize the burden on an already overtaxed transportation network, an inland shift of industry appeared sensible.
D. The Development of Agriculture and Machine-Building, 1953-1958

One of the earliest agricultural policies of the Chinese Communist Party was the encouragement of mutual aid and cooperativization. From its inception this policy had been the center of controversy within the Party leadership. The FFYP program of heavy emphasis on industry to the detriment of agriculture had already led by 1954 to serious problems in the rural sector. In attempting to come to grips with these problems, leadership disagreement over the rate at which cooperativization and collectivization should be pursued, and over the role of machinery in agricultural transformation reemerged.

By 1954, the Chinese were beginning to realize that their ability to invest was severely limited. "State revenues were the major source of investment financing...foreign economic assistance accounted for not more than 1.5 per cent of China's capital investment from 1953 through 1957." Thus, even as augmented by Soviet grants and loans, the Chinese realm of options was severely constrained. The basic decision had been made to concentrate investment in producer industries and transport. This meant that the sector of the economy which generated most of China's foreign exchange, agriculture, was unable to grow at a high rate. Inputs to raise productivity were unavailable. The Loyang Tractor Factory would not even come into production until 1958. Similarly powered irrigation equipment came into production only in 1957. In 1952 only 344 harvesters were produced; still a mere 4,590 were manufactured the next year. By 1955 China had produced only three combine harvesters. In addition,
China's fast growing state farm system was absorbing the bulk of available agricultural machinery.\textsuperscript{41}

As a result agricultural productivity was not meeting the leadership's expectations. While farm output did appear to be keeping marginally ahead of population growth, it was not keeping pace with the planned rate of growth, especially for grain.\textsuperscript{42} (See Table 1) In addition, land reform and liberation from landlord's exactions had encouraged the peasants to retain more of their produce for personal use. Moreover, in many places, "land reform had created a class of well-to-do peasants, and some enriched themselves by money-lending and speculative activities; on the other hand, the majority of poor peasants, lacking technical know-how and sufficient means of production, were still subjected to poverty."\textsuperscript{43} The desire to control these rural deviations and to increase the proportion of farm output (especially grain) either subject to government extraction and collection or to sale on the market, while at the same time maintaining adequate provision for the health and security of the rural areas, had led to the imposition of a state monopoly of the grain trade. A series of natural disasters, localized bad-weather, and inexperience and excessive zeal in implementing the grain monopoly in late 1954 and early 1955 combined with urban overcrowding and unemployment to create a crisis in the supply of grain in both rural and urban areas in the Spring of 1955.\textsuperscript{44} All of these problems led the leadership to begin to reevaluate their policy toward agriculture. The result was a fairly vigorous debate over the relative merits, and timing, of agricultural collectivization and mechanization. The dispute
about the relationship between collective agriculture and productivity, encompassed a wide array of views at the top level of the Party and government. Later Cultural Revolution reconstructions, and some Western analyses, have portrayed these disagreements as a "struggle between two lines." One "line" (Mao's) was said to favor collectivization, mechanization and the unleashing of mass enthusiasm, while supporters of the "opposing line" sought to obstruct these policies. In reality, the situation was far more complex than this. The disagreements touched on all six sets of developmental questions and involved at least five major "opinion groups" at the very highest level of leadership. Moreover, Mao's position on these questions has often been pictured as "utopian"; his concerns were said to be socio-political rather than economic. Again, such a view oversimplifies a more complex reality. Consequently, an understanding of the organizational changes in the State Council structure of the machinery industry during the mid-1950's rests on an examination of the perceptions of Mao and other leaders of the economic and socio-political environments outlined above.

First, Mao and several key supporters (almost certainly K'ang Sheng; from 1956 until 1959 including T'an Chen-lin; at times including Chu Te, Li Fu-ch'un, and Li Hsien-nien) advocated collectivization as a necessary forerunner of mechanization. In 1955 Mao explained why:

After mechanization is completed, there will be greater saving of labor power. Will there be a way out for this surplus labor power? The answer is yes...This is because, with the scope of production enlarged, the number of departments increased, and work becoming more refined, there will always be a use for labor power.
Mao's position was that China suffered a net shortage of labor; me­chanization could release labor from unnecessary agricultural drudgery to perform needed social and economic construction. In addition, China being "poor and blank," could only aggregate capital through collective effort and mobilization. Thus, agricultural mechanization would be funded primarily through the initiative and self-reliance of the collectives, with aid coming from the state serving a secondary but important function.

Mao set out his opinions on investment priority, agricultural productivity and rural socio-political conditions in a series of articles and speeches from July to December, 1955. First, on the question of allocation of resources, Mao reaffirmed the correctness of the strategy of emphasizing heavy industry while relying on socialist transformation, peasant enthusiasm and improvement of tools and techniques for increased agricultural yields. No change in central resource allocation was suggested or effected. In fact 1954 and 1955 both saw less state aid to agriculture than had 1953. The emphasis in Mao's approach was on leadership, planning and consolidation, and mobilization of enthusiasm.

Mao felt that collectivization was both the most effective and the most politically correct method of achieving greater agricultural production, and of solving the problem of marketing grain. As of July 31, 1955, according to Mao, "Over 80 per cent of the 650,000 agricultural producers' co-operatives already set up have increased their crop yields." The way to insure that crop yields continued to increase was:
(1) to adhere firmly to the principle of voluntary participation and mutual benefit...
(2) to improve management...
(3) to improve farming technique...
(4) to increase the means of production...

Included in the categories of improved techniques and increased means of production were farm implements but not major agricultural machinery. Likewise Mao's October, 1955 speech, "The Debate on the Co-operative Transformation of Agriculture and the Current Class Struggle," clearly stated that the "view that there have to be machines before co-operatives can be set up is no longer popular, but it lingers on. This fallacy can...be exploded." Not only was sophisticated equipment unnecessary, "co-operatives can be set up without funds, carts and oxen." Furthermore, Mao felt that, "If we cannot fundamentally solve the problem of agricultural co-operativization in a period of roughly three five-year plans...then we shall fail to resolve the ever-increasing need for marketable grain and industrial raw materials and the present generally low yield of staple crops."

In the second place, some of our comrades have not given any thought to the connection between the following two facts, namely, that heavy industry, the most important branch of socialist industrialization, produces tractors and other farm machinery, chemical fertilizers, modern means of transport, oil, electric power, etc., for agricultural use, but that all these things can only be used, or used extensively, on the basis of large-scale co-operative agriculture.

Finally, Mao said, "Agriculture should adapt itself to industry."

If, according to Mao, cooperativization of a "higher," more socialist nature (i.e. collectivization) was the most appropriate way to increase production and marketing of grain, it was definitely the politically most correct course as well. Mao saw the grain
shortage of 1955 as partly a political problem:

The tense situation in the countryside last spring was chiefly due to the grain problem. The so-called grain shortage was in most cases fictitious; the clamour about it was raised by landlords, rich peasants and well-to-do middle peasants. We didn't have time to conduct extensive education among the peasant masses to counter it; besides, there were shortcomings in our work regarding grain. We over-purchased 7,000 million catties last year, not knowing at the time the proper amount of grain we should purchase. Now we are making an adjustment and plan to purchase 7,000 million catties less. Coupled with this year's good harvest, this will ease the tension in the countryside.  

Collectivization was, for Mao, an extension and consolidation of the general socialist transformation of China. It was a crucial link in the consolidation of "proletarian" control over the urban bourgeoisie, as well as the key to rural class struggle. In order to assure that his policies would receive a favorable hearing within the Party apparatus, Mao appointed two of his former personal secretaries, Ch'en Po-ta and Ch'en Cheng-jen, as deputy directors of the CCP Rural Works Department. This was a clear attempt to circumvent the obstructionism of his opponent Teng Tzu-hui who was the department's director. Mao also elevated a long-time supporter to the position of Central Committee General Secretary. Ironically Teng Hsiao-p'ing would later prove to be Mao's number-two target for removal.

So much has been written about the disagreement between Liu Shao-ch'i and Mao concerning agricultural mechanization that it seems crucial to point out that in one basic respect they were in firm agreement. Both had the goal of collectivized, mechanized agriculture; the dispute was over timing and priority. Whereas Mao was in a hurry to collectivize, Liu believed that "Without machines, no
Liu envisioned a step-by-step and long-term attempt to transform the economic structure followed by changes in the organizational superstructure. Furthermore, Liu strongly favored centralization of control over the production and operation of agricultural machinery. He minimized the role of the collectives in providing and using machinery and in participating in scientific research on tool innovation. During the mid-1950's Liu agreed with Mao that a reevaluation of the development strategy embodied in the First Five Year Plan was needed. He apparently even supported the GLF in its early stages. However, Liu strongly favored retention of agricultural machinery by the Machine Tractor Stations.

Po I-po represented a third position, actually more opposed to that of Mao than was Liu Shao-ch'i's. Po basically felt that agricultural mechanization in China was unnecessary, counterproductive and a waste of scarce central resources. In 1950, without even mentioning agricultural mechanization, he stated that, "In order to achieve farm collectivization, it is imperative to develop a powerful industry with State-owned enterprises as the foundation." In 1956 he was even more explicit:

> With such a large reservoir of manpower in the Chinese countryside and such complicated farming systems, it is impossible to introduce mechanization. If mechanization is introduced, the pool of surplus labor power in the countryside will become so acute as to defy solution.

After the Great Leap collapsed and agriculture became the top priority, Po "still insisted on abolishing seven backbone enterprises in the farm machinery industry" and attempted to merge the production of automobiles and tractors so as to downplay the importance of the
Those enterprises remaining, in Po's view, should uniformly be centralized under "trusts." A fourth major position was espoused most forcefully by Ch'en Yun, Teng Tzu-hui and Hsueh Mu-ch'iao. They were in favor of programs that would rely on semi-market, quasi-capitalist incentives and widespread enterprise autonomy to provide the long-range basis for mechanization. They were thus opposed to "hasty" collectivization. They also advocated greater reliance on experts and technicians, less on the spontaneous enthusiasm and native wit of the peasants. Nevertheless, Ch'en supported the 1955 collectivization campaign, not because he felt it would contribute to greater productivity but because it assured higher grain procurements for the state. He opposed communism because it would do neither.

A fifth group of leaders agreed with parts of more than one of these positions, or with variants of one. For example, Peking mayor P'eng Chen apparently was in some agreement with Po I-po about the waste of resources involved in early agricultural mechanization. Nevertheless, in 1963 he was to push vigorously for the creation of "a hundred key hsien" in which mechanization would take place immediately. The diversion of resources to agriculture would not have been in the economic interest of urban-industrialized Peking, but if model counties were to be established, the suburbs of China's capital were a likely candidate for such a designation. Furthermore, he said, "Use of machinery must be centralized," espousing the position of Liu Shao-ch'i on the continuance of the Machine Tractor Station system.
P'eng's position on the issue of enterprise control is somewhat ambiguous. At the same time, he is accused of supporting the "trusts" and of enforcing "the revisionist 'enterprise autonomy' as adopted in Yugoslavia." Above and beyond enterprise autonomy, however, P'eng advocated a large degree of geo-political administrative autonomy. For example, he reputedly said that, "Peking produces agricultural machines for its own needs," and complained that "There is not too much land in the suburbs of Peking. What is the use of having so many factories?" Finally, P'eng clearly sided with those who favored expertise over enthusiasm. He is accused of raising "the black flag of 'precision machinery, optical instruments and electronic technology,'" denigrating locally produced machinery and the tool improvement program. The capital's mayor also reportedly believed that "technological reform required efficiency; that efficiency in turn required centralized administration, specialization of functions in factories and bureaucracies, and material incentives for workers and administrators; and that profits were the crucial measures of efficiency."

Liao Lu-yen, Minister of Agriculture, also held a "half-way" position; he favored state ownership of tractors (after all, the Machine Tractor Stations would be under his ministry), but straddled the general issue of mechanization, believing that it was inappropriate in most areas of China for the reasons given by Po I-po. Finally, as we will see, agricultural expert Ch'en Cheng-jen seems to have been a supporter of Mao, both on policy issues and personally, before 1960. After the collapse of the Great Leap, however, he seems to
have been "coopted" by his organizational responsibilities with the Ministry of Agricultural Machinery. He is obliquely accused by Red Guards of having emphasized "large, modern and comprehensive factories... thus completely giving up...leadership over the mass work of improving farm implements," of closing down many small enterprises including half of the factories for spare parts, and of acquiescing in the establishment of "trusts."

Between October 1953 and early 1955, Mao pushed for more rapid collectivization of agriculture. Despite an increase in the percentage of peasant households in cooperatives from 0.2 per cent in December 1953 to 14.2 per cent in March 1955, Mao felt that peasant demand for collectivization was outstripping this progress. In July, he singled out problems in several provinces, including Chekiang and Heilungkiang, for criticism, and complained that "some of our comrades are tottering along like a woman with bound feet and constantly complaining, 'You're going too fast.'" In October, he became more specific, identifying "some comrades in the Rural Work Department of the Central Committee, and principally Comrade Teng Tzu-hui" as having made mistakes. Teng, supported by Liu Shao-ch'i and Po I-po, was reportedly responsible for the policy of "resolute contraction" and "readjustment" of cooperatives in the spring of 1955, in which, during a two month period, a large number of cooperatives were disbanded, including 15,000 in Chekiang alone. Mao's cooperativization goals were apparently also challenged by most of the top-level economic leadership in 1954-55, including Vice-Premier and Minister of Finance
Li Hsien-nien, Minister of Agriculture Liao Lu-yen, and Vice-Premier and Shanghai major Ch'en Yi.

Under substantial pressure from his central colleagues to go slow with collectivization, Mao "appealed over the heads of central officials to provincial leaders" in his July 31 speech. Nevertheless, even "though Mao was convinced of the importance of collectivization, there is no indication that in July he expected his speech to bring about so rapid a 'fundamental change.'" However, by October "the emergence of a 'high tide' was clear to all." 87

In the midst of this political conflict over collectivization, a change in the State Council's machine-building apparatus occurred, a change which directly touched on the issue of agricultural mechanization. In May, 1955 a new Third Ministry of Machine Building was created. 88 The ministry was headed by Chang Lin-chih. 89 This ministry was apparently in charge of a variety of civilian machine products; there is evidence to indicate that agricultural implements and possibly electric power equipment were among them. 90 The creation at this time of a ministry taxed with the responsibility of coordinating and controlling the limited resources available for agricultural implements made a great deal of sense. Both Mao and his opponents agreed that improvement of farm tools was necessary for increased agricultural productivity. Where they disagreed was on whether these tools would be used in a setting of rapid collectivization or one of private farming and mutual-aid combined with lower-level cooperatives.

Closer coordination of the production of agricultural tools was necessitated by two factors. First, land reclamation and rehabilitation,
mutual aid, and cooperation all raised the peasants' demand for farm implements; they were repairing roads and public buildings and constructing massive water conservancy projects. This required tools. In order to meet the demand, some sense had to be made of the grab-bag assortment of widely-scattered, reconverted and pre-existing small- and medium-scale plants manufacturing agricultural implements. As demand grew, the leadership undertook a substantial effort, especially in 1955, to increase the supply. The whole field of producing agricultural machinery in quantity was so undeveloped that 1955 was the first year in which new-type animal-drawn farming implements are produced on a large scale. Of the 30-odd plants producing farming implements, over twenty never produced farming implements before so that technically great difficulties were experienced.

As a result, the first three months of the year were taken up by the conversion of other kinds of machine plants, by "trial manufacture and small-scale production," and by quality testing. Technical manpower was also lacking. In 1955 the First Institute for Fostering Agricultural Mechanization Personnel in China graduated only 20 experts, but projected a graduating class of 750 a year beginning in 1957. The wide-spread dispersal of agricultural machinery plants, the uneven quality of their output, the lack of standardized parts and equipment, and the shortage of technical personnel all made it essential that coordination be maximized.

The very success of the Third Ministry of Machine Building may, ironically, have contributed to its downfall. There is some evidence to show that this ministry at least shared responsibility for the two-wheel, two-blade plow. This tool was produced in great quantity,
heavily promoted and widely distributed, and its development was closely associated with Mao. By late 1955, NCNA reported that "over 270,000 animal-drawn wheel plows have been sold to the peasants so far this year, more than ten times last year's total." The majority of these (158,000) were sold after Mao's July 31 speech, and it was expected that over 400,000 would be sold during 1955 altogether.

The logic behind the widespread dissemination of this plow is clear from the following:

Just as the people who opposed collectivization based arguments on the lack of farm machinery, so too those who favored collectivization fully realized the validity of the argument that new tools would simplify the evolution of enlarged farming. Since tractors could not be supplied quickly enough for cooperative agriculture, a new type of plow, with two wheels and two blades - was proposed for rapid extension to give cooperative farming a suitable technical base.

So sure were some Chinese leaders that this plow would be the answer to their problems that, without proper testing for suitability in various agricultural environments, they continually raised targets for output and distribution during late 1955 and early 1956. "Plans were also developed for training people to use and repair the plows, and repair centers were projected."

On January 25, 1956 the Politburo submitted the "Draft Program for Agricultural Development in the People's Republic of China, 1956-1967" to the Supreme State Conference. It represented an expansion of a document originally drafted by Mao and previously submitted for suggestions to provincial, municipal and central leaders. The January version contained the projection that "within three to five years 6 million more ploughs with two wheels and two shares should be in
use." In part this twelve year program represented another stage in the ongoing economic reevaluation of the leadership. The economy in 1956 was again experiencing difficulties. As a result of the 1955 "grain crisis," the State planned in 1956 to cut grain purchases by 7,000 million catties. At the same time agricultural taxes had been lowered (Table 2) and the rate of collectivization slowed. Nevertheless, up to this point, agricultural growth under the FFYP had been less than impressive. While the 1955 harvest had been very good, it had largely been planted before the collectivization movement disruptions. 1956 output was only slightly higher than the previous year (Table 1). Moreover, the rate of increase was down from 7.7% in 1955 to 4.9% in 1956.

In addition to problems in agriculture, gross value of industrial output showed a sharp drop in the rate of growth in 1955, leading to concern in 1956. As a result of this slow down in growth, and the lowering of agricultural taxes, the Chinese budget in 1956 showed only a 5.3% increase over the previous year (Table 2). At the same time, for the first time China's exports to the USSR exceeded imports from her, while state investment was slated to increase by 62% over 1955 levels (Table 3). The result was predictable: China had the first budget deficit year in the history of the People's Republic. All of these factors led Mao to a more critical reexamination of the direction in which China was headed. On April 25, 1956 at an enlarged Politburo meeting Mao gave his latest analysis of China's current situation. His speech, "On the Ten Great Relationships" was both a reaction to China's economic problems and a reflection of his
<table>
<thead>
<tr>
<th>Year</th>
<th>Grain Output (million catties)</th>
<th>Gross Value Preceding Yr. (x million)</th>
<th>% rate of Foodgrain output = 100</th>
<th>State Purchase (x 1000 tons)</th>
<th>State Sales (x 1000 tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>216,200</td>
<td>51,540</td>
<td>102.1</td>
<td>41,500</td>
<td>34,820</td>
</tr>
<tr>
<td>1950</td>
<td>249,400</td>
<td>51,760</td>
<td>103.3</td>
<td>45,135</td>
<td>41,735</td>
</tr>
<tr>
<td>1951</td>
<td>270,100</td>
<td>55,540</td>
<td>107.7</td>
<td>42,995</td>
<td>36,100</td>
</tr>
<tr>
<td>1952</td>
<td>308,800</td>
<td>58,290</td>
<td>104.9</td>
<td>41,715</td>
<td>42,550</td>
</tr>
<tr>
<td>1953</td>
<td>313,800</td>
<td>49,910</td>
<td>103.1</td>
<td>142,530</td>
<td>41,500</td>
</tr>
<tr>
<td>1954</td>
<td>320,900</td>
<td>51,570</td>
<td>103.3</td>
<td>145,420</td>
<td>45,135</td>
</tr>
<tr>
<td>1955</td>
<td>349,600</td>
<td>55,540</td>
<td>107.7</td>
<td>158,360</td>
<td>42,995</td>
</tr>
<tr>
<td>1956</td>
<td>365,000</td>
<td>58,290</td>
<td>104.9</td>
<td>165,890</td>
<td>41,715</td>
</tr>
<tr>
<td>1957</td>
<td>370,000</td>
<td>60,350</td>
<td>103.5</td>
<td>165,890</td>
<td>41,715</td>
</tr>
<tr>
<td>1958</td>
<td>500,000</td>
<td>60,350</td>
<td>103.5</td>
<td>165,890</td>
<td>41,715</td>
</tr>
</tbody>
</table>

Table 2
Sources of Budgetary Revenue 1952-59 (million yuan)
(n.b. Total is not the sum of ag. tax + ind. tax as other sources have been omitted)

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture Tax</th>
<th>Industrial &amp; Commercial Tax</th>
<th>TOTAL TAX REVENUE</th>
<th>Profits from State Enterprises</th>
<th>Total Budgetary Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>2704</td>
<td>6147</td>
<td>9769</td>
<td>4653</td>
<td>17560</td>
</tr>
<tr>
<td>1953</td>
<td>2711</td>
<td>8250</td>
<td>11967</td>
<td>6369</td>
<td>21762</td>
</tr>
<tr>
<td>1954</td>
<td>3278</td>
<td>8972</td>
<td>13218</td>
<td>8457</td>
<td>26237</td>
</tr>
<tr>
<td>1955</td>
<td>3054</td>
<td>8725</td>
<td>12745</td>
<td>9404</td>
<td>27203</td>
</tr>
<tr>
<td>1956</td>
<td>2965</td>
<td>10098</td>
<td>14088</td>
<td>11414</td>
<td>28743</td>
</tr>
<tr>
<td>1957</td>
<td>2970</td>
<td>11300</td>
<td>15490</td>
<td>11363</td>
<td>31020</td>
</tr>
<tr>
<td>1958</td>
<td>3260</td>
<td>14179</td>
<td>16730</td>
<td>18719</td>
<td>41860</td>
</tr>
<tr>
<td>1959</td>
<td>3300</td>
<td>15698</td>
<td></td>
<td>18590</td>
<td>54160</td>
</tr>
</tbody>
</table>

Table 3
Increase in State Investment, 1950-62

<table>
<thead>
<tr>
<th>Year</th>
<th>Million Yuan</th>
<th>Preceding Year</th>
<th>Gross Domestic Invest. (¥ billion)</th>
<th>Net Domestic Invest. (¥ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>1040</td>
<td>-</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>1951</td>
<td>1880</td>
<td>180</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>1952</td>
<td>3710</td>
<td>198</td>
<td>14.5</td>
<td>14.5</td>
</tr>
<tr>
<td>1953</td>
<td>6510</td>
<td>175</td>
<td>19.0</td>
<td>19.0</td>
</tr>
<tr>
<td>1954</td>
<td>7500</td>
<td>115</td>
<td>20.6</td>
<td>20.6</td>
</tr>
<tr>
<td>1955</td>
<td>8630</td>
<td>115</td>
<td>22.1</td>
<td>22.1</td>
</tr>
<tr>
<td>1956</td>
<td>13990</td>
<td>162</td>
<td>25.3</td>
<td>25.3</td>
</tr>
<tr>
<td>1957</td>
<td>12640</td>
<td>90</td>
<td>25.8</td>
<td>25.8</td>
</tr>
<tr>
<td>1958</td>
<td>21440</td>
<td>170</td>
<td>29.9</td>
<td>29.9</td>
</tr>
<tr>
<td>1959*</td>
<td>24800</td>
<td>116</td>
<td>40.3</td>
<td>40.3</td>
</tr>
<tr>
<td>1960</td>
<td>na</td>
<td>na</td>
<td>52.8</td>
<td>52.8</td>
</tr>
<tr>
<td>1961</td>
<td>na</td>
<td>na</td>
<td>17.6</td>
<td>17.6</td>
</tr>
<tr>
<td>1962</td>
<td>na</td>
<td>na</td>
<td>35.8</td>
<td>35.8</td>
</tr>
</tbody>
</table>

1959*—1959 planned

increasing dissatisfaction with Soviet (and particularly with Khrushchev's) domestic and international policies. Mao was especially disturbed by the implications of Khrushchev's February 1956 "secret speech" espousing both "peaceful coexistence" with the West and "de-stalinization within the bloc. Thus Mao, in the late winter of 1956, was beginning to reevaluate the Soviet Union's role as a model for China's political and economic development. This inevitably called into question the strategy by which China had been attempting to build her industry over the past three to six years.

The first "major relationship" which Mao reanalyzed was that between heavy industry and the other productive economic sectors. As in 1955, Mao basically reaffirmed the priority of heavy industry but asserted that the "problem now facing us is that of continuing to adjust properly the ratio between investment in heavy industry on the one hand and in agriculture and light industry on the other...the proportion [of investment] for agriculture and light industry must be somewhat increased." He based his reasoning for increasing agricultural and consumer-oriented investment on two sound economic facts. First, more investment in agriculture and light industry would better satisfy the "daily needs of the people." By narrowing the "price scissors" (i.e. the unfavorable trade relationship between primary agricultural products and secondary consumer products, or between countryside and city), by "supplying grain to the peasants in grain-deficient areas," and by shifting the burden of taxation from land and agricultural produce to manufacturing and trade, Mao hoped to provide both material and psychological incentives to the peasants to
produce more. Thus Mao specifically took to task the Soviet Union's policy of squeezing the peasants "very hard," saying that this method of capital accumulation has seriously dampened the peasants' enthusiasm for production. You want the hen to lay more eggs and yet you don't feed it, you want the horse to run fast and yet you don't let it graze. What kind of logic is that? ^109

If part of the reason for investing more in agriculture and light industry was to raise the standard of living of peasants (and workers), in order to encourage production, the corollary reason was that higher agricultural production would better supply raw materials to light industry. Because for the most part light industrial enterprises are cheaper to build, come into production more quickly, and can sell a higher volume of merchandise at a higher level of profit. They can accumulate capital faster than can heavy industry. Since agriculture provides the bulk of raw materials to China's light industry, including cotton and other fibers and food stuffs for processing, light industry is hamstrung without a strong and productive agricultural sector. Moreover, much of China's export potential is tied to the agriculture-light industry chain. ^110 In addition, if 80 per cent of China's population (the peasants) are too poor to buy light industrial consumer products, output will fall, cutting back profits, which will lower capital accumulation for heavy and defense industries. Furthermore, Mao recognized that if the peasants perceive their standard of living to be stagnant or falling, or if they perceive themselves to be increasingly disadvantaged with respect to the cities, their "enthusiasm for production" will flag, and some will "become discouraged" and "lose courage." ^111 Thus it is little wonder that
Mao asked the rhetorical question, "Is your desire to develop heavy industry genuine or feigned, strong or weak?...If your desire is genuine or strong, then you will attach importance to agriculture and light industry." 112

Mao admitted that national defense concerns during the Korean War had prompted the attempt to shift industry inland. Now, he provided an optimistic view of the international situation and advocated making fuller use of the 70% of China's industry that was still located on the coast in 1956. Although the Chairman did not explicitly tackle the problem of plant size, he did display concern with the question of centralization of decision making. He felt that the Soviet model of centralized authority in the hands of the ministries in Peking undermined local initiative and enthusiasm and retarded growth and production. He approved of strengthening the leadership and planning capabilities of the center, but told his colleagues that "our attention should now be focussed on how to enlarge the powers of local authorities to some extent." 113 He presented a rather unflattering, even mocking view of an overly centralized economic bureaucracy:

At present scores of hands are reaching out to the localities, making things difficult for them. Once a ministry is set up, it wants to have a revolution and so it issues orders. Since the ministries don't think it proper to issue orders to the Party committees and people's councils at the provincial level, they establish direct contact with the relevant departments and bureaus in the provinces and municipalities and give them orders every day. These orders are all supposed to come from the central authorities, even though neither the Central Committee of the Party nor the State Council knows anything about them, and they put a great strain on the local authorities. There is such a flood of statistical forms that they become a scourge. This state of affairs must be changed. 114
Furthermore, while the provinces were to be the major beneficiaries of the change, the decentralization of authority and initiative should extend down to the enterprise level:

Since the provinces and municipalities have their own complaints about the central departments, can it be that the prefectures, counties, districts and townships have no complaints about the provinces and municipalities? The central authorities should take care to give scope to the initiative of the provinces and municipalities, and the latter in their turn should do the same for the prefectures, counties, districts and townships; in neither case should the lower levels be put in a strait-jacket...In short, centralization must be enforced where it is possible and necessary, otherwise it should not be imposed at all.

It's not right, I'm afraid, to place everything in the hands of the central or the provincial and municipal authorities without leaving the factories any power of their own, any room for independent action, any benefits.

If Mao's indictment of domestic economic policy was rather severe and far-reaching, his discussion of the "Relationship Between China and Other Countries" must have been profoundly disturbing to some of his colleagues.

Khrushchev's February 1956 attack on Stalin came at a particularly bad time for Mao. Already under challenge by some of his colleagues for his acceleration of collectivization and for the two-wheeled, two-bladed plow, Mao's political position as well as his policies, including the draft Twelve Year Agricultural Program were somewhat threatened. Thus it is little surprise that Mao took to task those who blindly followed the Soviet Union:

For instance, there were people who accused us of making a mistake of principle in setting up a Ministry of Culture and a Bureau of Cinematography rather than a Ministry of Cinematography and a Bureau of Culture, as was the case in the Soviet Union. They did not anticipate that shortly afterwards the Soviet Union would make a change and set
up a Ministry of Culture as we had done. Some people never take the trouble to analyze, they simply follow the "wind." Today, when the north wind is blowing, they join the "north wind" school; tomorrow, when there is a west wind, they switch to the "west wind" school; afterwards when the north wind blows again, they switch back to the "north wind" school. They hold no independent opinion of their own and often go from one extreme to the other.\textsuperscript{116}

Mao admitted Chinese backwardness, particularly in the realm of science and technology, but advocated learning "from the strong points of all nations and all countries" including "the advanced sciences and technologies of capitalist countries and whatever is scientific in the management of their enterprises."\textsuperscript{117} Finally, at least partially in self defense, Mao asserted that despite Stalin's mistakes "Stalin was nonetheless a great Marxist."\textsuperscript{118}

The leadership was by no means united behind Mao's economic reevaluation of April 1956. In the midst of the rest of China's financial and economic troubles during that year, Mao's "pet project," the two-wheel two-blade plow turned out to be a dismal failure. The plow proved totally unsuited to use in southern China.

It sank into the mud of paddy fields and was too heavy and cumbersome to be used on the small plots of paddy or terraced fields. It required more draft power than was available in many places. Generally two beasts were required to pull it, and the Chinese water buffalo refused to work in teams. It was too wide for the paths between fields. Moreover, parts and repair service were not yet available in areas where the plow had not been distributed previously.\textsuperscript{119}

A June 20 People's Daily editorial "singled out as an example of reckless advance the setting of excessively high production targets for the double-bladed, double-wheeled plough."\textsuperscript{120} "P'eng Chen, a
member of the Party's Secretariat, allegedly referred to the popularization of the plow...as 'doing a stupid thing.' Po I-po, Chairman of the State Economic Commission, called it 'making a mess.' The order went out, presumably at Teng Tzu-hui's insistence, to "Destroy the ploughs and return the iron," and some 700,000 of the implements were scrapped. "Finally, in August 1956, production of the plow was temporarily suspended." Only a fraction of the plows produced in 1956 was actually sold, and many went unused, left to rust in the elements.

In this context of tight budgetary constraints, overextension of capital investment and the failure of the two-wheeled two-bladed plow program, the government in May 1956 decided to realign its structure. The editor of the PRC journal *Current Events* explained the purpose of the changes:

> The financial and economic organs of the State Council are changed for the purpose of strengthening the State leadership over the economic construction as a whole. With such changes effected, the State Council organs will be in a better position to meet the new situation arising from the upsurge of socialist transformation and development of industrial and agricultural production and will the better enable the various branches of the national economy to develop in a systematic, proportionate and balanced way.

The Third Ministry of Machine Building was dissolved. Since, in 1956, "average grain yields on state farms were said to have exceeded those on agricultural cooperatives by 4 per cent, and cotton yields were 66 per cent higher," the regime envisioned a substantial extension of mechanized farming coordinated by a unified, central ministry. The farms under this ministry would also serve the functions of agricultural extension service; of reclaiming waste or
unused land, especially on the borders; of providing employment for
demobilized servicemen; and, in longstanding Chinese tradition, of
serving as a nexus of semi-military frontier outposts. As a result,
the leadership apparently opted for a policy of concentrating its
limited supply of agricultural machinery under the control of the
newly established Ministry of State Farms and Land Reclamation entrusting to the peasants the primary responsibility for supplying their own implements.

When the Third Ministry of Machine Building disappeared in 1956
it is not entirely clear whether it was completely disbanded and two
new ministries were established, or whether it was essentially recon­verted into the Ministry of Electric Power Equipment Industry. Cheng Chu-yuan states that in "May 1956 the old Third Ministry became the Ministry of Electrical Equipment." Donald Klein believes that in April 1955...the central government created the Third Ministry of Machine Building to manage the electrical power engineering industries... Then, in May 1956, during a partial government reorganization, the name was changed to the Ministry of Power Equipment Industry." It is true that on May 12, 1956 the latter ministry was in fact created at the same meeting of the National People's Congress Standing Committee which abolished the old Third Ministry of Machine Building. A statement by the editor of Current Events, however, is somewhat ambiguous. In describing the State Council changes of the May, 1956 meeting, the editor said, "The Third Ministry of Machine Building was abolished and the Ministry of Power Equipment Industry was set up to control manufacture of electrical machines and medical
instruments." Both the form of this sentence and the context within which it is found do seem to imply a connection between the events. However, the official NCNA news release of May 12, 1956 is totally uninformative in this respect.

In any case, the creation of an electric power equipment ministry in 1956 is of interest. Electric power is obviously a key element in industrialization and economic development. After an initial period of rehabilitation from 1949-52, the Chinese in the FFYP had placed great emphasis on its development. In fact, by the time of the "first great leap forward" in 1955-6, just before the creation of the Ministry of Electric Power Equipment, the First Ministry of Machine-Building announced that "the output of major products such as steam turbines and generators...would reach or exceed the 1957 targets in 1956." The Ministry of Electric Power Equipment was to receive 38.4% of capital investment funds for machinery and equipment purchased in the FFYP as well as a sizeable proportion of Soviet expertise and assistance and a large percentage of college engineering graduates. This investment was beginning to produce some significant results. "In 1956, electrical machinery contributed 18.5 per cent of the total machine-building output value and became the country's leading branch of machinery production." Moreover, both output of electrical machinery and generating capacity were increasing at record rates.

Despite these increases in productivity in the sphere of electricity and power equipment, in 1957 "one high official openly stated that electricity was among the several commodities which had failed to grow rapidly enough to meet the demands of industrial expansion
during the First Five-Year Plan...and this in spite of the fact that its output in 1956 was larger than the target set for 1957." The lack of available capacity and equipment was partly due to the "rapid rise of industrial production, particularly in industries requiring a relatively large amount of electricity, such as iron and steel and cotton textiles." Thus, with capacity falling behind demand, and with a greater number of enterprises falling within the responsibility of the state as a result of the transformation of capitalist enterprises into state or joint state-private concerns, the leadership decided to create an agency to coordinate the growth and distribution of electric power equipment.

Later reconstructions of the events of 1956-7 have sometimes portrayed Mao as standing alone at the top, battling for his policies. In particular, his Cultural Revolution supporters show him in political eclipse during this period. Similarly Western analysts see these years as characterized by "conservatives in ascendancy" and "planners victorious." To some extent this seems to overstate the degree of Mao's political misfortune.

On the one hand, late-spring and early-summer 1956 were characterized by an attack on "reckless advance." In June, at the third session of the First National People's Congress (NPC), Li Hsien-nien, Minister of Finance, denounced the recent occurrence of "excessive investment by collectives" and excessive concentration on the quantity of industrial production to the neglect of quality, economy and safety. In his speech to the same assembly, Po I-po, newly appointed
Chairman of the State Economic Commission, "exposed the problems for capital construction caused by the economic drive" and criticized adventurism. Likewise, Mao and Ch'en Yun were at odds over the role of the Ministry of Finance and the need for financial stringency and attention to the financial consequences of economic targets selected for political reasons.  

In June, the editor of People's Daily, Teng T'o, in collaboration with CCP Propaganda Department Director Lu Ting-yi and Deputy Director Hu Ch'iao-mu, drafted an editorial. This editorial blasted impetuous cadres who "attempted to do all things overnight." Liu Shao-ch'i approved it, sending it to Mao for final clearance. Mao returned it with a notation that he didn't or wouldn't, read it, later explaining, "Why should I read something that abuses me?"  

Several of the reports at the Eighth Party Congress in September were also highly critical of the "leap forward" strategy of development of 1955-6. Chou En-lai called for setting a "reasonable rate of growth," for "balanced development," for an "over-all analysis of the objective conditions." He also favored Ch'en Yun's caution about "financial limitations" to impetuous and adventurous schemes of advance. Similar moderation was echoed by Li Fu-ch'un and Po I-po.  

At the Party congress Mao suffered a temporary political setback, but again the extent of his eclipse may be somewhat overestimated. To be sure, the new Party constitution had omitted all reference to the "thought of Mao Tse-tung," but given the climate of destalinization in the communist bloc and Mao's desire to groom a successor, or group of successors, by dividing the leadership into "two fronts,"
it is not at all certain that Mao himself did not acquiesce in the
exision of his "thought" from the Party charter. In fact, Mao, even
during the Cultural Revolution was unwilling to hold Liu Shao-ch'i
and Teng Hsiao-p'ing responsible for this act, implying that it was
a collective decision of the Politburo.¹⁴⁰

The composition of the top Party leadership following the con­
gress has also been interpreted as being unfavorable to Mao. While
it may be the case that the creation of four Party vice-chairmanships
marginally reduced Mao's uniquely exalted position, the occupants of
those positions were certainly not uniformly opponents of Mao. Chu
Te's stand is somewhat unclear. As a Party elder, second only to Mao
in prestige, Chu was a logical choice for elevation. While he has
been described as relatively apolitical, however, he is known to have
espoused professionalist sentiments with respect to the PLA,¹⁴¹ and
probably opposed any cuts in defense spending. However, Chu later
emerged as a strong supporter of Mao's Twelve Year Agricultural Pro­
gram. By contrast, Chou En-lai, as well as Li Hsien-nien and others,
supported Mao's call for lower military allocations. Likewise, Chou's
January 14, 1956 speech, "On the Question of Intellectuals," had
espoused a position of liberalization of control over intellectuals
and experts with which Mao associated himself in May. This policy
was given its clearest exposition and widest dissemination in the
form of Lu Ting-yi's People's Daily article of June 13, 1956, "Let
a Hundred Flowers Blossom, a Hundred Schools of Thought Contend!"¹⁴²
Even economic experts like Ch'en Yun favored a liberalized intellec­
tual atmosphere.¹⁴³
While Mao had some important disagreements with Liu Shao-ch'i during 1956, chiefly concerning the drafting of the Eighth Party Congress resolution, the need for Party rectification, and the question of the persistence of class contradictions in China, the Chairman was not sufficiently disturbed to delay passage of the report pending corrections. Moreover, Liu agreed with Mao that a reassessment of the FFYP strategy for development was needed. Finally, Teng Hsiao-p'ing emerged as Mao's most vocal supporter at the congress, often arguing in opposition to the views of Liu Shao-ch'i.\footnote{144}

Nor were Mao's economic ideas entirely without support. As early as the May 1956 National Conference of Model Workers, Chia T'o-fu, Director of the State Council General Office in charge of light industry, went on record as favoring greater attention to the development of this sector, a position he reiterated in June at the NPC. Likewise, the NPC reports of Li Fu-ch'un, Ch'en Yun, Li Hsien-nien and Teng Tzu-hui placed "more emphasis on light industry, improving the living conditions of the people, and the necessity for giving more incentives to the workers, peasants, and even the bourgeois capitalists."\footnote{145} Even Chou En-lai's reports to the Eighth Party Congress on the Second Five Year Plan, so critical of "subjectivism and bureaucracy among the leadership," and of impetuous adventurism, also echoed Mao's concern with the "question of geographical distribution of productive forces," advocating full employment of existing coastal facilities, and discussed the simultaneous development of both large- and small-scale enterprises in industry.\footnote{146}
In sum, Mao's position was not one of isolation but one in which a number of key economic and political leaders each agreed and disagreed with the Chairman on a wide variety of issues and policies. With the existence of a number of "opinion groups," Mao was frequently able to construct a coalition, composed of shifting membership, with which to push for his policies. He was also able to rely on one or more key supporters to advocate his position (as he did with Teng Hsiao-p'ing at the Party congress, and with Chou En-lai and Lu Ting-yi on the "Hundred Flowers"). As a concomitant to this, Mao had "packed" several key organizations opposed to his policies with his supporters (e.g. Ch'en Po-ta and Ch'en Cheng-jen in the CCP Rural Works Department, and Teng Hsiao p'ing in the General Secretary position). Furthermore, in an attempt to circumvent an uncooperative bureaucracy, Mao occasionally resorted to creating a competing or superior agency. Finally, if all else failed, Mao could resort to appeals "over the heads" of his central opponents as he had done with his 1955 speech "On the Cooperative Transformation of Agriculture" to local authorities and by convening "enlarged" meetings of the Politburo or Central Committee.

Several different opinion groups within the leadership concluded from the 1956 reassessment of economic policy in China that decentralization of some decision-making functions was needed. While the leadership remained united in its desire to maintain a high level of investment, and to continue to emphasize heavy industry, disagreement arose as to what form of decentralization would best motivate higher production in order to raise capital for investment. Mao advocated
a policy of decentralization of industrial decision-making to inter-
mediate geo-political levels combined with policies of social mobili-
ization. Ch'en Yun, Hsueh Mu-ch'iao, Teng Tzu-hui and others advocated
greater autonomy for the enterprise and increased material incentives
for workers and management, in short, a more "market-like" approach.148

The mediocre economic performance of 1956 has already been
described. Agricultural output in 1957, despite better weather, was
growing even more slowly (Table 1). Moreover, as in 1955, the summer
of 1957 saw a grain supply crisis. Purchases by the state were
reduced while state distribution of grain to deficit areas was
increased.149 Furthermore, a five per cent decline in cotton output
in 1956 was followed by a 12.5 per cent decrease in cotton cloth in
1957, resulting in a cut in the cloth ration in August 1957.150 In
addition to these agricultural problems, the Chinese government also
faced a dismal fiscal and industrial situation. While the 1956 bud-
get deficit had been reversed into a 1957 surplus, in order to accom-
plish this, state investment had had to be reduced substantially.
Similarly, both gross value of industrial output and agricultural
production were disappointingly low.151 Furthermore, not only was
the total turnover of Sino-Soviet trade reduced by some $200 million
in 1957, but China's exports outweighed imports by a record $194
million, as China struggled to pay off her debt to the Soviet Union
during economically difficult times.152 These continuing financial
and economic problems caused an intensification of leadership debate
on the appropriate solutions.
Mao's thinking about the economic situation, and his political strategy for mobilizing support for his solutions in late 1957 are particularly important. In industry, Mao agreed with Ch'en Yun and Hsueh Mu-ch'iao that excessive centralization lead to "subjectivism," "bureaucratism" and "commandism." But whereas Ch'en and Hsueh were willing to countenance much greater latitude for market-like operations, and greater freedom for bourgeois capitalist forces, Mao favored a policy of "dual control." Under this system, enterprises would be responsible and responsive both to national goals and plans represented by the central ministries, and to provincial-local peculiarities, needs, talents and political leadership in the form of local-level Party committees.153 Ch'en's preferred form of decentralization depended for its implementation on the cooperation of technical experts and former bourgeois capitalists. When these elements showed themselves to be "anti-Party," "anti-socialist" and "disloyal" by their criticisms during the Hundred Flowers Campaign, Ch'en's option was discredited. An anti-rightist purge of these elements followed.

In agriculture, Ch'en Yun, Teng Tzu-hui and others also advocated a more market-like approach. Collectivization should proceed slowly, free rural markets should be permitted and private plot production should be encouraged. Mao's proposals for agricultural organization involved the opposite of this kind of decentralization. Since 1955 Mao had consistently and openly advocated further collectivization (although with variable intensity). Beyond the socio-political reasons for collectivization, Mao's economic arguments made a great
deal of sense. Given the very tight central budget and the industrial priority, improvements in agriculture, especially in farmland capital construction, could only take place by mobilizing slack local resources. Individual households, even mutual aid teams, had neither the capital, labor time, labor power, expertise, tools or material to engage in such activities. Nor was there any incentive, economic or moral, to do so. Why should one family or team engage in some form of capital construction (e.g. dam building or road repair) which would benefit others who had not participated? Furthermore, in a semi-capitalist, highly competitive atmosphere, a family or team could not afford the short-term loss of capital, labor and time needed to make long-term improvements like irrigation or land reclamation. Nor was there any incentive to open new land to cultivation on the part of a small unit lacking time, labor and tools to exploit it. Mao's solution was that amalgamation of teams and lower-level cooperatives would create economies of scale that would free underutilized labor; would permit aggregation of small bits of capital into economically significant sums; would allow better management of labor, land, tools and other resources (irrigation, draft animals, experts like bookkeepers, etc.); would create incentives for larger-scale farmland capital construction; and would create an atmosphere of socialist cooperation rather than capitalist competition. Thus, it is important to remember, Mao was not advocating a utopian scheme which ignored economic realities. He was attempting both to create a socialist atmosphere and to raise production; this would be accomplished by a combination of material and moral incentives. Moreover, the good harvest following the 1955
cooperativization drive seemed to support his viewpoint.

Both Mao's policy of industrial "decentralization" and his program of agricultural "centralization" redounded to the political benefit of one group: the provincial Party hierarchy. Thus, just prior to the Third Plenum of the Eighth Central Committee, held between September 20 and October 9, 1957, Mao travelled extensively in the provinces drumming up support for his ideas. When the plenum convened, Mao had insured that it was "enlarged" by his supporters. The length of the plenum, and the fact that neither Ch'en Yun's report on the proposals for changing the economic organizational structure and on the issue of raising agricultural production, nor Chou En-lai's report on wages and welfare, were published indicates substantial conflict and disagreement. In fact, only one report was officially released: Teng Hsiao-p'ing's report on the rectification movement which followed the Hundred Flowers Campaign. Furthermore, apparently at Mao's instigation, it was through Teng's report, not the agricultural report of Teng Tzu-hui, that the Twelve-Year Agricultural Program was reintroduced. The implication of reintroducing Mao's economic policies in a report devoted to demonstrating the unreliability of China's bourgeois capitalist elements was obviously to discredit the semi-capitalist positions of Ch'en Yun and Teng Tzu-hui.

Despite Mao's inclusion of provincial supporters at the plenum, the Chairman's victory was not complete. Even after promising more state investment in fertilizer manufacturing than previously envisioned, reducing some agricultural targets, dropping the two-wheeled plow, reducing the number of workdays expected of women, and encouraging
birth control, the program was only "basically passed." Consequently, immediately following the plenum, Mao convened a Supreme State Conference to discuss agricultural policy. Mao's political strategy for achieving support for his policy of industrial decentralization and agricultural collectivization show his acute political sense:

The efforts to decentralize power were partly motivated by a genuine need for reform of the economy and administrative efficiency and partly devised (and opposed) by individuals or groups of political actors who had varying interests at stake. Seen in this perspective, Mao's inclination to sponsor decentralization appears to have been motivated by political considerations: he sought to weaken the power of several top economic officials of the party identified with the central government apparatus who were opposed to his policies and to shift control of the national economy to the provincial authorities who, as evidenced by the dispute over the speed of collectivization the previous summer and fall, were generally responsive to his command. His political tactic was to balance different political groups, to play the provincial forces off against the centrally based leaders.

In face of the economic and financial stringency outlined in previous pages, it might be expected that in 1957 China's machine-building industry would experience substantially reduced imports from the USSR. In fact, imports of machinery and equipment dropped only from $346.2 million in 1956 to $337.4 million in 1957, while the import share of machines and equipment increased from 29.7 per cent to 31.6 per cent. Moreover, as of 1956 the Chinese admittedly produced only about 60 per cent of their own machine needs. Nevertheless, the leadership's target for the Second Five Year Plan was only to reduce dependency from 40 per cent to 30 per cent. Thus, in 1957 the Chinese emphasis remained on relying heavily on imports...
of Soviet machinery and equipment, at least to supply those important enterprises remaining under central control. However, in keeping with Mao's criticism of blindly following foreign example, workers and technicians were strongly encouraged to adapt imported equipment to peculiar Chinese circumstances. The Chinese press in 1956-57 was full of exhortations to "make more industrial equipment with our own hands," and of reports on "designing of new machines by ourselves." For example, a People's Daily editorial in December 1956 warned that "pure copying will no longer satisfy the demand...As far as the machine-building industry is concerned, an irrational phenomenon is bound to come out in production if a mechanical copying of foreign designs is resorted to without regard to the productive peculiarities of our factories." The editorial further warned against feelings of inferiority or lack of confidence. 161

If reliance on the USSR for machinery, especially sophisticated high-technology equipment, remained a basic priority of the Chinese government, so too did a relatively high level of investment. However, the reduction of capital investment in machine-building industries from ¥ 730 million in 1956 to ¥ 724 million in 1957 reflected not only the release of a number of plants to lower administrative levels, but the actual cancellation or postponement of some projects. As early as February 1957, the New China News Agency explained that the machine-building industry was going "to reduce or delay certain projects," in "accordance with the needs for the development of the national economy and the state's financial and material resources." Some projects were reportedly not "urgently needed," while others
could be done without by "promoting the production potentials of old factories." However, as is evident from the general budget cuts at the central level, the national leadership at this point did not anticipate a substantial shift of state investment away from heavy industry. Light industry, for example, was to increase production by utilizing heretofore unused capacity, by acquiring an increased supply of raw materials, and by relying on locally generated investment, talent, labor and enthusiasm. At best, the shift in investment would be from 8:1 in favor of heavy industry to 7:1. Similarly, agriculture would have to continue to rely largely on its own resources.

If the patterns of state investment and foreign reliance were to remain relatively unchanged, the decisions on centralization, plant size and geographic distribution were to undergo substantial alteration.

By the decree of November 1957, enterprises in consumer goods industries (most of which were then controlled by the Ministry of Light Industry), nonstrategic heavy industry, and "all other factories suitable for decentralization" were to be "transferred downward" to the local (primarily provincial) authorities. Most plants of importance were to be retained under the direct control of the central ministries. These included producer goods industries, large and important mining concerns, oil refineries, electricity works, and a few other key industries (e.g., paper manufacturing).

Thus in the machine-building industry a "dual economy" situation began to emerge in which the center kept control over a number of large and important factories while the provinces took over a mushrooming number of smaller, low-level technology, low-capital enterprises. In 1956, the First Ministry of Machine-Building controlled
37 plants. Including handicraft plants (presumably engaged in machinery manufacture of sorts), one source reports a 1956 total of 2,400 plants. By late 1957 however, according to official sources, China had "20,000 machine-building factories, large and small, with a total of 1,760,000 workers and employees." The thousands of small-scale enterprises were to produce local, low-technology needs, especially those related to agriculture, farmland capital construction and small-scale light industry. Of the approximately 20,000 plants, only "several hundred," or 2 to 2.5 per cent, were officially designated "large and medium enterprises." These few plants, however, were to maintain control over the manufacture and distribution "of the capital goods that were crucial to the expansion of output in most sectors."

Mao, however, was not satisfied with the grudging cooperation on the part of some of his colleagues. As a result, throughout the autumn of 1957 he continued to push for a more thoroughgoing implementation of his policies. For example, he began strenuously to advocate a program of mass mobilization for the construction of irrigation and flood-control projects. Likewise, between December 1957 and May 1958 Mao attended over ten provincial Party meetings, seeing to the purge of some 30 provincial leaders who opposed his rural policies. He began increasingly to rely on K'o Ch'ing-shih, T'ao Chu, Li Ching-ch'uan and Wu Chih-p'u, and got unexpected but forceful support for his Twelve Year Program at several national conferences in December 1957 from Chu Te.
In January, Mao convened two enlarged Politburo meetings. The first, early in the month, met at Hangchow, Chekiang, followed within a week by another at Nanning, Kwangsi. Again, Mao packed these meetings with provincial supporters. At Nanning Mao strongly attacked the higher levels of the state bureaucracy, specifically Ch'en Yun and Li Hsien-nien, "for essentially usurping power through relying on their own expertise to produce documents too technical for members of the Politburo to understand and discuss intelligently." The conference apparently began to discuss the concept of "walking on two legs," and adopted the slogan, "Basically transform the rural areas after three years of struggle." Similarly at a Supreme State Conference on January 28, Mao called for "more speed" in cooperativization and advocated higher production targets, urging the people to engage in "uninterrupted revolution" and to "strike while the iron is hot."

With the attempt to decentralize industry and strengthen lower levels of leadership, large numbers of cadres had already been "sent down" to gain local level experience, give advice, and "become one with the masses." In fact, from the First Ministry of Machine Building alone over 2,000 office workers were sent out on January 21, 1958, "to work in factories or on farms." That these were largely the least experienced, most "expendable" cadres is suggested by the fact that of the 2,000 sent down, fifty per cent were under 25 years of age and 95 per cent were under 35. One-third were college graduates (from the ages, one would guess most were recently graduated), and 600 were women.
At least two factors enabled the ministry to release so many personnel. First, as previously mentioned, at least some enterprises formerly operated by the central ministry had been transferred to lower-level authorities. Second, the November 1957 decentralization measures had reduced the number of production targets for which enterprises were responsible and on which they had to report, from twelve to four. Now only total quantity of output of major products, total number of employees, total wage bill, and profit were mandatory. This measure certainly reduced central responsibility for planning and paper work.

In late January 1958 the Fifth Session of the First National People's Congress convened. Among its tasks was an excoriation of those "rightists" in the government who had revealed themselves during the Hundred Flowers Campaign. Mao took this opportunity not only to see to the removal of a number of top-level ministry personnel but to renew his insistence on reducing the bureaucracy and insuring cadre participation in labor. Thus either during or immediately after the NPC session, a major government reorganization took place.

In addition to a number of personnel changes, February 1958 saw the State Council reduced from 41 ministries to 33. Among these changes was the abolition of the Ministry of Electric Power Equipment and the assumption of its reduced responsibilities by the First Ministry of Machine Building. In addition to this change, the recently-established Third Ministry of Machine Building and parts of the Second Ministry were combined.
Following the partial victory of Mao's economic and political reevaluation at the Third Plenum in September 1957, and the series of consolidation meetings in December and January, Mao convened another series of conferences for the purpose of explaining his program, cajoling the leadership, and enlisting support. Late in February and through much of March, members of the Central Committee and provincial Party leaders met at Ch'eng-tu, Szech'uan. Mao reiterated his call for a flexible attitude in adapting Soviet experience to Chinese reality and opposed the kind of dogmatic, blind acceptance of Soviet advice that he said had prevented him from eating "eggs or chicken soup for three years because an article appeared in the Soviet Union which said that one shouldn't eat them." Instead, Mao advocated a spirit of optimism and self-confidence, of experimentation and self-reliance.

Part and parcel of Mao's program of self-reliance was the simultaneous development of agriculture and industry. His "View on the Questions of Agricultural Mechanization" delivered at the Ch'eng-tu conference called for semimechanization of agriculture through the improvement of traditional tools. It was at this time that Mao first "propounded in precise terms the significance of farm mechanization;" he followed this pronouncement with an intra-Party bulletin declaring that "the basic way out for agriculture lies in mechanization." Finally, Mao then apparently tried to circumvent the opposition of his Politburo colleagues by making a "suggestion" to provincial officials to combine small APC's [Agricultural Producers' Cooperatives] into larger units. No formal decision on merging the APC's was taken.
in this conference, but...some provincial officials, perceiving Mao's favorable attitude, proceeded to enlarge the APC's even before formal steps were taken in this direction.\textsuperscript{180}

On May 3, the "State Council issued a decision to place agricultural machinery under the direct management of the agricultural producers cooperatives," reflecting the strategy deliberated and decided on at Ch'eng-tu, and formalized in the Twelve Year Program.\textsuperscript{181} T'an Chen-lin, in May 1958, echoing Mao's policies of mass mobilization and emphasis on the use of local resources, stated that:

The new version of mechanization reflects the great mass movement to improve farm implements now being used in the Country. It takes into account the possibility that semi-mechanization and mechanization of agriculture may be realized through the expansion of small-scale local industries, and it makes the point that the budding technical revolution in agriculture is a stepping stone to semi-mechanization and mechanization.\textsuperscript{182}

Feeling that he had gained sufficient political support for his ideas formally to overturn some of the conservative decisions made during the period of his political "eclipse" Mao convened an unprecedented Second Session of the Eighth Party Congress. Again, preceding this convocation, Mao had toured the provinces consolidating his support; this support was rewarded when the Congress elected twenty-five new alternate Central Committee members most of whom were provincial supporters of Mao's agricultural policy. The Congress met in "an enthusiastic, radicalized atmosphere" to put the official seal of approval on the policies of the Great Leap Forward.\textsuperscript{183}

However, Mao still faced strong opposition to his agricultural and mechanization policies from his Politburo cohorts. Evidence of this disagreement is the fact that the Twelve Year Program again was
only "basically passed" and subsequently was not published. It is
only through the speech of Mao's new agrarian spokesman, T'an Chen-lin,
that we know of its contents. \textsuperscript{184} Opposition to Mao's policies is
further suggested by the purge of "rightist" officials in the pro-
vinces that followed the Congress. \textsuperscript{185} Moreover, immediately upon the
adjournment of the Congress, the Central Committee held its Fifth
Plenum, which elevated three provincial supporters of Mao's agricul-
tural policies (K'o Ch'ing-shih, Li Ching-ch'uan and T'an Chen-lin)
to the Politburo. Furthermore, two of the three top economic planners
who formerly had opposed Mao but now had "changed their tactics and
took the lead in promoting the Great Leap policies," were rewarded by
appointment as additional members of the Central Committee Secretar-
iat. \textsuperscript{186} The influence of the two remaining conservative spokesmen
was severely curtailed: Teng Tzu-hui lost much of his leverage on
agricultural matters to T'an Chen-lin, and Ch'en Yun suffered a simi-
lar eclipse. \textsuperscript{187} However, it is important to note that unlike the
Cultural Revolution, the setback of Mao's opponents was not accompa-
nied by their removal from leadership. Whether Mao lacked the support
or the desire to remove them is not clear. The result, however, was
that when Mao's policies turned out to be demonstrably less than
successful, these opponents were in a position to make a comeback.
In the meantime, Mao had achieved an official stamp of approval for
his Great Leap Forward. With the Chairman's encouragement, a number
of provinces, like Honan, began to interpret these policies in increas-
ingly extreme and radical ways. By mid-summer, Mao toured Hopei,
Honan and Shantung, which were either amalgamating APC's into large
collective farms, or establishing communes. Mao's approval of these activities spurred their proliferation. By August, when Mao called an enlarged Politburo meeting at Peitaiho, the leadership could do little but ratify these radical interpretations of the Great Leap. Mao's provincial supporters had presented the center with a fait accompli.

E. The Retreat From the Great Leap Forward

That all was not well with the Great Leap became evident almost as soon as it had begun. Criticisms were voiced that "the people's communes were set up too soon and too fast and are in a mess." By late 1958, seeds of doubt had been sewn in the minds of many top leaders about the fantastic progress reportedly being made across the country. Consequently, following the Peitaiho meeting, central leaders fanned out across the country to evaluate the rural situation.

As in the year before, Mao used this tour to convene a number of "enlarged" Politburo meetings at which several vitally important decisions were made. Between November 2 and 10, a group of central and provincial leaders met at Chengchow, Honan. Having seen some of the problems in the countryside and sensing the concern of his colleagues, Mao attacked "commandism" and the "excessively communist" workstyle of some local cadres. In some places, too large a percentage of produce was being requisitioned for investment, leaving too little for consumption. Likewise, some overzealous cadres were confiscating private property and disregarding the material welfare of the peasants altogether. Mao urged caution in implementing the Great
Leap in the rural areas and suggested that in the transition to communism, "it is better to go slow." The leaders reconvened on November 21 at Wuch'ang, Hupei. During meetings lasting until December 10, the Great Leap policies were vigorously debated and suffered their first major setbacks. Alerted to the overinflated nature of Great Leap economic statistics by their summer tours, the leaders reduced the output targets set at Peitaiho. The goal for steel production, for example, was to be reduced from 30 million tons to 20 million. However, when the Sixth Plenum issued its final report, "Resolution on Some Questions Concerning the People's Communes," it was evident that more than output figures was being revised. "Commandism" was strongly denounced as was excessive "communist style." Peasants were to be assured the continued possession of their private belongings, bank deposits, small tools and domestic livestock. The resolution affirmed the socialist principle of "from each according to his ability, to each according to his work." The policy of a gradual transition to communism was underlined by renewed emphasis on three-level commune administration. Finally, whether under pressure to do so, or fearing a succession struggle after his passing, or simply anticipating opposition to his leadership in the wake of Great Leap and communization excesses, Mao announced his decision not to accept another term as Chairman of the People's Republic.

The Wuch'ang meetings symbolized a tactical retreat, an effort on the part of proponents of the "three red banners" to eliminate abuses, tighten control over implementation and consolidate what had been accomplished. Further investigations during the winter and early
spring, however, revealed that the situation was much more serious than originally thought. About the time of the first Wuch'ang meeting, P'eng Te-huai was touring Hunan province and encountered decreasing production. T'ao Chu found that some brigades and teams "concealed their harvest crops from higher authorities and divided the concealed grain among their own members." Moreover, peasant resistance also took the form of sabotage. Draft animals were killed and tools destroyed. Furthermore, lack of a sense of personal responsibility and inexperience led to distressingly high mortality rates among collectivized livestock. Another element to suffer catastrophic destruction was farm machinery. After the May 3, 1958 State Council decision, ownership and control of tractors and machines formerly operated by Machine Tractor Stations was transferred to the purview of the APC's and subsequently to the communes. Probably the major cause of the destruction of the agricultural machinery released to the communes was the failure, either willful or through neglect and uncertain responsibility, of the former owners and operators properly to train and supervise the new users. By the end of 1958, about 70% of the nation's tractors had been dispersed to the communes. During the Cultural Revolution, Red Guards charged that Liu Shao-ch'i and his accomplices attempted to sabotage commune operation of agricultural machinery by abolishing the agricultural machinery administration of the Ministry of Agriculture, and handing over machinery to "ill-prepared peasants." They:

    hastily and universally handed over tractors to the communes as though they were "getting rid of a burden"... They very quickly handed over large numbers of tractors
to the communes with no regard for the conditions of the latter. In some places, after a meeting was held in the morning, the tractors were driven away in the afternoon. Because the communes had no experience in the operation of tractors and had no time to have themselves well prepared for this ideologically, organizationally, technically and materially, they experienced for a time great difficulties in the management of operations. For two whole years, they had not transmitted any documents to the lower level nor had they convened any conference in respect of the promotion of mechanization by communes... For a very long time, the promotion of mechanization by communes was in a state of having nobody to assume leadership. Because the leading cadres of communes were inexperienced... the machines and tools were seriously damaged due to improper maintenance. Over a period of three years... there were more accidents, more inefficient tractors, more unservicable tractors, more unproductive operations, and more operations for non-agricultural production.196

Whether deliberate or not, the result of inexperience in operating, managing and maintaining commune-owned agricultural equipment was a series of "grave" problems. There was substantial "damage to engines and loss of life," including 86 deaths and 161 injuries in 15 provinces, municipalities and autonomous regions.197 The production of spare parts was also reportedly disregarded by central authorities, with the result that 20 per cent of the tractors were forced to suspend operations while "40-50% of draining and irrigation machines need urgent repairs."199

Despite the growing evidence of problems, not all leaders were yet convinced of the necessity of a complete retrenchment. At a January National Conference of Directors of the CCP Rural Works Departments, T'an Chen-lin and Teng Tzu-hui would "advocate leading the people's communes into a gigantic winter cultivation movement, centered on manure accumulation," and would discuss "measures to
achieve a still greater leap forward in rural work in 1959."^200

However, by early March, when the leadership again met at Cheng-chow, the GLF policies were in serious trouble. Mao was clearly under substantial pressure from his opponents on the Politburo. A major article by Ch'en Yun in the March 1 issue of Red Flag, for example, reflected his continuing disagreement with Mao. Ch'en advocated a resumption of the shift of industry to the inland areas, citing proximity to needed raw materials, closeness to areas of consumption and national security considerations. In contrast to the GLF goal of simultaneously emphasizing local and national industry, Ch'en says, "it is necessary in building up the industrial system to begin from the national standpoint, and later to consider the development of the cooperative area, provinces, and autonomous regions." Conflict in allocation of resources should be "resolved in accord with the principle that the small project should yield to the big project, the part should yield to the whole," because to "try at this time to plan the establishment in one province or autonomous region of a complete, fully equipped, fully competent indigenous industrial system is not realistic." He stressed the strengthening of management, and the importance of expertise, emphasizing the existence in China of 200,000 trained engineers.

On at least one point Ch'en and Mao seemed to agree. While Ch'en emphasized the centrality of the national industrial complex to development, he also recognized that medium and small-sized enterprises, spread across the country, could play an important developmental role. He emphasized the speed with which they could be constructed, their
low cost and technical level, and the consequent advantages for China's self-reliance in machine-building. However, rather than building these factories at the commune level, Ch'en advocated spreading industry to the medium- and large-sized cities on the interior. Moreover, warning against emphasis on speed to the neglect of quality, Ch'en argued that the Party must play a crucial role in coordinating the desires and plans of the central leadership with the initiative of the masses and the expertise of the technicians.

At the second Chengchow conference in March Mao confessed his own relative ignorance of economic planning, and revealed that despite a good 1958 harvest, state grain purchases were actually quite poor. He acknowledged that the communes appropriated too much labor, capital and foodstuffs, creating alienation among lower cadres and masses. He compared the policy of creating equality between rich and poor brigades to piracy, and advocated reducing the authority of the commune while making the production team the basic level for accounting and allocation of work and income. Finally, echoing Ch'en Yun's concern with coordination, K'o Ch'ing-shih and T'ao Chu (usually seen as Mao's supporters) raised the slogan, "The whole country as a chessboard."

From March 25 to April 1, the Politburo held another enlarged meeting on the problems of the GLF. Po I-po, long an advocate of heavy industry and an opponent of concentrating scarce resources on agricultural mechanization, reportedly demanded higher steel targets and a shift away from the construction of more plants for agricultural machinery. Likewise, after the Seventh Plenum, which decided to
overhaul the communes and reduce the basic accounting unit to the 
brigade, Po told a National Telephone Conference of machine-building 
representatives that "the outstanding feature in the machine building 
industry this year...was the need for big machinery requiring complex 
technology." This was obviously a long way from Mao's emphasis on 
the rural areas and agriculture.

The most far-reaching and blistering attack on the Leap, of course, 
occurred at the Lushan conference of July and August 1959. P'eng 
Te-huai, who had fired the opening salvo at the Seventh Plenum by 
accusing Mao of "assuming command in person" and disregarding the 
Politburo Standing Committee, again took the lead in criticizing Mao 
and his policies which he characterized as suffering from "serious 
one-sidedness" and "petty-bourgeois fanaticism." Mao retorted that 
it was the fault of middle-level cadres in not following the directions 
of their superiors (presumably himself) that had led to "leftist" 
errors. As Mao saw the situation, "the 'left' tendencies had been 
rectified since the first Chengchow Conference; therefore the major 
danger at present was 'right opportunism.'" Mao personally accepted 
responsibility for the GLF, together with K'o Ch'ing-shih and T'an 
Chen-lin, and challenged his colleagues to chose between P'eng Te-huai 
and himself, threatening to "go fight a guerrilla war" if he lost the 
vote.

The outcome of the challenge to Mao's policies and position 
throughout the summer of 1959 did not represent an unmitigated loss 
for the Chairman. Ch'en Yun had absented himself from the Lushan 
conference, but Po I-po had reportedly arrived "prepared to give a
speech against the Three Red Banners, which Hsueh Mu-ch'iao and Sun Yeh-fang had drafted for him. He dropped this, however, in favor of a speech supporting the Three Red Banners when he saw P'eng Te-huai being crushed at this meeting. With most of P'eng's supporters cowed, Mao engineered the purge of the "P'eng-Huang-Chang-Chou rightist clique" at the Eighth Plenum. Despite the fact that Mao had withdrawn as candidate for the State chairmanship, he at least temporarily had consolidated his position politically.

Similarly, at and following the Lushan Plenum, the record on Mao's GLF policies is somewhat mixed. The communique of August 16 lowered targets, corrected 1958 production figures and basically scrapped the "backyard furnaces." Furthermore, the Plenum established the production brigade as the basic unit of accounting, production and pay in the countryside. This would give the individual peasant a little more control over his labor and his produce, and lessen the ability of the commune to engage in excessively "commandist" or "communistic" leadership. However, these changes should not necessarily be construed as having been made against Mao's wishes. "There was evidence that Mao himself apparently agreed with some of P'eng's criticisms. In a letter sent to production teams soon after the Lushan conference, he endorsed the system of fixing output quotas for the teams." And he had already gone on record as favoring the use of the team or brigade as the basic accounting unit.

Likewise, Mao retained a number of Politburo and top government supporters. T'an Chen-lin had been elevated not only to the position of deputy director of the CCP Rural Works Department in October 1958,
but in April 1959 he was made a vice-premier of the State Council as well. Lin Piao supported Mao, and apparently even Li Fu-ch'un, Li Hsien-nien and Po I-po "stood firm" against P'eng Te-huai's attack. When all the evidence is weighed, in fact, it seems reasonable to conclude that "there must have been substantial intra-Party consensus concerning the necessity of introducing liberal economic and administrative reforms in the countryside," and that Mao may have formed a part of this consensus.

The retreat from the Great Leap, of course, had a direct impact on the machine-building industry. Chao Erh-lu, minister of the first Ministry of Machine-Building, reported that China had reduced her dependence on foreign equipment from 40% before the Leap to 22% in 1958, and he anticipated a further reduction to 20% dependence in 1959. Moreover, he announced that China now produced for herself an increasingly wide array of high-technology items, many of them related to national defense. Nevertheless, in 1959 Soviet machinery was still the key to industrial modernization as the 20% to 22% of machines China imported were almost certainly the most sophisticated and technical of the machines she needed. Reflecting this fact, a new economic aid agreement in February 1959 promised Soviet aid in the construction of 78 huge industrial plants in the metallurgical, chemical, coal, petroleum, machine-building, electric machinery, electronics, building, and other industries. The deal also included exchanges of experts and training of Chinese technicians in the USSR. Machinery imports skyrocketed to $658 million, a new all-time high of 40 per cent of imports.
Throughout early 1959, the leadership had continued to project high levels of industrial investment. However by the summer, rural difficulties were increasing. One report stated that the "natural calamities in 1959 were the worst we suffered in many decades." Rations of grain, oil and sugar were cut. Moreover, the after-effects of the Great Leap were exacerbating the natural problems. Land lost due to alkalinization or salinization from poorly planned water conservancy projects was now unproductive. Tools that had been broken, draft animals that had died of neglect or had been killed, tractors and machinery that had broken down and weren't repaired (or repairable) all had to be replaced before production could be raised.

As early as 1956 Mao had begun calling for the establishment of a better balance between industry and agriculture. In June and July, 1959, in the face of these economic problems he became more insistent. At the Lushan Conference, he called for the creation of a ministry of agricultural machinery, and having been relieved of his duties as Chairman of the People's Republic of China, reportedly even offered to serve as minister of the agency himself. During the Great Leap, the investments of the FFYP had quietly begun to pay off. In 1958 tractor plants in Tientsin, Anshan and Hangchow came into production. In November 1959, the massive Loyang Number 1 Tractor plant also would begin mass production. Thus, Agricultural machinery registered rapid growth in the 1958-62 period. The quantity of steel products consumed by the agricultural machinery industry in this period was more than 3 times that in the First Plan period. Official statistics indicated that, compared with the First Plan period, the following output increases were
achieved: a nearly fourfold increase in powered threshing machines, a more than eightfold increase in powered powder sprayers, and a more than tenfold increase in powered drainage and irrigation machines for farms.219

At the same time, the firms under central leadership were growing, a trend of recentralizing enterprises released to lower administrative levels in the euphoria of 1957-58 was emerging.220 The result of these several factors was that at Mao's insistence the fifth meeting of the Standing Committee of the National People's Congress established a Ministry of Agricultural Machinery with Ch'en Cheng-jen in charge.221 Ch'en, of course, was a supporter of Mao's collectivization policies and, along with Ch'en Po-ta, had been "infiltrated" into the CCP Rural Works Department in 1955. Early in 1960, he published an article in Red Flag outlining his view of the situation.222 The article probably stands out as the best official explanation for the creation of a new government agency ever released by the Chinese, and consequently bears examination. First, he said, the "argument that agricultural cooperation cannot be achieved without mechanization has been proved to be completely wrong." However, due to the greater capacity of communes to accumulate capital, a number of them are "urgently demanding more agricultural machinery." But "some comrades" (presumably Po I-po and others) "do not take the technical transformation of agriculture seriously," stressing only heavy industry. "Over this question, we should rectify our incorrect views, and unify our thinking so as to insure accelerated technical transformation of agriculture."

Ch'en announced that the total mechanized horsepower in rural China amounted to 6,000,000 H.P. but that only 5 per cent of the total cultivated area was mechanically farmed. The plan was to mechanize
agriculture "on a small scale within four years...on a large scale within ten years." In order to accomplish this,

it is essential to build up a system of agricultural machinery industry up to a modern technical level within several years. [sic.] This is the most urgent and practical task at the moment."

Moreover, accomplishing this feat will necessitate "energetically" accelerating capital construction for new enterprises. The strategy would be to

lay emphasis on the simultaneous development of big enterprises and medium and small enterprises with priority to medium and small enterprises. Does this mean that big enterprises are of no importance? Of course not. Big machinery for building and water conservation projects in the rural areas still occupy the leading position in agricultural machinery.

Big enterprises were to serve as the "backbone" of the program.

The ministry, in addition to running these big programs, was to strengthen cooperation with other departments of industry concerned, particularly with other departments of machine-building, and insure mutual adaptation and promotion between the construction of agricultural machinery and the construction of machine-building as a whole.

Furthermore, in promoting the policy of developing "central and local enterprises simultaneously," the ministry would be responsible for overseeing the training of about "200,000 senior technical persons and nearly a million intermediate and junior technical persons" over the next ten years. Finally, Ch'en's new organization would be responsible for linking the state, Party, masses and experts in the program of agricultural mechanization:

experiences in the mass movement should be systematically summed up and the valuable fruits obtained in the movement should be fully utilized...the administrative machinery for farm implement innovations should be brought to
perfection...importance should be attached to discovering outstanding models of technical innovations...technical cadres should be systematically fostered among the peasant masses...Material aid should also be increased to the peasant masses.

F. Summary

The establishment of the Ministry of Agricultural Machinery in 1959, since it was the last change in the national governmental structure involved in civilian machine-building during the period under consideration, provides us with a convenient place to pause and take stock of the status of the six developmental questions facing the Chinese.

1. In 1959 the PRC was increasing its reliance on the USSR for machines and the machine-building industry. Imports of machinery reached $658 million and a 40 per cent share of the total. The USSR was to build 78 new plants. However, Soviet-style development strategy was under severe attack in China; the strain on the Sino-Soviet relationship was increasing. Within a year, an open break would occur and dependency on China's "socialist brother" would be forcibly shattered.

2. Investment in 1958 and 1959 was very high. Planned state investment for 1959 was almost double that of 1957. In addition, billions of yuan had been invested by collectives and communes, and billions of man-hours of labor had been expended.

3. The vast bulk of state investment was still allocated to heavy industry. The ratio of investment in heavy vs. light industry in 1958 was higher than any year but 1955. A policy of "dualism"
was encouraged in which the state would build heavy industry while the collectives would use their own resources to develop agriculture and light industry. In August 1959, a ministry was created to coordinate the activities of these two sectors.

As in the above two decisions, China, with respect to sectoral investment, stood at a turning point. While this will be discussed below, it is appropriate now to point out that China would soon begin to seek new trading partners (especially Japan and western Europe) to meet her machinery needs; she would have to reduce investment substantially in the wake of the Great Leap failures and natural disasters; and she would, between 1960 and 1962, realign her priorities to emphasize agriculture followed by light, then heavy, industry.

4. Central planning from late 1957 to late 1959 suffered severely. Decision-making authority was fragmented as the central government, local Party and government agencies, and mass campaign leaders all strove to implement a bewildering array of policies which were both ambiguous and constantly changing. Moreover, the local officials responsible for actual production performance were operating under tremendous cross-pressures, receiving instructions from disparate groups of leaders, all with uncertain authority but potentially vital capacity to reward or punish. They also had to face the "masses" on a day-to-day basis, explaining decisions which they often didn't understand or with which they may not have agreed. In addition, there was no mechanism established to coordinate and clarify, only injunctions to "put politics in command" and to "rely on the masses." Under these circumstances many, perhaps most, of the top leaders
agreed that the situation demanded better coordination and planning. In industry, this would take the form of recentralization. In agriculture the solution would be, in some respects, the reverse. Decision-making was progressively decentralized. In August 1959, the production brigade was made the basic agricultural accounting unit. In 1962, the production team became the primary level of organization. By contrast, the commune lost many of its functions and much of its importance.

5. As with the degree of centralization, the leadership in 1959 was beginning to move back in the direction of large, central, urban, high-technology, capital-intensive and "expert-oriented" industrial enterprises. Moreover, the activities of these plants were soon to achieve better coordination through the establishment of "trusts" like the China Tractor and Internal Combustion Spare Parts Company and later the China Tractor and Internal Combustion Engine Industrial Company. 223

On the other hand, many small-scale rural enterprises still existed. The most inefficient, wasteful and uneconomical had been shut down; others had been temporarily demobilized. But the rural industrialization program was to be revived and maintained as an important developmental tool.

6. Finally, by 1959, the geographic distribution of industry had been altered somewhat. "The proportion of machine-building plants in the hinterland rose from 25% in 1955 to 51% in 1958; the proportion of machine-building workers in the hinterland to the total of machine-building workers increased from 33% in 1955 to 48% in 1958. 224 To be sure, some of these were demobilized during the "three bad years," but much of the infrastructure remained. Moreover, while some
geographic shift had occurred between the large, coastal, developed areas and the inland, the more salient change may have been between the large city and the medium-sized and small city within the same province or geographic area. 225

G. The Machine Building Industry and the Military

In the preceding pages I have discussed changes in the State Council structure dealing with the civilian machine-building industry. However, between 1952 and 1965 there were a large number of changes in the military machinery bureaucracy. With the exception of the organizational contraction of 1958, the direction of this change has uniformly been organizational proliferation. In order to understand the reasons for this expansion, it will be necessary briefly to outline the domestic and international economic and political context within which the expansion took place.

The formation of a military machine-building ministry in 1952 has already been discussed. It was hypothesized that the ministry was necessitated by the massive import of Soviet equipment and by the advent of substantial domestic production of relatively more sophisticated military hardware for use in Korea and in rearming afterwards. Soviet aid during the Korean War had been substantial. By June 1952 the USSR was supplying the Chinese with light and medium machine guns, sub-machine carbines, anti-tank grenades, 105mm and 152mm artillery, rocket launchers, T34 medium tanks, and MIG15 and IL28 jet fighters and bombers. There was also a large, but undetermined, number of Soviet military advisers. 226 However, during this period the bulk of
Soviet assistance apparently went for resupply with little or no effort made to develop a modern armaments industry.  

Once the war was over, a debate took place within the top levels of the Chinese leadership over the general issue of the allocation of resources between civilian economic construction and the reinforcement of the military establishment. Many of the military professionals, especially those like Liu Po-ch'eng, Su Yu and Yeh Chien-ying who were associated with the PLA General Staff, felt that the only way to safeguard China was to increase military spending. By taking advantage of the willingness (albeit limited willingness) of the USSR to supply military equipment and technology, the PRC could strengthen itself and protect itself against the threat it perceived from imperialist aggression in Japan, Taiwan and Vietnam. Mao, supported by the economic planners and the Ministry of Defense, disagreed. They felt economic construction and reduction of inflation should be the primary goals.

The result of this debate appears to have been something of a compromise. In addition to the introduction of military policies of regularization and professionalization (like the awarding of ranks in 1955), China would continue to devote some of her scarce foreign credit to the acquisition of military hardware. For example, in 1955 "China began to take delivery from the Soviet Union of the later MIG-17 model," and in the transfer of Port Arthur reportedly, "received over 80 warships of various kinds, including 2 fast destroyers of 1,600 tons and 5 submarines of which 2 were ocean-going."
China would also continue to invest sizeable amounts of capital in military industry at home. Furthermore, a substantial proportion of the machine-building industry was devoted to military uses. "Of the 6.93 billion yuan for capital investment in metal-processing industries, 2.52 billion yuan, or 36 per cent, went to the defense industry." Moreover, Cheng surmises that at least 33 of the "above norm" projects undertaken in the FFYP were defense related, out of a total of 86. Given a two to five year period for construction, many of these plants must have been coming on line in 1956, or were expected to within another year or two.

1956 was something of a turning point with respect to defense-related issues in China. Up until 1955, the defense budget had continued to rise in absolute terms. It would seem, too, that a larger and larger portion of this budget was being devoted to building a domestic "military-industrial complex." Soviet exports of military equipment were dropping off rapidly while domestic production showed a corresponding increase. Similarly, by 1956 the growth rate of defense-related machine-building industries was outpacing the growth of the civilian machinery sector for the first time. The Chinese were also capable of producing, by themselves, a wider array of more sophisticated weaponry. Pursuant to the October 1954 Sino-Soviet agreement, a joint scientific and technological commission and a joint non-ferrous rare metals company had been set up, and "Soviet military aid in 1955 allowed China to take the first steps in nuclear research, with a Soviet supplied experimental reactor in Peking, and the training of Chinese atomic scientists at the Joint Institute for Nuclear Research.
at Dubna in the Soviet Union." In 1956, under the supervision of
Ch'ien Hsueh-sen, China was producing MIG-17's on her own. In 1957,
Lt. Gen. Ch'iu Ch'uang-ch'eng, later minister of the Fifth Ministry
of Machine Building, claimed that China was making "artillery pieces
and supplies capable of all types of combat." The build-up of a military equipment industry was accompanied in
May 1955 by a massive reduction in force to about 2.7 million men
under arms. At the same time, procurement of military equipment was
increased until by 1957, "more than half of the defense budget was for
the procurement of equipment and weapons."

One outcome of the debate over the role of the military in China,
however, was a military budget cut in 1956. Despite disagreement and
dissent, only ¥ 6,141,391,000 would be allocated for national defense,
a reduction of 5.52 per cent compared with military expenditures the
previous year. This allocation represented 19.98% of state expendi­
tures, or a 2.17% cut as compared with the previous year's proportion
of the state budget. By contrast, expenditures on economic development
went up 17.04%; spending on culture, education, science and public
health rose 25.34%. The need to coordinate the growing military machinery industry
in a time of budgetary cutbacks apparently induced the leadership to
create a new ministry taxed with this responsibility. Chosen to
head the agency in November 1956 was Sung Jen-ch'lung. His appoint­
ment has all the earmarks of a delicate political compromise. Sung,
born in 1904 in Liuyang County, Hunan Province (some 65 miles from
Mao's home town) attended Whampoa and joined the Party in 1926.
He began his career, unlike most of his CCP contemporaries, as chairman of the Changchun Peasant Union in 1927. After joining Mao's forces on Chingkangshan, he became a political commissar in the Red Army and, during the Long March, was commissar of the Red Cadres' Regiment responsible for protecting the top-level leadership. Associated with Liu Po-ch'eng's command, Sung was chosen to replace Liu Chih-tan as commander of the Red 28th Army. He spent much of the pre-1949 period directly under Teng Hsiao-p'ing, rising to the level of political commissar of the 4th Army Corps of the Second Field Army, and was one of the select few elected as an alternate member of the Seventh Central Committee of the CCP in 1945. After liberation, he held a number of important posts, briefly including a vice-chairmanship of the Nanking Military Control Commission. Almost immediately, however, Sung moved to the southwest, again working under Teng Hsiao-p'ing, now as chairman of the Kunming Military Region, chairman of the Finance and Economic Committee and member of the Yunnan PPG, and first deputy-secretary of the Southwest Bureau of the CCP. In 1954, he moved to Peking as a member of the National Defense Council, being promoted to Colonel-general in 1955. Also in 1955, Sung was identified as a deputy secretary-general of the CCP Central Committee and deputy director of the PLA General Cadres Department. As a result he was once again working directly under his former mentor, and one of Mao's strongest supporters, Teng Hsiao-p'ing, who had become secretary-general of the Central Committee in 1954. Thus, Sung had all the necessary ingredients for a compromise choice as minister of the Third Ministry of Machine-Building. His long and distinguished military career,
associated with Liu Po-ch'eng, (one of the "losers" of the 1954-5 debate), made him at least minimally acceptable to the proponents of increased defense spending and professionalization of the military services. At the same time, his links to Mao via Chingkangshan and the Long March, and to Mao's supporter, Secretary-General Teng since the 1930's, probably made him seem like a politically reliable ally for the Chairman. Moreover, he had acquired economic and financial as well as military administrative experience during his long career.

In early 1958, as discussed above, a government reorganization took place. Part of this reorganization was the consolidation of the Second and Third Ministries of Machine-Building. While it is difficult to know exactly what each ministry is responsible for, especially when some of its activities are shrouded in national security, both of these ministries are known to have been heavily involved in the defense industry. However, as a November 12, 1957 People's Daily article makes clear, the "defense industry" also produces a wide array of civilian-related commodities. Among those products identified by this article were: aircraft, busses, 2-1/2 ton trucks, jeeps, small locomotives, motorcycles, bicycles, "38 kinds of major equipment for the chemical industrial plants," optical glasses, various electronic and scientific devices, chemicals, telecommunications equipment, sewing machines, typewriters, calculators, alarm clocks, and flashlights. With the military budget having been cut further and further since 1955, and with decentralization of enterprises the order of the day, it seems reasonable to assume that some enterprises were turned over
to lower administrative levels, some to the First Ministry of Machine-Building (and possibly to other agencies as well), and that the remaining key defense plants were unified under the single defense equipment industry ministry.

The years 1960 to 1965 saw an expansion of the State Council machine-building apparatus from this single ministry dealing with military equipment during the Great Leap Forward to six ministries involved in national defense procurement and production on the eve of the Cultural Revolution. Because these ministries are involved in military affairs, a greater aura of secrecy surrounds their activities. Top leaders seldom if ever speak about their functions, and occasionally we do not even have precise information about their staffing or the date of their founding.

Nevertheless, it is possible to reconstruct the context within which these ministries were created, providing in the process a reasonable explanation for their emergence. The five years under consideration entailed for China two primary sets of circumstance. First, the strains in the Sino-Soviet alliance which had begun to show as early as 1956, and which had existed sub rosa for decades, broke into the open in 1960 and increased in intensity throughout the period. The intensification of this dispute increased the need for Chinese self-sufficiency in the military industry.

Secondly, beginning in 1959 and intensifying through 1962, China faced severe domestic problems of both an economic and a socio-political nature. Following a good harvest in 1958, three years of bad weather, and the destructive effects of the Great Leap Forward, compounded by
the Soviet withdrawal of aid and advisors in late 1960, created a
tremendous strain on China's economy. Almost all economic spheres
suffered setbacks. Grain production and consumption were down sharply,
industry suffered a depression, transportation was disrupted, social
welfare benefits were curtailed. The political effects of the "three
bad years" were also manifold. First, economic dislocation and loss
of faith in the leadership caused a variety of socio-political prob­
lems at the local level. Second, the elite became increasingly frag­
mented and polarized; most accounts date the leadership struggle that
finally erupted in 1966 to bitter disagreements engendered by the GLF
and subsequent retrenchment. Finally, it seemed, at least to Chinese
leaders, that hostile forces outside of China were taking advantage
of temporary weaknesses on the mainland to bring about or hasten the
fall of the Communist regime. Perceived provocations in India and
Tibet in 1959; probes in India, Sinkiang, Laos and on the China coast
facing Taiwan in 1961–62; and the escalation of American involvement
in Vietnam in 1964–65 all seemed to be imperialist designs to over­
throw the People's Republic.

All of these factors demanded that a regime determined to stay
in power attempt to strengthen the military forces at its command.
With the one foreign power upon which China had relied for aid no
longer friendly, this would have to be done domestically. It is not
possible to explain exactly why each military machine-building minis­
try was created at the particular time it was, but within the context
of this five year period, the expansion of a "military-industrial
complex," even in times of financial-economic stringency, is entirely
understandable.
Soviet military assistance during and after the Korean War had been primarily in the form of conventional weapons of a defensive nature. As a result, by the late 1950's China was already approximately self-sufficient in the production of light and medium weapons. Sophisticated and heavy-duty military hardware were another story. China produced MIG-17's, under Soviet license, during the late 1950's but by 1960 still possessed only between 2,500 and 3,000 aircraft. Of these, about 2,000 to 2,500 were jets, four-fifths of them fighters. China possessed a few IL-28 light bombers, and reportedly had one squadron of TU-4 heavy bombers. That the Chinese air force was heavily dependent on Soviet supplies of spare parts is suggested by the fact that between 1960 and 1967 the PLA Air Force was reputed to have been down in strength by one-third. Furthermore, one authority reported that by 1964, "about 500 planes" had been "grounded or dismantled since 1960, including about 200 in 1963 alone."\footnote{241}

Similarly, in tanks and artillery, by the mid-1960's the PLA's Armored Command was suffering from obsolescence and the lack of spare parts. The backbone of China's armored force consisted of the T-34 and T-54 tanks, holdovers from World War II and Korea. The Chinese navy was composed almost exclusively of coastal craft, most of them either acquired in the assumption of power in 1949 or in the transfer of Port Arthur.\footnote{242}

Thus, up to 1960 the Chinese had been kept almost entirely dependent on the Soviet Union for heavy and sophisticated conventional military equipment. The situation with regard to nuclear weapons was exactly the same. At least from the time of the military debate of
1954-55, a number of high-level Chinese officers and decision-makers had advocated the acquisition of nuclear technology and armaments for the PRC. Pressures were applied on the USSR to share their knowledge with bloc countries. In 1955, the two countries signed a technology-sharing agreement. As a result,

Shortly after the Soviet Union had agreed to provide China with an experimental atomic reactor, the Academy of Sciences was reorganized and its growth accelerated. By mid-March in the following year, responsibility for the coordination of scientific work in China was taken from the Academy of Sciences and given to a new organization called the Scientific Planning Committee, and the drafting of China's twelve-year plan for science was initiated. In March 1956, the Joint Nuclear Research Institute was set up at Dubna in the USSR to train bloc scientists and engage in research.

By 1957, the Chinese had been successful in getting increased Soviet military aid. On October 15, an agreement on national defense technology was signed. Whether the agreement specifically promised to "provide China with a sample of an atomic bomb and technical data concerning its manufacture" is uncertain, but the Chinese certainly felt that it did. However, when Mao gave his famous "East Wind Prevails Over the West Wind" speech in Moscow in November, his assessment that the Soviets' newly-developed ICBM and newly-launched Sputnik had fundamentally altered the balance of forces in favor of socialism, caused his Russian comrades to reevaluate the wisdom of providing nuclear weapons to their adventurous colleagues in Peking.

During the period from late 1957 until mid-1960, the Russians continued to aid the Chinese in developing their own missiles and aircraft, and probably in working toward construction of their own fissionable materials production. But it is quite clear that, at some point between November, 1957 and May, 1958, the Russians disclosed the
"strings" they placed on any disposition of nuclear warheads: Soviet control in a joint enterprise.\textsuperscript{245}

This idea was rejected by the Chinese government. The ambivalent nature of Sino-Soviet cooperation in 1958-9 was clearly reflected in the sphere of science and technology. On January 18, 1958, a protocol was signed providing for joint research on 122 projects to be conducted between 1958 and 1962. This was followed in November by a reorganization of the Chinese research apparatus. Presumably the better to conduct these and other projects, the former Scientific Planning Committee and the National Technological Committee were merged to form a National Scientific and Technological Commission.\textsuperscript{246} However, this cooperation was marred by distrust and suspicion. A Soviet scientist working in China in 1958 reports that he met a young Chinese colleague with whom he struck up a friendship.

He took leave of me, promising to come and see me again, and to show me around the Physics Institute. In fact, he did come again, but he never invited me to the physics lab in return. I understood that they were working on nuclear physics there, and a visit by a Soviet scientist was not welcome at the time.\textsuperscript{247}

As a result of these strains, the Soviet Union abrogated the nuclear sharing agreement in June 1959, and the next summer withdrew all of their technicians and aid.

This blow from their socialist colleagues fell at the worst possible time for China. First, the country was suffering from the severe economic, political and social fallout of the "three bad years."\textsuperscript{248} Exacerbating her domestic problems were a series of international confrontations and crises between 1958 and 1962 which strained China's weakened military capability.\textsuperscript{249} Moreover, Mao's post-Great
Leap political eclipse opened the way for an increase in defense spending from the all-time low of ¥ 5 billion in 1958 to some ¥ 5.8 billion in 1959 and 1960. This represented an exceptionally high estimated proportion of machine-building output of 45% for defense purposes.

Building on the expertise of such top-notch scientists as Chou P'ei-yuan, Wang Kan-chang and Ch'ien Hsueh-sen, and the experience gained at the joint research facility at Dubna, the Chinese continued to place heavy emphasis on attaining an independent nuclear capability and on the development of a missile and satellite program. Such programs are expensive. The Chinese gasseous diffusion plant cost an estimated one billion dollars. The nuclear weapons program alone is estimated to have cost approximately 2 per cent of China's gross national product. Now, with the withdrawal of Soviet assistance, the Chinese would have the added expense of training engineers and scientists for national defense. In addition, the PLA would find itself without a foreign supplier of military spare parts and replacement equipment. As a result the Second Ministry of Machine-Building was split into two agencies in September 1960.

The new Second Ministry of Machine-Building was to coordinate China's nuclear rocketry and satellite programs. Sung Jen-ch'iuang, the old-style politico-military leader and associate of Mao, was relieved of his post as minister and transferred to a political-military position in Manchuria. His replacement was Liu Chieh, formerly "China's chief representative to the Joint Nuclear Research Institute Conference at Dubna" in 1956. The new Third Ministry
of Machine-Building was reportedly responsible for conventional armaments and heavy infantry weapons. It was headed for a short time by former Director of the Second Bureau of the Second Ministry, Chang Lien-k'uei. Among the vice-ministers were "Liu Ting, former director of the General Bureau of Arsenal of the PLA; Cheng Han-t'ao, former deputy director of the same Bureau; [and] Chao Ch'i-ming, a former commander of the Center-South Fleet, PLA." Chao's early responsibilities may indicate that the ministry at this time also oversaw China's modest naval program. In any event, in January 1961 a new minister was appointed, Sun Chih-yuan.

Sun's appointment at this particular time is noteworthy. In 1961 the Military Affairs Committee ordered the PLA to establish and operate its own spare parts program. Moreover, the Chinese "in 1961 launched a development program to improve their weapons and equipment - with emphasis on guided missiles with nuclear warheads, surface-to-surface missiles for long range artillery, antiaircraft and antitank guns, medium tanks, self-propelled guns, and armored cars." As Samuel B. Griffith noted, this kind of program cannot be conducted "by traditional handicraft methods and 'back-yard' operations." An expert had been appointed to coordinate the nuclear related activities of the Second Ministry. Similarly, the Third Ministry was staffed by three expert vice-ministers and presided over by an expert-bureaucrat. Sun Chih-yuan had come to Peking in 1952 as deputy secretary-general of the Government Administrative Council (the forerunner of the State Council. This is a position of great potential influence, especially in coordination of government activities.) In October 1954, he
became deputy director of Po I-po's Third General Office of the State Council, which was "in charge of coordinating and supervising the work of ministries and commissions in the heavy industry and construction field." He was concurrently appointed vice-chairman of the State Construction Commission. He remained a member of the latter until 1964, even while serving in the Third Ministry of Machine Building. Finally, Sun was appointed to the prestigious position of alternate Central Committee member of the Eighth Party Congress (second session) in May 1958.

Perhaps due to the combination of Sun's knowledge of the Peking bureaucracy, and of planning and construction requirements, and the expertise of his vice-ministers, the military machine-building authorities "made considerable headway during the early 1960's in implementing the program and greatly increased the firepower and mobility of the PLA's combat units." Military appropriations had remained high in 1960, but with the economic depression in 1961 total military procurements suffered a substantial cut. Nevertheless, the percentage share of machine-building output devoted to the defense industry appears to have remained at about 40 per cent. Thus, even at a time when the domestic civilian economy appeared to be in serious trouble, the Chinese continued to devote a large portion of their resources to military equipment.

By 1963, as China began slowly to pull out of her economic depression, she also began to devote even greater effort to military development. Gross value of machinery output had recovered from the all time low in 1962 of ¥ 6560 million to ¥ 7870 million in 1963, but now an
estimated 50% was devoted to military products. A large proportion of this was going into the development of high-technology equipment. No doubt, spurred on by the immanent explosion of China's first nuclear device in 1964 and the need for a delivery system, the Chinese by 1965 were able to report that, "the technology of electronics... has made great strides since 1958...first of all to satisfy demands of national defense." Additionally, by the early 1960's, China had five major electronic components factories in production, manufacturing televisions, radio sets, telephone exchanges and computers. As a result of these developments, a new, Fourth Ministry of Machine Building was created in May 1963. Picked to head it was the highly experienced military-technocrat, Wang Cheng.

Wang's appointment, too, is particularly significant. In the late 1920's he attended a Nationalist-sponsored school to become a telecommunications technician, and in 1930 was captured in battle by the Communists. He soon after joined the CCP and beginning in January 1931 built the Signals Communication Branch from a shoestring, jerry-rigged operation into an efficient component of the PLA. After the Long March, he set up the New China Broadcasting Station. He remained in military communications and electronics until his death in office as the Minister of the Fourth Ministry of Machine Building in 1978, and was "one of those exceptional leaders who seem to have been shielded from the heavy protocol duties which consume so much of the time of so many Chinese Communist leaders." The rapid expansion of heavy equipment referred to above also led to the establishment in September 1963 of a Fifth Ministry of Machine
Building, specializing in the production of artillery and heavy weapons. Minister Ch'iu Ch'uang-ch'eng was formerly Deputy Commander of Artillery in the PLA, his specialty since receiving advanced training in the subject in the Soviet Union during the late 1930's. His vice-ministers, Chang Lien-k'uei and Chu Kuang, both moved from similar positions under the Third Ministry of Machine Building (conventional armaments). 267

Development of the navy has been one of the slower military programs in China. The PLA Navy today remains a primarily coastal defense force. As late as 1978 its single submarine capable of firing Submarine Launched Balistic Missiles had no missiles to fire, nor, reportedly, the guidance technology to provide them. 268 Nevertheless, the defense program of the early 1960's did affect China's shipbuilding industry. 269 From 1957-60, in addition to an imported 40,000 tons of shipping, the Chinese produced 291,000 tons of their own. By 1963 they were importing 104,000 tons with contracts in 1964-65 for 499,000 tons more. While this expansion is not exactly overwhelming, it does seem to have led to the creation of a Sixth Ministry of Machine Building to coordinate the production of naval equipment and ships. Fang Ch'iang, the new minister, was a vice-admiral with over a decade of naval experience. (Since 1953 he was deputy commander of the PLA Navy.) He had been a vice-minister in the First Ministry when it contained a shipbuilding bureau, hence his selection to this post reinforces the inference that it is in charge of naval production. 270

The last instance of organizational proliferation in the military machine-building sphere occurred sometime in 1964. The Seventh Ministry
of Machine Building "is headed by General Wang Ping-chang, formerly Deputy Commander of the Air Force, which suggests that it probably is in charge of aircraft and missiles." Given the context of escalating American involvement in Vietnam, the debate about the appropriate measures to take, the increased production of spare parts for her aircraft, and the possibility that the Chinese were producing on their own MIG-19's and even MIG-21's, it is again not surprising that a ministry was created to coordinate these activities.

H. Summary and Conclusions

By 1965 machine-building in China had undergone several major transformations. Machinery was no longer an insignificant sector of the economy, totally reliant on foreign suppliers and almost exclusively concentrated in four or five major cities of the east and northeast. Before drawing any conclusions about what the changes in machine-building tell us about Chinese politics or the issue of organizational proliferation, it is necessary to reassess the Chinese position on each of their six developmental choices.

1. The Chinese, up until 1960, and in some respects until 1963, were heavily reliant on the Soviet Union for equipment and machinery. The Soviets were by far the largest trading partner of the Chinese, and a large proportion of this trade was the exchange of Chinese agricultural products for Soviet machinery. Moreover, a large percentage of machinery imports from the USSR, fluctuating from about 57% during the Korean War to around 20% in the late 1950's, was devoted to military
equipment. Thus, despite Mao's apparent desire, expressed repeatedly after 1956, to break away from dependence on the Soviet Union, with respect to Chinese imports, "the most striking feature was the constantly rising importance of machinery and equipment - from about 10 per cent in 1950 to better than 60 per cent during the Great Leap years of 1959 and 1960."^273

Between August 1960, when the Soviets abruptly withdrew their technicians and cancelled most of their aid projects, and 1963, by which time the USSR had cut off almost all delivery of spare parts, petroleum and "specialty" fuels (like aviation and jet fuels),^274 China attempted both to increase her own domestic machine-building industrial capability and to seek foreign purchases of only the most desperately needed equipment from outside the Soviet bloc. Trade with non-communist Europe and with Japan increased substantially, although the new priority on agriculture meant that general machinery and equipment would form only a small portion of that trade. The major machine enterprises imported during the years 1963 to 1965 were complete fertilizer plants; chemical and petroleum plants; and a plant for the manufacture of synthetic fibers.^275

2. State investment reached an all-time high during the Great Leap Forward years of 1958 and 1959, then dropped off sharply, perhaps by as much as 34 per cent, from 1958 to 1961.^276 All sectors were hit very hard by the "three bad years." Food grain output fell from a 1958 high of between 175 and 200 million metric tons to an estimated 130-160 mmt in 1960. The effect of the Leap caught up with
industry after 1960, when, according to one estimate, industrial output dropped from 180 (1957=100) in 1960 to 140 in 1961 to 110 in 1962, and only recovered to 114 in 1963. Henceforth, investment was to be much more closely controlled. The Chinese economic planners exhibited "a renewed preoccupation with internal consistency, balance, and feasibility. They did not soar in the realm of the daring and the fanciful and did not grip the imagination." 277

3. Sectoral investment was entirely changed in 1961-62. Agriculture was now to be the "foundation" of the economy, with first place accorded to grain output. The communes were sharply reduced both in size and in scope of activity; sideline economic endeavors and private plots regained acceptability; rural markets were restored; the production team became the primary unit of accounting, work assignment, and pay; many "social welfare benefits" were curtailed, including communal mess-halls, free distribution of food, and even many health and education programs.

Agricultural mechanization was recentralized, with most farm machinery being returned to the newly-reestablished Machine Tractor Stations. The emphasis was on mechanizing high- and stable-yield areas, including state farms. Similarly, state investment was concentrated in the construction of water conservation, electrification, soil improvement, and transportation projects in the areas where it was most likely to return a high yield.

Industrial investment too seems to have been shifted so that it would serve agriculture. The Chinese declared that light industry
and handicrafts were to receive first priority. Outmoded or unproductive industrial enterprises were to be closed down, and unused existing capacity was to be brought into full play. The sectors receiving highest consideration were extractive industries (coal, metal ores, petroleum, chemical raw materials, timber), and those directly contributing to agriculture. In fact, the "big success story of the period 1961–65 was in the area of chemical fertilizers, pesticides, and insecticides," where both output and utilization increased dramatically. Moreover, the military continued to receive a high proportion of machinery output as the PLA struggled to modernize.

4. Planning, too, was largely recentralized, but with elements of the thinking of Po I-po and Ch'en Yun. A large degree of enterprise autonomy was retained, and the rural free markets were reestablished. However, central control over fiscal matters, investment, and capital construction was tightened. On November 12, 1963 the Agricultural Bank of China was reestablished to coordinate loans and consolidate central financial control over agriculture and to alleviate the capital shortage in the countryside. Similarly, in March 1965 the State Capital Construction Commission was revived to oversee construction projects. While some enterprises were placed back under the purview of the central ministries, the early 1960's also saw a new mechanism for the coordination of activity in a particular economic sector. "Trusts" were established to oversee the production of some items, from the procurement of raw materials, through the acquisition of subsidiary parts to the distribution of the final product. Both the "trusts" and
recentralization, however, "involved first and foremost the reduction in local Party control over economic activities" and the resurgence of central planning and of central fiscal and administrative agencies and cadres. 279

5. Similarly, after a brief fling with widely distributed small-scale industry, China now reemphasized large, urban plants. There was renewed attention to quality, expertise and planned, rational growth. Emphasis was again on the factory manager's responsibility, on the value of technicians' contributions, and on "economics in command."

6. The geographical balance of industry had shifted away from the coastal centers to the inland, mid-sized cities and communes, at least to a degree. However, the impact of the retrenchment policies of 1960-65 must have shifted it back again somewhat. Unfinished construction projects were halted when the USSR pulled out and investment funds became scarce; most of these projects were inland ones. The reemphasis on utilizing slack capability must also have favored older, established, coastal plants (even as it had done in 1956). Finally, the demobilization of much of the rural small-scale industry certainly favored an urban shift, if not a drift toward the coast as well.

It seems clear from an examination of the machine-building sector that State Council organs are responsive to fluctuations in the economic and political context. If political considerations are momentarily "held constant," growth of an economic sector appears to lead to organizational proliferation. As China began to produce a wider
array of machines and equipment, especially military supplies and hardware, more and more ministries were created to control their activities. However, in China political considerations are never "held constant." There has been a dialectical process of alternation between end-points of a continuum of centralization–decentralization. When the pendulum has swung toward centralization, more ministries have appeared, both in the State Council in general and in the machine-building field (1953–5; 1960–5). The one exception appears to have been the short-lived Third Ministry of Machine Building which was created during a "mobilizational" period (albeit one of centralized economic control under the FFYP). However, it may have been the creature of the two-wheeled plow program, and may have suffered its demise accordingly. By contrast, when decentralization was the order of the day (1957–8), the machine-building ministries were consolidated, as was the State Council structure in general.

The motivating factor behind this dialectical process of alternation between centralization and decentralization was the disagreement within the leadership over the appropriate means towards the common goal of a strong and modern China. The position taken by various leaders seems to have been determined by a complex interaction of personal predilection, bureaucratic responsibility, factionalistic relationships and perceptions of their surroundings. For example, in 1957 many provincial Party secretaries appear to have supported Mao's Great Leap Forward because it would benefit them both personally and organizationally. When the Leap began to threaten their position, they changed sides quite readily. Perhaps a more clear-cut case of
looking out for one's organizational interest is Liu Shao-ch'i's early support for the GLF; it would benefit the Party apparatus at the expense of the state administrative structure. Similarly, Peking mayor P'eng Chen's attitude toward his city's self-sufficiency in agricultural machinery reflects his concern for bureaucratic position.

On the other hand, at least two "Mao supporters" appear to have been "coopted" by their bureaucratic responsibilities. In 1957-58 T'an Chen-lin was Mao's most vocal advocate for a rural Great Leap Forward; by 1966 as vice-premier in charge of agriculture and forestry he was the "top capitalist roader in agriculture," reportedly favoring "going it alone," san-tzu i-pao, and a host of other revisionist, bourgeois-capitalist policies. Similarly, Ch'en Cheng-jen, once Mao's "man" in the CCP Rural Works Department, seems to have been transformed after becoming Minister of Agricultural Machinery. He began to discriminate against rural small-scale industry, denigrate local initiative in scientific invention, advocate centralization of agricultural machinery in MTS's, and favor large, urban, high-capital, high-technology factories. All of these were policies associated with economic experts of the State Council against which he had earlier argued.

Top-level staffing of organizations, too, shows all the traces of political compromise. Knowledge and expertise, political "reliability," and personal connections all play a part in the selection (and presumably the removal) of ministry personnel. All of this evidence gives us a picture at odds with a "two-line" model of Chinese politics. Rather we see a complex political process in which shifting
coalitions are formed responsive to changes in the political, social and economic environments. One area of conflict between these coalitions is the shape of the bureaucratic structure of the Chinese State Council. However, we see throughout this period a disintegration of agreement on the "rules of the game" of Chinese politics. From 1949 to 1955 major decisions about the direction of Chinese politics and economics were largely confined to the top-level of leadership comprising the Politburo plus a few additional central military and government leaders. The only major central purge of the period involved an attempt to alter the composition of the leadership more than the dynamics of decision making. 282 By 1955-6, however, Mao began to introduce another element into decision-making. In his desire to circumvent central opposition he mobilized support among provincial Party and government officials, thus widening the scope of leadership conflict. In 1957-8 he expanded this tactic even further by mobilizing county and commune-level cadres, and even non-Party activists. Nevertheless, despite the fact that the scope of leadership struggle was significantly broadened by the Great Leap Forward, the reaction of the Central Committee to P'eng Te-huai's activities reveals that there was still a basic agreement within the leadership about the "rules of the game": Mao's position and prestige could not be publicly and directly challenged, and seeking foreign support to bolster one's domestic position was unacceptable. 283 Moreover, all but Mao apparently agreed that elite conflict should be handled by and within the elite itself. However, between 1959 and 1966 Mao became increasingly dissatisfied with the results of retrenchment policies initiated
after the Great Leap and with the willingness of his colleagues to bypass him and circumvent his authority. Temporarily, he could do little but "stiffen his scalp," biding his time until he could overcome his opposition. This he would attempt to do by initiating the Great Proletarian Cultural Revolution.
Department of Administration
Department of Personnel
Department of Technology
Department of Finance
Department of Wages and Labor
Department of Production Supervision
Department of Planning
Department of Liaison
Department of Machinery and Power
Department of Industrial Education
Bureau of Basic Construction
Bureau of Production Appropriations
Bureau of Sales
Bureau of Supplies
1st Bureau - general machinery and light industrial machines
2nd Bureau - machine tools and tools
3rd Bureau - metallurgical and mining machinery
4th Bureau - prime movers, diesel engines
5th Bureau - locomotives and vehicles
6th Bureau - automobiles, bearings, and agricultural machinery
7th Bureau - instruments and meters
8th Bureau - electrical machinery
9th Bureau - ships
10th Bureau - radio equipment and electronics


Figure 3

The Organization of the First Ministry of Machine Building in the 1950's
General Research Institutes & Academies          Staff Offices          Industry-Control Bureaux

1. Abrasives and Grinding Tools Research Institute
2. Agricultural Machinery Research Institute
3. Bearings Research Institute
4. Central Academy of Design Research Institute
5. Castings and Forgings Research Institute
6. Construction Machinery Research Institute
7. Crane and Transport Research Institute
8. Electrical Machinery Research Institute
9. General Machinery Research Institute
10. Heavy Machinery Research Institute
11. Hydraulic Pressure Research Institute
12. Instruments and Meters Technology Research Institute
13. Machine Tool Research Institute
14. Machinery Science Research Academy
15. Material Research Institute
16. Motor Vehicle Research Institute
17. Scientific and Technical Information Research Institute

1. Agricultural Machinery Bureau
2. Construction Machinery Bureau
3. Electrical Engineering Equipment Bureau
4. Heavy Machinery Bureau
5. Instruments and Meters Bureau
7. Motor Vehicle & Bearings Bureau


Figure 4
The Organization of the First Ministry of Machine-Building in 1978.
<table>
<thead>
<tr>
<th>Date</th>
<th>First Ministry</th>
<th>Second Ministry</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/53</td>
<td><strong>Minister:</strong> Huang Ching</td>
<td><strong>Minister:</strong> Chao Erh-lu</td>
</tr>
<tr>
<td></td>
<td><strong>Vice-Ministers:</strong> Tuan Chun-yi, Wang Tao-huan</td>
<td><strong>Vice-Ministers:</strong> Chang Lin-chih, Wan Yi, Liu Ting</td>
</tr>
<tr>
<td>3/55</td>
<td><strong>Minister:</strong> Huang Ching</td>
<td><strong>Minister:</strong> Chao Erh-lu</td>
</tr>
<tr>
<td></td>
<td><strong>Vice-Ministers:</strong> Tuan Chun-yi, Wang Tao-huan, Li Yu, Ts'ao Hsiang-jen</td>
<td><strong>Vice-Ministers:</strong> Chang Lin-chih, Chang Lien-k'uei, Yang Ch'un-fu, Liu Yin</td>
</tr>
<tr>
<td>7/56</td>
<td>Same as 3/55</td>
<td><strong>Minister:</strong> Chao Erh-lu</td>
</tr>
<tr>
<td></td>
<td><strong>Vice-Ministers:</strong> Chang Lien-k'uei, Yang Ch'un-fu, Liu Yin, Chu Te-hsin</td>
<td><strong>Assistant to the Minister:</strong> Liu Ting, T'ung Lei, Ch'ien Chih-tao, Cheng Han-tao</td>
</tr>
</tbody>
</table>

**Figure 5**

Top Level Staffing of the
First and Second Ministries of Machine-Building
1953-56
NOTES


3. State Statistical Bureau, Ten Great Years. Bellingham: Western Washington State University Press, 1974, p. 63. One reason for the "deplorable" condition of China's machine-building industry was that about 80% of China's machine production capacity (i.e., about 14,500 machines or 100,000 tons) were removed by Soviet troops from Manchuria after 1945. See Calvin Suey Keu Chin, A Study of Chinese Dependency Upon the Soviet Union for Economic Development as a Factor in Communist China's Foreign Policy. Hong Kong: URL, #EC22, 1959, pp. 32-3.


5. E.g., see Huang Ching's speech delivered on July 26, 1955 at the National People's Congress. Current Background (hereafter CB) #353, September 6, 1955, pp. 28-34.


12. Griffith, *op.cit.*, pp. 177-8. E.g. about 1,000 jet fighters and fuel, radar, 800 heavy antiaircraft weapons, etc. We will return to the issue of Soviet military supplies to China in a later section of this chapter.


17. This is at least implicit in Mao's conception of New Democracy. See Mao, "On New Democracy," SW Vol. II, pp. 339-84; and Mao, "On Coalition Government" SW Vol. III, pp. 205-70. There were also forces in the Politburo like Ch'en Yun who favored such an approach.


20. See *Ta Kung Pao*, "Central People's Government Has 39 Ministries and Commissions now to Coordinate with Great Construction," December 1, 1952, in SCMP #462, November 29-30, 1952, pp. 33-5. Trade and foreign trade were the result of splitting a single ministry into two.
20. (continued)
This trend of centralizing control was furthered by the promul­
gation of a constitution in 1954 and the accompanying abolition
of the six administrative regions. See Wen Hui Pao, July 4,
1954, "Why is Regional Administrative Machinery Abolished and
Certain Provincial and Municipalities Amalgamated?" (sic.)
SCMP #841, July 3-4, 1954, pp. 35-7.

The newly established First Ministry of Machine Building was
headed by Huang Ching, alias Yu Ch'i-wei. Huang, formerly a
student in Shantung University, specializing in physics, was
graduated from the Shanghai University of Communications. When
the Japanese invaded Manchuria he became a student activist,
joining the Communist Party in 1932. He worked in the under­
ground, emerging as a leader of the December Ninth movement in
1935. Huang was variously rumored to have had a love affair,
and even to have been married to, actress Yu Shan, later better
known as Chiang Ch'ing. Roxanne Witke, Mme. Mao's biographer,
discounts these rumors as improbable but acknowledges the pos­
sibility that Huang may have been influential in introducing
her into the Party in the mid-1930's.

Huang served during the war years under Lu Cheng-tsao, later
minister of railroads, in Nieh Jung-chen's area of responsibility.
(Nieh later was promoted to Marshal and was the chairman of the
State Technological and Scientific Commission.) It is particularly
interesting that as vice-chairman of the Scientific Planning
Commission, Huang found himself again working under Nieh Jung-chen
who assumed its chairmanship in May 1957. Huang's position in
the late 1930's and 1940's was sufficiently high that he no doubt
worked fairly closely with such top figures as Liu Shao-ch'i,
P'eng Chen, Po I-po and Teng Hsiao-p'ing.

After the war, Huang briefly emerged as the top authority in
Tientsin, holding concurrently the positions of Party secretary
of the CCP committee, municipal mayor and vice-chairman of the
Tientsin Military Control Commission. He was also a member of
the North China Bureau of the CCP and of the North China Admin­
istrative Committee. Huang's prestige after 1952 continued to
increase, as attested to by the following concurrently held
positions:

1952-3: member North China Administrative Committee;
member North China Bureau of CCP;
minister of First Ministry of Machine Building.
1953-8: minister of First Ministry of Machine Building
1956-8: minister of First Ministry of Machine Building
chairman of State Technological Commission;
member Eighth Central Committee of CCP.
20. (continued)

1957-8: minister of First Ministry of Machine Building;  
chairman of State Technological Commission;  
member Eighth Central Committee of CCP;  
vice-chairman of State Scientific Planning Committee.

Huang was married at the time of his death in February 1958, to  
Fan Chin, "a CCP member, prominent journalist, vice-mayor of  
Peking, and head of Pei-ching jih pao (Peking Daily). In the late  
spring of 1966, she was singled out as an enemy of the Cultural  
Revolution." See Who's Who in Communist China. Hong Kong: Union  
Research Institute, 1969 (2 volumes, hereafter Who's Who), p. 302;  
Donald Klein and Anne B. Clark, Biographical Dictionary of Chi­ 
nese Communism. Cambridge: Harvard, 1971 (2 volumes, hereafter  
Klein and Clark), pp. 390-1; Roxanne Witke, Comrade Chiang Ch'ing.  
Boston: Little Brown, 1977, p. 495, note 1, and p. 502, note 2;  

Chao Erh-lu, minister of the Second Ministry of Machine Building  
after 1952, was another highly influential and experienced Commun­ 
ist Party cadre. Born in 1905, Chao was an adherent to the CCP  
cause in its darkest days, joining the Party in August 1927.  
From service on Chingkangshan, Chao rose to be Chief of Staff of  
the Shansi-Chahar-Hopei Military District from 1937-45 and Chief  
of Staff of the North China Military Region by 1948. After libera­ 
tion he became an influential member of the Central-South Military  
and Administrative Committee, via service in the Fourth Field  
Army, holding a seat on the committee itself, and one on its  
Finance and Economic subcommittee. In 1950 he was Wuhan garrison  
commander. In 1952 Chao was chosen simultaneously to head the  
PLA Ordinance Department and the Second Ministry of Machine  
Building. From 1954 until his death on February 2, 1967 he was  
also a member of the National Defense Council.

In 1958, "Chao's responsibilities were considerably widened dur­ 
ing another partial reorganization of the State Council." Chao  
was made minister of the combined civilian-military First Minis­ 
try of Machine Building, a post he held until September 1960.  
Relinquishing this post Chao moved on to be vice-chairman of the  
State Economic Commission. At his death, he held not only this  
office but was concurrently director of the National Defense  
Industrial Political Department of the CCP Central Committee and  
deputy-director of the Office of National Defense Industry under  
the State Council. See Who's Who pp. 66-7; William Whitson, The  
Chinese High Command. NY: Praeger, 1973, Charts G & H; Rigg,  
op.cit., p. 93; Klein & Clark, p. 83.
21. I have seen no study of the nationalization of machine-building plants per se or its socio-political impact. A. Doak Barnett, Communist China: The Early Years, NY: Praeger, 1964 gives a general account of this phenomenon. However, the NCNA news release from the First National Congress of the China Trade Union of the First Machine Industry states that the "Congress pointed out that as of the present almost all the major private enterprises in machine industry have been brought into joint-public-private operation." SCMP #1124, September 7, 1955, p. 5. See table in Nai-ruenn Chen, ed., Chinese Economic Statistics, Chicago: Aldine, 1967, p. 184.

22. Cheng, FFYP, p. 104. In all 26% of investment funds in the FFYP was to go to the machine-building industry; Cheng, Eco.Rel., p. 29.


24. Cheng, Eco.Rel., p. 31. Despite the substantial aid of the USSR, especially in machine-building, the "Chinese apparently wished to import much more equipment and many more complete plants and capital goods of all kinds than the Soviets were prepared to deliver." Alexander Eckstein, Communist China's Economic Growth and Foreign Trade, NY: McGraw-Hill, 1966, p. 142. It is also interesting to note that from 1946-51 the USSR extracted reparations from Hungary of about $200 million; from 1946-53 of about $300 million from Rumania; and from 1945-56 a total of some $20 billion in total extractions from Eastern Europe. Zbigniew Brzezinski, The Soviet Bloc; Cambridge: Harvard, 1976, p. 125-7. This compares to the $3 billion in loans to China! Furthermore, according to John P. Davies, in 1938 Moscow had loaned $100 million to the KMT government, followed in 1939 by another $150 million plus war supplies including 400 combat planes, and 500 Soviet advisers (including Generals Chuikov and Zhukov). Dragon by the Tail, NY: Norton, 1972, p. 193. Calvin Chin emphasizes the niggardliness of the $300 million loan in view of Soviet acquisitions in Manchuria, and reparations and exploitation of Eastern Europe, and in comparison with the $5.2 billion promised by the U.S. to the Columbo plan nations. While Chin somewhat overdraws the case by ignoring the destruction of the war in the USSR and the unavailability of aid to China from other sources, it is clear the $300 million was not a panacea for China's development (Chin, op.cit., esp. pp. 34-42). On Sino-Soviet economic relations from 1949-1962 see also William E. Griffith, The Sino-Soviet Rift. Cambridge: MIT, 1964, pp. 231-8. For a general discussion of the role of machinery imports in China's development see USCIA, People's Republic of China: Foreign Trade in Machinery and Equipment Since 1952, A(ER) 75-60, January, 1975.

25. Hence under the First Ministry of Machine-Building the other 33 were unidentified and may have been military-related plants subject to the Second Ministry. Cheng, MBICC, pp. 29-30.
26. See Table in Cheng MBICC, pp. 40-1.


29. NCNA, "Agricultural Machinery Factory Tops Its 1953 Target," December 30, 1953 in SCMP #719, January 1-4, 1954, pp. 14-15. A similar situation was revealed in 1955 by Huang Ching in his speech cited in footnote 5. He said (p. 28) that the Shanghai Lathe Machines Manufacturing Plant "used to be an agricultural machinery plant." The fact that it was converted to other uses bespeaks a policy of low priority on agricultural machinery.


34. Cheng FFYP, p. 203.

Percentage of Machine-building in the
Total Industrial Output Value of 16 Provinces and Cities, 1957

<table>
<thead>
<tr>
<th>Province</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>National total</td>
<td>9.5</td>
</tr>
<tr>
<td>Manchuria total</td>
<td>20.7</td>
</tr>
<tr>
<td>Liaoning</td>
<td>20.4</td>
</tr>
<tr>
<td>Kirin</td>
<td>16.0</td>
</tr>
<tr>
<td>Heilungkiang</td>
<td>11.6</td>
</tr>
<tr>
<td>Shenyang</td>
<td>44.0</td>
</tr>
<tr>
<td>Shanghai</td>
<td>18.0</td>
</tr>
<tr>
<td>Kiangsu</td>
<td>13.9</td>
</tr>
<tr>
<td>Honan</td>
<td>4.0</td>
</tr>
<tr>
<td>Chekiang</td>
<td>5.4</td>
</tr>
<tr>
<td>Dairen</td>
<td>30.0</td>
</tr>
<tr>
<td>Anhwei</td>
<td>4.3</td>
</tr>
<tr>
<td>Fukien</td>
<td>4.0</td>
</tr>
<tr>
<td>Kwangtung</td>
<td>6.7</td>
</tr>
<tr>
<td>Hupeh</td>
<td>4.9</td>
</tr>
<tr>
<td>Hunan</td>
<td>10.3</td>
</tr>
</tbody>
</table>


36. The above analysis based on Cheng MBICC, p. 287-93.

Regional Distribution of Machine Building Construction

<table>
<thead>
<tr>
<th>Region</th>
<th>Total new machine-building</th>
<th>Of the 156 major enterprises (%) in FFYP</th>
<th>Of the 156 major enterprises (%) in FFYP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal areas</td>
<td>24</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Interior areas</td>
<td>76</td>
<td>84</td>
<td></td>
</tr>
</tbody>
</table>

(Cheng, MBICC, p. 286)

37. E.g. Lampton has argued that availability of middle schools and hospitals is closely related to provincial industrial output. See "The Roots of Inter Provincial Inequality," in American Political Science Review (hereafter APSR) Vol. 72, #2, June, 1979, pp. 459-77. See also his discussion in "The 'Revolution' in Social Policy" in Problems of Communism (hereafter POC) Vol. XXVIII, #5-6, September-December, 1979, pp. 16-33.

38. (continued)


43. Parris Chang, op. cit., p. 11.


45. Examples of the former are: The 'East is Red' Commune of the China Institute of Scientific Research in Agricultural Mechanization, "Resolutely Criticize and Repudiate China's Khrushchev for Committing the Crime of Undermining the Cause of Agricultural Mechanization," Nung-yeh Chi-hsieh Chi-shu (Technique of Agricultural Mechanization) #2-3, May 23, 1967 in SCMM #590, August 28, 1967, pp. 20-5 (hereafter "Resolutely Criticize"); The Committee Taking Over the Control of the Department of Agricultural
45. (continued)

(continued)

47. For more detail, see below. Also on K'ang see "History of Struggle," pp. 10 and 13. T'an apparently changed his tone in the aftermath of the GLF, advocating more "capitalist" and centralist policies. See "History of Struggle," pp. 25 and 30. Ch'en Yun in 1955 also supported cooperativization before mechanization for reasons discussed below.


49. This philosophy led Mao to the less sensible conclusion that population control was unnecessary. See David M. Lampton, The Politics of Medicine in China, Boulder: Westview Press, 1977 and Christopher Howe, China's Economy, pp. 1-29.

50. E.g. see Mao, "Request for Opinions of the Seventeen-Article Document Concerning Agriculture," SW Vol. 5, pp. 277-80. None of these suggestions could be seen as capital-intensive or requiring a major diversion of resources from industrial construction.


52. "On the Question...," p. 399.


Ch'en Cheng-jen, born 1905 in Kiangsi province, is a particularly interesting character. He joined the CCP sometime before 1927 and during his early career was a private secretary to Mao. During the period 1928-1930, Ch'en was a member and deputy secretary of the CCP Hunan-Kiangsi Border Region Special Committee; T'an Chen-lin was the committee head. This was a period of particular stress for Mao, who's personal and policy positions were under severe attack by the Comintern and the newly-elected leadership of the Sixth Central Committee. At this crucial juncture both T'an and Ch'en emerged as supported of Mao. Like so many other Kiangsi-period Mao supporters, Ch'en was left behind on the Long March, apparently recuperating from an unknown illness in a Kiangsi hospital. Unlike members of Mao's family and others, Ch'en survived, reappearing after almost a decade's absence in the early 1940's in Yenan.

Interestingly, Ch'en's career from 1945 followed a pattern similar to that of Lin Piao. He first served in the northeast, as Secretary of the CCP Liaotung District Committee (1945), then as Political Commissar of the Kirin Military District and Secretary of the CCP Kirin Provincial Committee (1947). By 1949 he was serving in the south-central area in various high-level capacities, and by 1950 was probably "the most powerful leader in Kiangsi." Among other things, Ch'en at this time gained administrative experience as a member of the Central-South Military and Administrative Committee and Chairman of the Kiangsi Provincial People's Government Financial and Economic Committee.

Late in 1952, Ch'en was called to the center as Minister of Building (November, 1952 - October, 1954), but in 1954-55 began to devote more and more attention to agricultural issues. Mao apparently used Ch'en (along with another former personal secretary, Ch'en Po-ta) to "pack" both the CCP Rural Works Department and the State Council Seventh General Office (Agriculture and Forestry); Ch'en became deputy director of both. Interestingly, he again found himself serving under T'an Chen-lin in 1962 after more than 30 years. He was also appointed to chair the new State Council Water and Soil Conservation Committee in May of 1957.

Ch'en was selected, almost certainly through Mao's auspices, to head the new Ministry of Agricultural Machinery in August 1959. However, he appears to have been one of those officials "coopted" by his bureaucratic responsibilities. Red Guard attacks accused
him of opposing the Cultural Revolution and the "Peking Commune," and of a variety of anti-Maoist decisions as Minister of Agricultural Machinery. These have been detailed to some extent in the pages above, and are "documented" in "Let the Radiance." Ch'en died April 6, 1972 at age 65, and his memorial ceremony was the scene of several post-Cultural Revolution rehabilitations: Yu Ch'iu-li presided, Tseng Shan gave a eulogy, and Wang Chen, Lai Chi-fa, Hu Yao-pang and others attended. Also present were Chou En-lai and Li Hsien-nien. Oddly, unlike the usual practice, the official announcement made no mention of wreaths being sent; one might have expected one from his former mentor and employer Mao, as was the custom.

Paradoxically, having been a personal secretary to Mao seems to have been almost as dangerous as having been his designated successor. Chou Hsiao-chou was Mao's secretary in 1936; he was purged with P'eng Te-huai in 1959. Ch'en Cheng-jen was another. Ch'en Po-ta, purged in 1970, was a third. Chiang Ch'ing, Mao's wife and sometime secretary, was purged as the ringleader of the "gang of four" in 1976. Wang Tung-hsing served as Mao's bodyguard and secretary in the Chairman's later years. He was purged by the 5th Plenum of the 11th Central Committee in February 1980, after surviving on the margin of Chinese politics for some two years. On Ch'en's background see Who's Who, p. 77; Klein and Clark, pp. 96-7; Rue, op.cit., pp. 107, 200, 203, 226-30, 258; and "Peking Meeting Honors Memory of Comrade Chen Cheng-jen" NCNA, April 13, 1972 in SCMP #5120, April 26, 1972, pp. 106-7; and "Veteran Cadres Re-emerge," China News Summary #414, April 20, 1972, pp. 4-5.

60. "History of Struggle," p. 8. See also "Resolutely Criticize," "Let the Radiance," and Chao Kang, op.cit., pp. 14-19, as well as Stavis, The Politics... Editor, CS "The Conflict"... also points out this area of agreement between Mao and Liu, p. 2.


62. E.g. "In 1961, the National Office for Farm Tool Reform was abolished. This was followed by the successive abolition of farm tool reform offices at the provincial, district and hsien level," apparently at the instigation of Liu, T'an Chen-lin and Liao Lu-yen. "History of Struggle," p. 20. See also "Completely Settle," p. 23.


64. E.g. see Stavis, The Politics... As explained below, Liu was later accused of sabotaging the transfer of agricultural machines to the communes (see "Wipe Out," pp. 11-12), a tactic he reportedly revived when some communes refused to sell their equipment back to the state in 1961-62. ("History of Struggle," p. 23.)

65. "History of Struggle," p. 8. Perhaps Po envisioned a long-term plan of collectivization as a prelude to agricultural mechanization (Stavis, The Politics..., p. 63), but it was to occur far in the future, when the industrial structure was approximately ready to support it, and collectivization was to be a slow process.


67. "History of Struggle," p. 19 and Stavis, op.cit., p. 181. Furthermore "some 600 to 700 research institutes for tool reform" were closed down for lack of funds and equipment, or were transformed for other duties. Editor CS "The Conflict," p. 7.


The "trusts" were to operate as cross-ministry agencies coordinating enterprises with particularly close functional relationships. Under this system, enterprises would shift to extreme specialization and would be rigidly controlled by the central "trust." By contrast, the ministries would lose some of their control over enterprises to the "trusts." The later accusation was that the "trust" system leads to the existence of a technical-managerial elite and the worship of the profit motive to the detriment of political and social goals. "History of Struggle," p. 20 passim. On the trusts see Franz Schurmann, Ideology and Organization in Communist China, Berkeley: University of California Press, 1968; Stephen Andors, China's Industrial Revolution, NY: Pantheon, 1977; Barry Richman, Industrial Society in Communist China, NY: Vintage, 1969; Peter Nan-shong Lee, China's Industrial Bureaucracy, unpublished Ph.D. dissertation, University of Chicago, 1975 and Editor CS "The Conflict," pp. 13-15.

See below; also MacFarquhar, op.cit., and Stavis, op.cit., pp. 62-3. Strangely Ch'en and Teng completely escape mention in any of the six Red Guard exposes cited above. There are a few possible oblique references to Teng however. Ch'en also survived the Cultural Revolution with much less "damage" than many who advocated far less "capitalist-bourgeois" policies. Perhaps the explanation may be found in an uncited quotation, attributed to Mao after the Leap, that "old Ch'en was right" after all. Howe, China's Economy, p. 204.

On this they probably achieved agreement with Liu, Po, Lu Ting-yi and others. See "History of Struggle," p. 21 on Lu.


E.g. his comments on the double-wheeled plow, see below.


Ibid., p. 30. It is logical that the mayor of the city in which the ministry headquarters are located would favor their strengthening.

"Black Flag," p. 19. The two are not totally contradictory, as they both exclude "mass participation," one in production, innovation and ownership, the other in management.


Ibid., pp. 147-8 and 106. See also "History of Struggle," pp. 10, 20, 22.

"Completely Settle," p. 22.

Ibid., p. 25. This brief outline of policy positions does not even attempt to deal with provincial and local Party and government cadres and their impact on high-level decision making. As will be seen later, Mao utilized their advice and support frequently. Nor does it touch on the positions of the wide array of central Party and government officials below the very top level, and their influence.

Walker, op.cit., p. 17.

"On the Question...", see pp. 396, 414-18, 389.

"The Debate...", p. 224.

Parris Chang, (op.cit., p. 23) takes at face value the figure of 200,000 purportedly used by Liu Shao-ch'i in his confession during the Cultural Revolution. Roderick MacFarquhar, (op.cit., p. 19 and p. 326, note 30) discusses the controversy over this figure and feels the correct figure is 20,000. Given Mao's figure of 15,000 in Chekiang province alone, unless he was deliberately distorting the truth or reporting something slightly different than the dissolution of collectives, the number 20,000 for the entire country is probably much too low. "On the Question...", p. 396.


Chang Lin-chih was appointed to head the newly established Third Ministry of Machine Building in April 1955. Chang too had been an "early north China Party organizer" and a "Party member in the early thirties." He served the war out in the Hopei-Shantung-Honan
area, emerging by the late 1940's as a political commissar in the Third Army Corps of Liu Po-ch'eng's Second Field Army, possibly working under Teng Hsiao-p'ing. In 1949, Chang and K'o Ch'ing-shih were appointed vice-mayors of Nanking under Liu, but Chang quickly moved to the Szechuan area. There he served as vice-chairman of the Chungking Military Control Commission, member of the Chungking Municipal People's Government, and secretary of the CCP Chungking Municipal Committee. In 1952 Chang moved into the central apparatus as vice-minister of the Second Ministry of Machine Building; in April 1955 he was appointed minister of the new Third Ministry of Machine Building. Upon the dissolution of the latter, Chang moved laterally, to head the new Ministry for Electric Power Equipment Industry. For a brief time Chang held two ministerial portfolios. In September 1957 he succeeded Ch'en Yu as minister of coal while holding his ministership in electric power equipment. When the latter agency was abolished in the 1958 government consolidation, Chang retained the job as minister of coal. See Who's Who, p. 37; Klein and Clark, p. 44; Whitson, op.cit., charts C & D; NCNA, "Chairman Mao Tse-tung Appoints Government Leaders," in SCMP #1290, May 16, 1956, p. 7. Chang was reportedly killed by Red Guards during the Cultural Revolution. See Chapter Four.

90. Cheng, MBICC, p. 11 identifies the Third Ministry of Machine Building as "in charge of civilian machinery, particularly farm implements" and bases his opinions on the fact that the ministry was joint sponsor for two national conferences on farm tools. Klein and Clark say that it was "to manage the electric power engineering industries," (p. 44) presumably because in May 1956 Chang Lin-chih moved from the ministership of the disbanded Third Ministry to head the Ministry of Electric Power Equipment Industry. It is apparent, as will be discussed below, that the ministry was involved in agricultural tools, but it may also have been involved in a variety of other heavy machinery fields. E.g. see Chang Lin-chih's speech to a meeting of representatives of advanced producers of the machine-building industry, Chi-hsieh Kung-yeh (in Chinese) #10, May 19, 1956, p. 5, which emphasized the participation of representatives of the coal industry, textile industry and visiting Soviet transport experts. It is especially strange (and probably only explainable as a delay in publishing after the speech was given) that Chang was still identified as head of the Third Ministry of Machine Building, since the ministry was abolished May 12. (See CB #404, July 26, 1956, pp. 1-2, "Directory of Top National Positions in the Government and Armed Forces of Communist China.") As Cheng Chu-yuan pointed out, it is the exception rather than the rule when we know exactly what the various ministries do. That is why he confined his analysis of machine-building to the least secretive segment, the apparently totally civilian-oriented First Ministry of Machine Building. For further comments on this problem, see note 285. I will return to this issue below.


93. Benedict Stavis, op.cit., p. 69 cites a source that says that representatives of the First Ministry of Machine Building, the Ministry of Agriculture and the Third Ministry of Machine Building were sent out as teams to nine provinces to supervise production of the plows. The connection of the dissolution of the ministry with the plow fiasco is based on circumstantial evidence, and pending the uncovering of more specific or concrete evidence, must be viewed as tentative and inferential.

94. For example, the October 25 edition of JMJP displayed a photo of Mao approvingly inspecting one of the plows. Reproduced in Richard Solomon, Mao's Revolution and the Chinese Political Culture, Berkeley: University of California Press, 1971, p. 236. When the plow was resurrected in 1958, the magazine Kung-yeh Chi-hsieh (Agricultural Machinery) likewise showed the Chairman approvingly inspecting one, "thus giving great encouragement to the farm implement workers in the whole country." "Completely Settle," p. 24.


98. Projected Output for Two-Wheel Two-blade Plow

<table>
<thead>
<tr>
<th>Date</th>
<th>Output Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/55</td>
<td>800,000 to be distributed in 1956</td>
</tr>
<tr>
<td>12/10/55</td>
<td>2,360,000 to be produced; 1,800,000 to be distributed in 1956</td>
</tr>
<tr>
<td>1/56</td>
<td>4,000,000 to be produced; 800,000 to be distributed (dist. in first quarter)</td>
</tr>
</tbody>
</table>

(Adapted for Stavis, op.cit., pp. 68-9.)

100. Text contained Bowie and Fairbank, eds., *op.cit.*, see item 11, p. 123. On drafting process see Parris Chang, p. 19; Mao "Request for Opinions...."


102. The social and political problems encountered in the rural areas as a result of cooperativization gave genuine cause for apprehension. The principle of voluntary joining and quitting of cooperatives had frequently been violated by overeager cadres; property and money were extorted, reluctant peasants were coerced. The result was predictable. The peasants resisted. Despite Mao's opinion, for example, that "the chief cause for the loss of oxen is to be found not in the co-operatives but in floods, in the high price of ox hides and in the shortage of fodder, while some oxen are too old and have to be slaughtered," the primary reason seems to have been "indifference to common property, disregard of orders, and even sabotage" on the part of dissatisfied peasants. These problems were combined with absenteeism, a lack of trained and dedicated leaders, problems inherent in changing an ancient rural social system, insufficient or inadequate transportation and credit facilities, and a dearth of qualified planning and accounting personnel. See Mao, "The Debate...," p. 217. Parris Chang, *op.cit.*, pp. 22-3. See also Ezra Vogel, *Canton Under Communism*. NY: Harper and Row, 1969, esp. pp. 175-6; Peter Tang, *Communist China Today* Vol. 1. Washington: Research Institute on the Sino-Soviet Bloc, 1957, esp. pp. 322-5; and Choh-ming Li, *The Statistical System of Communist China*. Berkeley: University of California, 1962.

104. Growth of GVIO (preceeding yr. = 100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>Expenditures</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>21760</td>
<td>21490</td>
<td>+ 270</td>
</tr>
<tr>
<td>1954</td>
<td>26230</td>
<td>24630</td>
<td>+1600</td>
</tr>
<tr>
<td>1955</td>
<td>27200</td>
<td>26920</td>
<td>+ 280</td>
</tr>
<tr>
<td>1956</td>
<td>28740</td>
<td>30580</td>
<td>-1840</td>
</tr>
<tr>
<td>1957</td>
<td>31020</td>
<td>29020</td>
<td>+2000</td>
</tr>
<tr>
<td>1958</td>
<td>41860</td>
<td>40960</td>
<td>+ 900</td>
</tr>
<tr>
<td>1959</td>
<td>54160</td>
<td>52770</td>
<td>+1390</td>
</tr>
</tbody>
</table>

Source: Nai-ruenn Chen, Chinese Economic Statistics, p. 441, 446.


106. 1953-59, Total Revenue and Expenditures (million yuan)
n.b. there is a small discrepancy between revenue figures here and in Table 17)


108. SW Vol. V, pp. 285-6. Mao reiterated the primacy of heavy industry in February 1957 in his "On the Correct Handling of Contradictions Among the People," SW Vol. V, p. 419. The officially released version of the "10 Great Relationships" also goes out of its way to explain that even from 1953-56, China's experience with investment balance between these sectors compared favorably to that of the USSR and "a number of East European countries," p. 285.

109. Ibid., p. 291.


113. Ibid., p. 292. In January 1957 ("Talks at a Conference...") he advocated streamlining organization and reducing excess cadres in state, Party and military bureaucracies, p. 378. By way of strengthening central leadership and planning, the State Planning Commission was split in 1956 into two bodies. The SPC under Li Fu-ch'un was responsible for plans of five years and longer while a new State Economic Commission was established for yearly plans. See Audrey Donnithorne, op.cit., p. 458 for a fuller explanation. See also MacFarquhar, op.cit., pp. 57-8. Exactly what connection, if any, existed between Mao's decentralization scheme of 1956-7 and attempts by the USSR to move in this direction as early as 1953-4 in Eastern Europe remains largely uninvestigated. See Brzezinski, Soviet Bloc, pp. 159-68. It is known, however, that Khrushchev's "leap" encountered similar problems. See Merle Fainsod, "Bureaucracy and Modernization: The Russian and Soviet Case" in Joseph La Palombara, ed., Bureaucracy and Political Development. Princeton: Princeton University, 1967, pp. 233-67, esp. p. 260.


115. Ibid., pp. 294, 290.

116. Ibid., pp. 303-4.

117. Ibid., pp. 303-5. The rebuke to his Eastern European counterparts who dutifully followed Khrushchev's destalinization whims seems obvious as well.

118. Ibid., p. 304. Mao assigns a figure of 30% mistakes, 70% achievements to Stalin. Mao discusses Stalin's role in more detail in "Talks at a Conference...," pp. 350-83.

119. Stavis, op.cit., p. 70. See also MacFarquhar, op.cit., p. 347, note 27.

120. MacFarquhar, op.cit., p. 90.


123. Stavis, op. cit., p. 70.

124. Editor, Current Events, p. 7. (See note 41.)


128. This ministry should not be confused with the Ministry of Electric Power created the previous July, presumably to coordinate production and generation of electricity. See CB #404, p. 1 (note 90).

129. Editor, Current Events, p. 8.

130. NCNA May 12, 1956, "Chairman Mao Tse-tung Appoints Government Leaders," in SCMP #1290, May 16, 1956, pp. 7-8. My impression is that Klein has either confused the May 1955 establishment of the machine-building ministry with the simultaneous establishment of an Electric Power Ministry (see Appendix), or that he, and possibly Cheng as well, infer a connection between the two largely based on the fact that Chang Lin-chih was transferred from the position of minister of the Third Ministry of Machine Building to the ministership of the Ministry of Electric Power Equipment Industry at the May 12th meeting. The causal logic is suggestive but not compelling.


133. Cheng MBICC, p. 86.
134. Table Electric Power Capacity

<table>
<thead>
<tr>
<th>Year</th>
<th>Installed, rated generating capacity (x1000 kw)</th>
<th>Estimated gross production of electricity (x million kw hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>2425</td>
<td>9,491</td>
</tr>
<tr>
<td>1954</td>
<td>2689</td>
<td>11,207</td>
</tr>
<tr>
<td>1955</td>
<td>3107</td>
<td>12,614</td>
</tr>
<tr>
<td>1956</td>
<td>3738</td>
<td>15,727</td>
</tr>
<tr>
<td>1957</td>
<td>4655</td>
<td>19,437</td>
</tr>
</tbody>
</table>


138. MacFarquhar, op.cit., p. 87. Mao's notation was pu k'an (le). MacFarquhar translates: "I won't read this." Parris Chang translates it: "I do not want to read it." (p. 27) The actual phrase is ambiguous, but in view of Mao's later comments his displeasure is clear.


143. E.g. see Parris Chang, *op.cit.*, p. 28; MacFarquhar, p. 241. Moody, *op.cit.*, pp. 116-20 characterizes Mao's coalition with the state bureaucrats as an attack on the entrenchment of the CCP apparatus; See also Harding, *The Organizational Issue*, pp. 95-101.


147. This is a combination of Down's categories of "charismatic" and "functional" bureau genesis. See Anthony Downs, *Inside Bureaucracy*, Boston: Little Brown, 1967, esp. p. 5. This may have been his intention in creating the State Economic Commission in 1956. (MacFarquhar, pp. 57-8) The difficulty with arguing this case is that Mao's policy opponent, Po I-po, became head of the agency. Cf. Donnithorne, p. 459 who gives an economic ("functional genesis") explanation based on the completion of the socialization of industry.


150. Walker, Planning..., loc.cit.

151. See above notes 106, Table 3, Table 1 and note 104 for data on budgetary revenue, state investment, growth of agriculture, and growth of GVIO respectively.

152. See Cheng Eco.Rel., p. 53.

153. The best discussion of "vertical" vs. "dual" rule is Schurmann, op.cit., pp. 188-94. See also Andors, op.cit.; Peter Nanshong Lee, op.cit.

154. This is, of course, the old policy maker's problem of "public goods." In cases where the benefit of some good or service produced cannot be controlled (e.g. national defense, clean air, water conservancy), no consumer has an incentive to pay. In addition, because such goods are "non-exclusable," it is all but impossible to require consumers to pay. Moreover, under market conditions, such goods and services generally are not produced. The result in the U.S. is usually either government takeover of its production, or the awarding of a monopoly over its production. Mao's policy was to centralize agriculture sufficiently to avoid this dilemma.


158. Ibid., p. 52. On Supreme State Conference see p. 40. As in the past, Mao found a new spokesman for his "radical" policies: T'an Chen-lin. T'an had been a Mao supporter during Mao's darkest hours, late 1928 and early 1929. Rue, op.cit., p. 107.

159. See Eckstein, Communist China's Economic Growth and Foreign Trade, p. 106; Cheng MBICC, p. 221.


164. Li Fu-ch'un cited in MacFarquhar, op.cit., p. 63. Ten Great Years gives a post facto figure for 1956 of 1:6.2; for 1957 of 1:5.6. Chao Erh-lu reported that "It is estimated that under the second Five-Year Plan, a hsien will put in a total of Yuan 10,000,000 to build its factories." "Produce More and Better Machines to Ensure High Tempo of Socialist Construction," People's Daily, May 31, 1958 in SCMP #1793, June 17, 1958, p. 26. (Hereafter "Produce More...")

165. Parris Chang, op.cit., p. 56.

166. Wu, Steel Industry..., p. 159.


170. Nicholas Lardy, Economic Growth and Distribution in China, NY: Cambridge University Press, 1978, p. 146. Cf. Cheng MBICC, p. 146. Prybyla, op.cit., p. 281 says 80% of the factories under central ministries were transferred downward. This massive decentralization must have had a large impact on machine-building as well.

171. See Ahn, Chinese Politics..., p. 23; Parris Chang, pp. 71-2; Moddy, op.cit., p. 127.


175. See Lieberthal, *op.cit.*, p. 105. Among those removed were Minister of Food, Chang Nai-ch'i; Minister of Timber Industry, Lo Lung-ch'i; Minister of Communications, Chang Po-chun; and member of the National Defense Council and former Nationalist governor of Yunnan province, Lung Yun. See MacFarquhar, *op.cit.*, pp. 281-5. On reducing bureaucracy and increasing cadre labor see People's Daily editorial, "An Important Beginning for Reform of Industrial Management," May 7, 1958 in SCMP #1774, May 19, 1958, pp. 1-4. See also "Sixty Points" (note 173).

176. Lieberthal, *op.cit.*, lists the date of the NPC session as January 25 to February 2, 1958, but USCIA, *Directory of Chinese Communist Officials*, USGPO: 1966 says the reorganization took place February 11, 1958. Presumably the NPC Standing Committee met immediately after the plenary session to effect the changes.


187. In fact, on the day of the Fifth Plenum, "Mao personally led a group to a reservoir construction site. This group included, among others, all members of the Standing Committee of the Politburo except Ch'en Yun." Liberthal, *op.cit.*, p. 112.


190. Informal meetings were held from November 21 - November 27 followed by the 6th Plenum of the 8th CC from November 28 - December 10. See Mao's speech at the latter in *Wan Su! 1969*, pp. 259-67.

191. Liberthal, *op.cit.*, p. 125

Parris Chang, op.cit., p. 105; Solomon, op.cit., pp. 373-4 discusses the amount of pressure on Mao to step down as PRC Chairman. He does not feel that pressure from his colleagues was the overriding factor. Moody agrees that Mao's decision was more complex, but suggests that Mao may have given up the PRC Chairmanship rather than open the door to suggestions that he "retire" as CCP Chairman (pp. 134-6).

Number of Livestock in the PRC (x 1000)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Horses</th>
<th>Donkeys</th>
<th>Mules</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>60083</td>
<td>6512</td>
<td>12215</td>
<td>1645</td>
<td>80455</td>
</tr>
<tr>
<td>1954</td>
<td>63623</td>
<td>6939</td>
<td>12700</td>
<td>1717</td>
<td>84979</td>
</tr>
<tr>
<td>1955</td>
<td>65951</td>
<td>7312</td>
<td>12400</td>
<td>1723</td>
<td>87388</td>
</tr>
<tr>
<td>1956</td>
<td>66601</td>
<td>7372</td>
<td>11686</td>
<td>1711</td>
<td>87370</td>
</tr>
<tr>
<td>1957</td>
<td>65860</td>
<td>7510</td>
<td>10900</td>
<td>1840</td>
<td>86110</td>
</tr>
<tr>
<td>1958</td>
<td>64952</td>
<td>7512</td>
<td>10601</td>
<td>1624</td>
<td>84689</td>
</tr>
</tbody>
</table>

Source: Leslie Kuo, Agriculture in the People's Republic of China, p. 235, and see Chao Kang, op.cit., pp. 25, 58, 84.

Editor, CS "The Conflict," p. 9. By contrast after the collapse of the GLF, i.e., by the end of 1962, over 88% of the tractors had been repossessed by the state, many apparently without reimbursement, ibid., p. 10.

"Wipe Out," pp. 11-12.


"Completely Settle," p. 25.

Li Ch'ing-yu, op.cit.; see also Stavis, The Politics..., pp. 141-51; and Stavis, "Mechanical Power to the People..."

Lieberthal, op.cit., pp. 130-1. One wonders about the veracity of the report that Teng Tzu-hui advocated these policies, or about his motives in doing so.

202. The American Rural Small-Scale Industry Delegation, Rural Small Scale Industry in the People's Republic of China, Berkeley: University of California, 1977 implies that this may actually have been carried out and that "the kinds of redistribution of industry that many western analysts have been looking for in China may have been the wrong ones...Using provinces as the unit of analysis, western analysts have concluded that there has been very little coast to inland redistribution of industry...If our observations are correct, industry has been moved from the largest cities of each province to the intermediate cities..." p. 221. See also Howe, op.cit., pp. 12-14.

203. This is one of the few places where analysts of the GLF, either Chinese or Western, seem to have dealt with what may have been the central cause of its failure: coordination. The most thorough and systematic treatment is the series of two articles by David M. Lampton on the three policy-making fora in health care during the GLF. "The Great Leap Forward Reconsidered: Health Policy-Making Arenas and Policy Diversity," and "The Succession of Health Policy-Making Systems and Chinese Political Development," both in Health, Conflict..., pp. 49-130. See also Lampton, The Politics..., Chapters 4 and 5; and Michel Oksenberg, "The Chinese Policy Process and the Public Health Issue: An Arena Approach," and David M. Lampton, "Policy Arenas and the Study of Chinese Politics," both in Studies in Comparative Communism, Vol. VII #4, Winter 1974, pp. 375-413.

204. See Mao "Speech at the Second Chengchou Conference" in Wan Sui! 1969, pp. 279-88 and second version of Mao's several speeches during the conference in Wan Sui! 1967, pp. 8-49. (See esp. Wan Sui! 1969, p. 285.) Mao, as usual, seems to have waffled on this issue. On February 21 he told a group of local Party committee officials that "basically we have brigade ownership." (Wan Sui! 1967, p. 7) but on March 15 reiterated that the decision of the 2nd Chengchou Conference was to take the team as the foundation. (JPRS Miscellany, "Intraparty Correspondence," March 15, last paragraph.)


206. Po, according to one source, "argued for higher steel targets in a covert attempt to wreck the Great Leap Forward." (Lieberthal, op.cit., p. 137). While the credibility of this accusation, especially the motives attributed to Po, may be open to question, it bears a striking resemblance to the "implementation game" of "deflection of goals" analyzed by Eugene Bardach (The Implementation Game, Cambridge: MIT, 1977, pp. 85-97. "As onlookers see the new program begin to move in its intended direction, some see it as a new political resource, an opportunity to throw their own goals and objectives onto the heap," (p. 85). Certainly Po generally favored the increase of steel output and may have
tried to use the GLF to achieve his goal. On agricultural machinery, he reportedly said: "Farm Machinery plants are not too few, but too many." ("Outline of Struggle," p. 19.) Also he reportedly continued to close agricultural machinery plants, to cut capital construction, and otherwise to "impede the development of the farm machinery industry" through the mid-1960's. By 1964, during the discussion for drawing up the 3rd FYP, Po apparently saw to it that average annual investment in the agricultural machinery industry was reduced to 39% of the level of 1960 (Editor CS "The Conflict...," p. 6). Similarly, Peking Mayor P'eng Chen (also a Politburo member) apparently was not solidly behind the mechanization effort, as shown above. He is accused of sabotaging the program by only including "a few small factories with poor equipment" under the Peking Municipal Bureau of Agricultural Machine Building, and of refusing to release land in the Peking suburbs on which to construct new plants. Rather than "wasting" effort on agricultural machinery, he "hoisted the black flag of precision machinery, optical instruments and electronic technology." Nung-yeh Chi-hsieh Chi-shu #6, September 8, 1967 in SCMM #609, January 8, 1968, pp. 18-21.


208. See Lieberthal, op.cit., pp. 141-9; Chang, op.cit., pp. 108-17; Ahn, Chinese Politics, pp. 38-44 and Ahn, "Adjustments...," pp. 261-5. For Mao's speeches and comments see Wan Suil 1967, pp. 67-103 and Wan Suil 1969, pp. 294-312. It is especially ironic that P'eng Te-huai seems to have supported the Comintern's radical agrarian policies, including collectivization, in late-1928 and 1929, whereas Mao and Chu Te opposed it. Rue, op.cit., p. 115.

209. Lieberthal, op.cit., p. 144. Ch'en Yun was said to have been ill during this meeting.

210. Ahn, Chinese Politics..., pp. 41-2. Similarly on November 29, 1959 he sent a letter to production brigade leaders which advocated ignoring unrealistic production quotas set by overly enthusiastic cadres, and called for the creation of institutes for agricultural tool improvement "in every county, district, and province." He felt that semi-mechanization in four years was achievable. See "Letter to Production Brigade Leaders," in Wan Suil April, 1967, pp. 19-21 and translated in Ch'en, Mao Papers, pp. 7-9. The tone of his letter he himself described as "low-key."


216. That the loss of draft animals was part of the reason the leadership united behind the creation of the Ministry of Agricultural Machinery in 1959 is implied by the following. The opponents of heavy investment in agricultural mechanization "were the general backers of the reactionary fallacy - 'Tractors are in demand when the horses are lean and the land is barren, but are of no use when the horses are fat and the land is in good shape.' They regarded mechanization as 'stopping a crack,' 'filling out a gap' and 'improving desolate and barren land.'" "Let the Radiance," pp. 1-7.


221. NCNA, August 26, 1959 in SCMP #2088, September 2, 1959, p. 4.


In addition to Ch'en's article see: Wang Kuang-wei, "Industry Should Give Greater Support to Agriculture," Red Flag #16, August 16, 1959 in ECMM #185, September 28, 1959; Liu Ch'ang-yun, "Glorious Achievements Scored in Production of Agricultural Machinery and Farm Tools Innovation," Kung-jen Jih-pao (Worker's Daily), September 19, 1959 in SCMP #2111, October 7, 1959; Li Ching-yu, "Realize Step by Step Agricultural Mechanization Through Tool Innovation," Chung-kuo Nung-pao (Chinese Agriculture)#19, October 8, 1959 in ECMM #194, January 4, 1960; Ch'en Cheng-jen speech of April 1, 1960 at the second session of the Second National People's Congress in CB #618, May 17, 1960; Sung Wei-ching, "Accelerate the Agro-technical Reform, Deepen the Farming Tools Innovation Movement," Red Flag #15, August 1, 1960 in ECMM #228, September 26, 1960; Feng Chi-hsin, "Questions Concerning the Acceleration of Farm Mechanization in China," Red Flag #19, October 1, 1960 in ECMM #234, November 7, 1960. Also see Chao Erh-lu, "Machine-Building Industry in the Past 10 Years." Note: That the ministry was not established without other bureaucratic organizations attempting to protect their interests is suggested by the report that at the Lushan conference, in which Mao advocated setting up a ministry of agricultural mechanization, the "top Party 'capitalist roader' in the Ministry of Agriculture [Liao Lu-yen?] put forward a plan for control of agricultural machinery by three ministries (the Ministry of Agriculture controls use, the Ministry of Industry controls manufacturing and maintenance, and the Ministry of Commerce controls supplies)." "Completely Settle," pp. 21-2. This represents what Bardack calls the bureaucratic "game" of "territory," (op.cit., pp. 151-9). See also Downs discussion of "Bureau Territoriality," (op.cit., Ch. XVII, pp. 211-22).


224. Chao Erh-lu, "Machine-Building Industry in the Past 10 Years," p. 4. While these figures, as examples of GLF statistics, may be questioned, the massive increase in rural small scale industry clearly meant a major, if temporary, geographic shift of the machinery industry.


229. Gittings, The Role of the Chinese Army, pp. 140 and 143.

230. % of State Budget Allocated to Defense (Billion Current Yuan)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>5.1</td>
<td>4.4</td>
<td>5.7</td>
<td>5.8</td>
<td>6.5</td>
<td>6.1</td>
<td>5.5</td>
<td>5.0</td>
<td>5.8</td>
<td></td>
</tr>
</tbody>
</table>


231. Cheng, MBICC, p. 206, pp. 29-30. He also says "some 40" plants in the defense industry were built or expanded with Soviet help. See also the following tables.

### Growth of Civilian and Defense Sectors of Machine-Building 1952-66

<table>
<thead>
<tr>
<th>Year</th>
<th>Index of Civilian</th>
<th>Index of Defense</th>
<th>% of m-b in mil. products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>100</td>
<td>100</td>
<td>42.3</td>
</tr>
<tr>
<td>1953</td>
<td>161</td>
<td>147</td>
<td>41.1</td>
</tr>
<tr>
<td>1954</td>
<td>191</td>
<td>188</td>
<td>41.4</td>
</tr>
<tr>
<td>1955</td>
<td>232</td>
<td>192</td>
<td>37.0</td>
</tr>
<tr>
<td>1956</td>
<td>371</td>
<td>468</td>
<td>40.1</td>
</tr>
<tr>
<td>1957</td>
<td>404</td>
<td>497</td>
<td>40.8</td>
</tr>
<tr>
<td>1958</td>
<td>na</td>
<td>na</td>
<td>45</td>
</tr>
<tr>
<td>1959</td>
<td>na</td>
<td>na</td>
<td>45</td>
</tr>
<tr>
<td>1960</td>
<td>na</td>
<td>na</td>
<td>45</td>
</tr>
<tr>
<td>1961</td>
<td>na</td>
<td>na</td>
<td>40</td>
</tr>
<tr>
<td>1962</td>
<td>na</td>
<td>na</td>
<td>40</td>
</tr>
<tr>
<td>1963</td>
<td>na</td>
<td>na</td>
<td>50</td>
</tr>
<tr>
<td>1964</td>
<td>na</td>
<td>na</td>
<td>50</td>
</tr>
<tr>
<td>1965</td>
<td>na</td>
<td>na</td>
<td>50</td>
</tr>
<tr>
<td>1966</td>
<td>na</td>
<td>na</td>
<td>50</td>
</tr>
</tbody>
</table>
231. (continued)

<table>
<thead>
<tr>
<th>Year</th>
<th>National Defense Budget</th>
<th>Military Imports from USSR</th>
<th>Domestic Military Production</th>
<th>TOTAL Procurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>5680</td>
<td>1047</td>
<td>892</td>
<td>1939</td>
</tr>
<tr>
<td>1954</td>
<td>5810</td>
<td>1032</td>
<td>1101</td>
<td>2133</td>
</tr>
<tr>
<td>1955</td>
<td>6500</td>
<td>845</td>
<td>1125</td>
<td>1970</td>
</tr>
<tr>
<td>1956</td>
<td>6120</td>
<td>626</td>
<td>2306</td>
<td>2932</td>
</tr>
<tr>
<td>1957</td>
<td>5510</td>
<td>316</td>
<td>2521</td>
<td>2837</td>
</tr>
<tr>
<td>1958</td>
<td>5000</td>
<td>317</td>
<td>4356</td>
<td>4673</td>
</tr>
<tr>
<td>1959</td>
<td>5800</td>
<td>432</td>
<td>6102</td>
<td>6534</td>
</tr>
<tr>
<td>1960</td>
<td>5800</td>
<td>280</td>
<td>7380</td>
<td>7660</td>
</tr>
<tr>
<td>1961</td>
<td>na</td>
<td>50</td>
<td>3280</td>
<td>3330</td>
</tr>
</tbody>
</table>

Source: Cheng, MBICC, pp. 74, 82, 207-9.


236. The exact nature of production of military equipment is, of course, classified. Thus there is some disagreement as to the exact responsibilities of the ministry. MacFarquhar, citing Donnithorne, (p. 128) says that it was probably nuclear. Cheng, (MBICC, p. 12) indicates conventional. In view of the apparent low level of Sino-Soviet nuclear cooperation at this point, it is possible that it was engaged in both.


239. Of course, it is unlikely that all of these products were produced in factories operated by the Second Ministry. What seems certain from the People's Daily article, however, is that the military took a strong interest in the production of all products related to military responsibilities. A 12/24/57 NCNA news dispatch, "Machine-Building Departments Move on Manufacture of Complete Sets of Machinery for Chemical Fertilizers" (in SCMP #1679, December 27, 1957, pp. 18-19) also revealed that "the First and Second Ministries of Machine-Building and the Ministries of Power Equipment and Chemicals Industry shall each designate a vice minister to for a leadership team which will...inspect the progress" in the development of the chemical fertilizer industry. This indicates some involvement on the part of the Second Ministry in the chemical industry. See also Ching Lin, "The Proportion...," cited in note 163 above. As late as 1975, Li Ch'eng-jui of the Economics Research Institute of the Chinese Academy of Sciences revealed that "if new technology becomes available, the ministry has the duty to popularize it, to organize meetings to swap technical experiences, and the like." (Cited in Rural Small Scale Industry..., p. 278.) Thus, there appears to be not only substantial coordination, at least in theory, between different civilian machine-building sectors, but between the military and civilian segments as well.

240. Huang Ching, minister of the First Ministry, having died on February 10, 1958, Chao Erh-lu moved from the Second Ministry to the First. Sung Jen-ch'iung continued to be responsible for defense machine-building, but now as minister of the newly-consolidated Second Ministry.


244. Gittings, The Role..., p. 227; Brzezinski, op. cit., pp. 464-5. Costs were paid by all members "on a graduated basis." (Brzezinski, p. 465) The importance of this training to China is demonstrated by the fact that the Chinese "surpassed the Czechs as the most numerous non-Soviet contingent" at Dubna as late as January 1965. It wasn't until July 1965 that the PRC finally withdrew from participation. (Brzezinski, p. 465) See also William Griffith, Sino-Soviet Relations 1964-1965, pp. 108-9, and Gittings, The Role..., p. 228; Garthoff, op. cit., p. 89.

246. See Gittings, *The Role...*, p. 229; Schurmann, p. 182.


252. 1st Party Secretary, NE Bureau of CCP at Liaoning. Klein & Clark, *op.cit.*., p. 789. Interestingly, in 1977 he reentered the machine building sphere as minister of the 7th Ministry of Machine Building. At the 3rd Plenum of the 11th CC in July, 1979, he became an alternate Central Committee member; At the 5th Plenum in February 1980 he became a member of the newly revived secretariat. See BR #10, March 10, 1980, p. 15.
253. Cheng, MBICC, p. 11; Also Samuel Griffith, op.cit., p. 222; Cheng, "China's Machine Building Industry," p. 27. (see note 4) In view of Sung's background and the partial eclipse of Mao's political power at the center, it is not surprising that Sung was replaced by an "expert." The staffing of this, and of the other military ministries gives me reason to believe that there must have been increasing internal tension in the PLA between those associated with procurement and production, and possibly research as well, (and probably with Chou En-lai and the State Council) and those responsible after 1962-4 for implementing the Maoist-oriented training and indoctrination of soldiers and the "learn from the PLA" campaign (i.e. Lin Piao, et al.). This tension would probably be similar to that existing between Lin and his followers and Chief of Staff Lo Jui-ch'ing. That this tension existed is at least partially borne out by the vicious attacks on several of these ministries and their personnel during the Cultural Revolution when agencies engaged in work vital to national defense were specifically prohibited as targets of attack. E.g. see "Machine-Building Ministry Fights Factionalism," People's Daily, January 19, 1968 in FBIS Daily Report #20, January 29, 1969, p. ccc12; and Cheng, MBICC, pp. 118-22. The Sixth (naval) and Seventh (aircraft and missiles) Ministries of Machine Building, and the Scientific and Technological Commission were the hardest hit.


256. Ellis Joffe and Gerald Segal, "The Chinese Army and Professionalism," POC Vol. XXVII #6, November-December, 1978, p. 11. These were, of course, the kinds of items for which the Chinese relied on the Soviets.


258. The role of jobs like State Council Secretary General, Director of the CCP General Office, and personal secretary to important figures has been overlooked. A few comments exist in Kenneth Lieberthal, Central Documents and Politburo Politics, Ann Arbor: Michigan Papers in Chinese Studies, 1978. This is also briefly
discussed in U.S. Senate, National Policy Machinery, p. 17. Mao himself criticized excessive reliance on private secretaries, saying that he had often gotten along with only one, or with none at all, and that unneeded secretarial personnel should be "sent down" to do some constructive work. He feared an "epidemic" of secretaries, calling it a "symptom of the decline of revolutionary spirit." See two versions of Mao's "Talk at the Reception of Secretaries of Big Regions and Members of the Central Cultural Revolution Team," in Chen, Mao Papers, pp. 26-30; 30-34, and "Sixty Points...," #38, p. 72. See also note 58 above.

Klein & Clark, op.cit., p. 779. On Sun see ibid., pp. 778-9; Who's Who, pp. 580-81. Sun was also a vice-chairman of the State Economic Commission from November, 1956 to April, 1961, and a member of the National Defense Council from January, 1965 to his death in October, 1966.

His appointment to the Third Ministry is reported by NCNA, January 30, 1961 in SCMP #2431, February 3, 1961. His death on October 21, 1966 at the age of 55 was reported in NCNA, October 11, 1966 in SCMP #3805, October 21, 1966, p. 5.

Joffe and Segal, op.cit., p. 11.


Klein & Clark, op.cit., pp. 894-5; Harrison, Long March, pp. 226-7; Who's Who, p. 663; and Huang Chen-hsia, op.cit., pp. 44-6. From October, 1949 to August, 1952 Wang was vice-minister of posts and telecommunications. From 1955 he was Director of Communications, PLA General Logistics Department, in which year he was also made Lt. Gen. From May, 1957 to November, 1958 he was a member of the Scientific Planning Committee. From March, 1959 he was Commander of the PLA Signal Corps, and from January, 1965 a member of the National Defense Council.


Klein & Clark, op.cit., p. 895.
Cheng, MBICC, pp. 12-13; Griffith, op.cit., p. 222. Whitson, op.cit., p. 66; Klein & Clark, pp. 201-2; Who's Who, p. 158; Huang Chen-hsia, op.cit. Like Minister of State Farms and Land Reclamation Wang Chen, Ch'iu was heavily involved in the army manual labor projects in Shensi-Kansu-Ninghsia Border Region in the early 1940's. Later he became Political Commissar, PLA Artillery HQ, and attained the rank of Lt. Gen.


It appears that this ministry is actually in charge of both military and civilian shipbuilding, in which case the increase in construction activity probably reflects the need for a fleet to accommodate the increased foreign trade, and the more rapid exploitation of oil reserves, in the 1960's. See Chi-jung Hsiao, op.cit., and USCIA Chinese Merchant Ship Production (note 255). See also George Lauriat, et al., "PLA Navy: Tribute to an imperial five-jewelled eunuch," IN FEER February 8, 1980, pp. 44-6. It is interesting to note that in 1975 the newly appointed minister of this ministry, Chai Shu-fan, was former minister of trade and former delegate to the law of the sea conferences. See below, Chapter Four, note 227.

268. Chang, MBICC, p. 13; Griffith, op.cit., p. 222. Klein & Clark, pp. 267-8; Who's Who, p. 205; Huang Chen-hsia, op.cit., pp. 55-7. Fang's Communist Party experience goes all the way back to 1927 when he served under Chu Te at Nanchang. During WWII he studied in the USSR, returning to high command positions. After liberation, he briefly held membership in the Central-South Military and Administrative Committee, then became Vice-Commander of the PLA Navy HQ; Commander, East China Fleet; Vice-Minister, First Ministry of Machine Building; and finally Minister of the Sixth Ministry of Machine Building. His rank was admiral. He was viciously attacked during the Cultural Revolution as a supporter of Ho Lung, who was accused of plotting a coup against Mao. What happened to Fang since the Cultural Revolution, I have not uncovered.

269. Background information on Wang may be found in Klein & Clark, pp. 919-21; Who's Who, p. 688; and Huang Chen-hsia, op.cit., p. 20. Like Wang Cheng, Wang Ping-chang's early schooling included radio technical school. A former member of Feng Yu-hsiang's army, Wang defected to the Communists in 1932, and during the War was sent to Red Army University in Moscow from which he graduated. He moved up subsequently from Chief of Staff, PLA Air Force to Vice-Commander of same, achieving the rank of Lt. Gen. Like Fang Ch'iang he was repeatedly denounced by Red Guards during the Cultural Revolution. Much of his trouble seems to have stemmed from the fact that his brother, also a former subordinate of "Christian General"
271. (continued)
Feng Yu-hsiang, was still active in Christian causes in China, and was denounced as early as 1957 as a "rightist." See "What Sort of Goods in Wang Ping-chang's Company," Tsao-fan Yu-li in SCMP #4006, August 22, 1967, pp. 7-12. See also "Premier Chou's Talk at a Reception for Revolutionary Masses of XX [Machine-Building?] Industrial Systems," Wen-ko Feng-yun in SCMP #4148, March, 28, 1968, pp. 3-9. In this talk Chou also revealed that the 7th Ministry "employs tens of thousands of workers in Peking" (p. 7) giving an idea of the size of the military-industrial complex in China.


278. Prybyla, op.cit., p. 361.


280. I use this phraseology because the process has not really been cyclical in the sense of a return to the status quo. (See Eckstein, "Economic Fluctuations..." and G. Wm. Skinner and Edwin Winkler, "Compliance Succession in Rural Communist China: A Cyclical Theory," in Amitai Etzioni, ed. A Sociological Reader on Complex Organizations, 2nd ed., NY: Holt, Rinehart and Winston, 1969) Moreover, the death of Mao has fundamentally altered the political mechanism on which most cyclical theories of Chinese Communist politics have depended. Furthermore, I think a good case can be made that the disintegration of elite consensus on "meta-policy" (i.e. policy on how to make policy—see Yehezkel Dror, Design for the Policy Sciences, NY: American Elsevier Publishing Co., 1971) after 1958, led to a fundamental change in the way Chinese politics operated after 1966. This change to an extent precludes any notion of cyclical behavior.
before and after the Cultural Revolution. We will return to this argument in the final chapter.


Kao attempted (with some success) "to secure support in the army for his conspiracy against the Central Committee," by advocating the notion that the CCP was composed of two parties (one from the "white" areas, one from Yenan). He, as representative of the revolutionary areas and army, should wield more power than Liu Shao-ch'i and Chou En-lai, representatives of the "white" area party. It should be noted that Kao's mobilization of support, however, was confined almost exclusively to top level leaders. See Philip Bridgham, "Factionalism in the Central Committee," in J. W. Lewis, Party Leadership and Revolutionary Power in China. NY: Cambridge, 1970, pp. 202-11 (quote p. 207).

The latter element seems to have provided the rallying point for opposition to P'eng. Such a tactic, however, was common-place in the Eastern European parties. Interestingly, one criticism of P'eng was that he supposedly "opposed the policy advanced by Chairman Mao of creating an independent and complete network of modern national defense industries," preferring to rely on the USSR "for improvement of our army's equipment and the development of up-to-date military science and technology." (NCNA August 20, 1967 cited in Bridgham "Factionalism...," p. 217) Shortly after P'eng's dismissal, the expansion of the military machine-building apparatus took place.

One thing he could do, however, was to muster support within the PLA. This further expanded the scope of politically mobilized participation. This tactic of Mao's, mobilizing new groups to overcome resistance from his opponents, would culminate in Mao's unleashing of the Red Guards. Whereas previously mobilized groups consisted of progressively lower echelons of "legitimate" socio-political leading segments, Mao had run out of new such groups. He was now reduced to going outside the Party-government-army sector altogether and mobilizing grass-roots social segments with coinciding grievances against his own opposition.
By contrast, both "the organization of the Second Ministry and the categories of products under its control have been kept secret since its creation." (Cheng, MBICC, p. 9) The following evidence, however, indicates that from 1952 until at least February 1958, this ministry "specialized in military production."

Evidence of the defense nature of the Second Ministry was once given in an authentic official document. On July 16, 1957, the Second Ministry of Machine-Building Industry and the head of the Chinese People's Bank issued a joint directive concerning a supplementary regulation for the settlement of credit accounts between the enterprises under the Second Ministry and the People's Bank. The directive disclosed that most of the enterprises under the supervision of the Second Ministry had refused to provide budgetary data to the People's Bank because of the security requirements of the defense industry. (Cheng, MBICC, p. 9)

One piece of contradictory evidence does exist. A November 1955 NCNA news release implied that the Second Ministry was in some way connected with agriculture:

The First and Second Ministries of Machine Building have respectively held many conferences with the Ministry of Agriculture and the All-China Federation of Supply and Marketing Cooperative recently. The problems of expanding the production of new animal-drawn farming implements and their marketing were discussed. ("Machine Building and Chemical Industrial Departments Actively Prepare Extended Production of Farming Implements and Fertilizer Next Year," NCNA, November 12, 1955 in SCMP #1177, November 24-25, 1955.)

In view of the evidence presented above, it is not always possible to be completely certain about the exact purview of each ministry's responsibilities. It is most likely that each is a somewhat heterogeneous amalgamation of enterprises engaged in a variety of tasks. Certainly the ships and radios, as well as other equipment, at one time produced under the First Ministry had military applications; it is likely that some of the "military" equipment of the Second Ministry (e.g. chemicals?) had civilian utility as well. It is clear from the evidence that the boundaries between civilian and military machine-building are not always easily defined.
CHAPTER THREE
RAILROADS AND REVOLUTION IN CHINA,
1966-1975

A. Introduction

The railroad system is one of the most important assets of the Chinese regime with respect both to the economy and the national defense. Long a base for Communist influence and radicalism prior to 1949, the railway sector has remained of crucial importance to the Party in power. Consequently, when a combination of circumstances from 1966 to 1968 jeopardized the ability of the rail system to operate effectively (if at all), the prevailing leadership decided to impose military control over it in an attempt to insulate the railroads from the worst effects of the Cultural Revolution. It is the task of the first part of this chapter to outline the circumstances that led to the decision to impose martial control over the railways in 1967, and subsequently between 1970 and 1975 to reestablish civilian administration over the system.

It is widely known in the West that the Cultural Revolution led to serious disruptions on the railway system in China between 1966 and 1968. Many accounts, however, have presented these disturbances as an amorphous and probably homogeneous set of upheavals. It is the contention of this chapter that such a view of the situation is oversimplified. While a number of recent studies have demonstrated the
complexity of Cultural Revolution struggles in general,¹ no one has systematically examined the effect of this complexity on the railroads.² Nor will my examination be exhaustive. However, an examination of the circumstances surrounding railway disruptions in a number of different areas in China, shows that these disturbances took a wide variety of forms and occurred for a number of different reasons. I have identified four syndromes of railway disturbance: System Overload, Intramural Factionalism, Extramural Factionalism, and Exterior Disturbance. While it is almost certain that each area in which rail service was severely disrupted suffered from more than one of these syndromes, I have selected model cases to demonstrate each type. Thus, the rationale for a military takeover of the railroads was not merely to seize the system from the "reactionary Liu Shao-ch'i clique," nor was it to oppress "loyal Maoist rebels." It was simply to reestablish order on a system which had been disrupted in a number of places for a variety of reasons.

The areas I have chosen were selected because of the relatively good information available, because each suffered severe railway disturbances, and because they are fairly well dispersed geographically. The disruptions in Peking, Shanghai and Chengchow occurred primarily between November 1966 and April 1967. Sometime shortly before May 26, 1967 Chou En-lai introduced a form of military control over the railroads. But this did not mark the end of the disturbances. The summer of 1967 saw a repetition of rail stoppages and violent factional upheavals. After a brief period of relative calm, disorder again broke out in the Spring of 1968. From March to May 1968, for
example, the Kwangsi Chuang Autonomous Region was the scene of severe disruptions, in which military supplies in transit from the USSR to Vietnam were hijacked and used in factional fighting. These incidents resulted in a new form of military control over the railroads.

By 1969, however, the military was beginning to disengage from civilian administration in general, and by 1970 the railroads too had largely been returned to civil control, as a component of the Ministry of Communications. It is my contention that this section was a result of the perceived threat embodied in the Soviet military build-up along China's border and the August 1968 invasion of Czechoslovakia, and of the domestic political factors of the declining influence of Lin Piao with the concomitant rise in the leverage of Chou En-lai. The situation became even more urgent with the open military clash with the USSR in March 1969 and the threat of full-scale war. The second portion of this chapter will attempt to explain how these factors produced the resumption of civilian control over the railways.

Finally, in 1975 the Ministry of Railroads was reestablished in its own right. It is my opinion that the reemergence of this organ reflected the playing-out of a complex political struggle between Chou En-lai and his supporters, the Cultural Revolution Group holdovers, and the regional military. In late 1974 and early 1975, Mao seems to have come out on the side of Chou, at least with respect to some issues; railroads were apparently one of them. Part of this was the strengthening of the State Council system and a concomitant organizational proliferation. Another part was the reappearance of Teng Hsiao-p'ing. In this light, the fate of the Minister of Railroads,
Wan Li, is particularly revealing.

Before examining the regional case studies of Cultural Revolution disturbances, it is necessary briefly to set the background of the Chinese railroad system. After a few remarks about the historical development of the railways, I will outline the problems existing on the eve of the outbreak of those disruptions.

B. Background

Since the mid-nineteenth century, railroads have been an important concern of every Chinese government. Early statesmen like Li Hung-chang, Sheng Hsuan-huai, and Liu Ming-ch'uan attempted to build railroads, often without official encouragement or funds, in order to strengthen the Chinese economy and defense. The gentry played a large part in the construction of railroads, and it was, of course, the determination of the Ch'ing court to nationalize gentry-owned and -operated railways in Szechuan and other provinces that sparked the Wuch'ang revolt and the overthrow of the Manchu dynasty in 1911.

After the 1911 revolution, and the brief interregnum of Yuan Shih-k'ai, the nation fragmented into disparate warlord satrapies. Both because of the nature of China's warlord armies (lightly armed masses of peasant soldiers) and the prevailing military strategy of the period (mobility, quick strikes with masses of troops usually with goals of less than total conquest) railroads were of extreme importance to the warlords. As a result, warlords encouraged foreign investment in this industry. And the foreigners were only too anxious to take advantage of the opportunity, seeing railroads as a means of
extending their influence into the interior. The Russians expanded their trans-Siberian line into north, northeast and northwest China; the Japanese built up the Manchurian rail lines; the British moved into the Yangtze valley; and the French expanded into southern China from Indochina. In almost every war on the Chinese mainland in the twentieth century, the railroads were a key element, either as resource or objective.

As a result of the foreign penetration in the railroad industry, and due to the nature of the industry itself, the infant Communist Party found fertile ground for its propaganda. In some respects, railroad workers were the most proletarianized of any segment of the Chinese population. Not only did they work with machinery under conditions requiring skills of cooperation and organization but they were more clearly removed from their homes and rural influences. While a factory worker might return to his village or traditional family setting at night, the railroad worker often had no home; he was constantly on the move. Even in the Communist period railwaymen have maintained a rather unique identity. As a result of these factors, the Communist Party was relatively successful in organizing the workers. As early as 1923 they were instrumental in instigating a major strike in Chengchow. When the strike's effectiveness became obvious, warlord Wu P'ei-fu ordered his troops to bring it to an end. About 50 workers were killed, hundreds wounded. After a brief retreat, the railroad workers experienced a resurgence. A National Railroad Union was formed, holding its second congress in 1925 in Chengchow. By 1927, labor unions under Communist influence claimed
During the 1930's and early 1940's, two railway systems were developing independently. In Manchuria, the Japanese were building a large network of tracks for the exploitation of natural resources, the opening of the interior to settlement, and the transportation of troops. \(^{(10)}\) Simultaneously, but with less intensity, the Kuomintang was developing and expanding the railroad system in the rest of China. \(^{(11)}\) However, both civil and foreign wars not only distracted the government from this effort but destroyed much of the track and rolling stock that had painfully been accumulated. As a result, when the CCP took power in 1949 the communications system, especially the railways, was in substantial disarray. \(^{(12)}\) (Tables 5-7) Under the First Five-Year Plan, substantial investment resources were allocated to the railroads. Transport and Telecommunications received between about 13 and 19% of state investment. Of that total, 59% went to the railroads. "Of the 5.67 billion yuan of planned investment in the railway transportation sector, 2.37 billion or 41.7 per cent was earmarked for new railway construction, 1.85 million (sic. billion?) or 32.7 per cent, for improvements on existing lines, and 1.23 million (sic. billion?), or 21.5 per cent for additions to equipment. The residual 4.1 per cent was earmarked for investment in the design and construction workshops in general."\(^{(13)}\)

Construction of railways during the first decade apparently was centered around two priorities. First, the Chinese desired to extend existing lines. \(^{(14)}\) Many new economic centers were planned to grow on
Table 4
Railways in Manchuria, 1934-38

<table>
<thead>
<tr>
<th></th>
<th>1934</th>
<th>1938</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mileage of track (in km.)</td>
<td>6,630</td>
<td>9,818</td>
</tr>
<tr>
<td>Freight Traffic (1000 metric tons)</td>
<td>28,288</td>
<td>47,814</td>
</tr>
</tbody>
</table>


Table 5
Distribution of Operating Railways, 1949-50
(Length of operating trunk lines)

<table>
<thead>
<tr>
<th></th>
<th>1000 kilometers</th>
<th>percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal</td>
<td>8,404</td>
<td>42</td>
</tr>
<tr>
<td>Inland</td>
<td>11,809</td>
<td>58</td>
</tr>
<tr>
<td>Total</td>
<td>20,213</td>
<td>100</td>
</tr>
<tr>
<td>Developed areas (NE, N, E)</td>
<td>15,680</td>
<td>77</td>
</tr>
<tr>
<td>Underdeveloped areas</td>
<td>4,533</td>
<td>23</td>
</tr>
</tbody>
</table>

N.B.: Northeast alone accounted for 48% of the total.
Table 6
Modern Railway Equipment Available at End of 1949

<table>
<thead>
<tr>
<th>Equipment</th>
<th># held by Communists</th>
<th># held by Nationalists</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engines</td>
<td>3,355 (1,023 damaged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight Cars</td>
<td>44,401 (4,412 damaged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger Cars</td>
<td>4,412 (706 damaged)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 7
Source of Railroad Equipment Available in 1949

<table>
<thead>
<tr>
<th>Equipment</th>
<th># held by Communists</th>
<th># held by Nationalists</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engines</td>
<td>1,010</td>
<td>2,345</td>
<td>3,355</td>
</tr>
<tr>
<td>Freight Cars</td>
<td>16,701</td>
<td>27,700</td>
<td>44,401</td>
</tr>
<tr>
<td>Passenger Cars</td>
<td>3,116</td>
<td>1,296</td>
<td>4,412</td>
</tr>
</tbody>
</table>

current railroad routes or their extensions. This priority was enhanced by the decision to carry over many of the construction plans begun under the Kuomintang government, in the process reducing overhead costs by lessening the need for planning, surveying and even some preliminary railroad-bed construction. It was thus possible to free scarce technical personnel for other important tasks. In fact, 42% of the new railways under the First Five-Year Plan represented completions of lines begun under the Kuomintang. 15

The second priority was strategic. A number of new lines were built in underdeveloped areas and/or locations with clear military implications. Links to the USSR via Mongolia and Sinkiang both extended Chinese influence into these border areas and facilitated delivery of Soviet supplies and equipment. Likewise, railroad tracks were extended into Fukien (facing Taiwan) and into the southwestern provinces bordering on Vietnam. The one exception to this policy appears to have been Tibet, whose climate and topography make the construction of railroads almost impossible; in 1979 Tibet still has no trunk line railway.

The importance of the rail system for both economic development and national defense cannot be overemphasized. 16 In the late 1950's about 80% of the freight moved by modern transport was shipped on the railroads. 17 Between 40% and 60% of this was coal, followed in importance by pig iron. Also of great importance were grain and cotton, 18 both key elements in China's developmental effort. During the 1950's and early 1960's, however, a number of problems with the railroads were becoming evident. "While track mileage expanded rapidly in the
1950's, the proportional rate of increase of railroad freight turnover was much greater." Investment in the railways had remained fairly high, but rail trackage between 1949 and 1963 increased only 23% (and route length, due to double tracking, by only 56%). This yielded average annual increases of 5.9% and 3.25% respectively, including both the rehabilitation of war-damaged lines and the completion of lines begun under the Nationalists. During the same period industrial growth (as measured by gross value of output of modern industry) grew from an index of 100 in 1949 to 703.1 in 1957 to a reputed 1,240 in 1958. Likewise, the "growth of railway freight traffic averaged 46 per cent a year from 1949 to 1952, 19.3 per cent from 1952 to 1957, and 36.7 per cent from 1957 to 1960." As a result, the lines, and presumably the personnel as well, were under strain. Furthermore, much of the equipment was old and worn. Domestic production and imports were hard-pressed even to maintain the status quo. As a result, transport bottlenecks developed, and when combined with mismanagement and lack of coordination, often resulted in very poor performance.

Yuan-li Wu, for example, identifies six categories of management inefficiency in the railroad sector:

1) waste in transit; 2) shipment of goods without prior determination of market demand; 3) the early practice of balancing supply and demand of key commodities by industrial branches, and, since 1959, rigidly bounded supply areas with supply and demand balanced on a zonal basis; 4) the long series of intermediary agencies handling the distribution of goods; 5) inclusion of average transportation cost in a uniform "transfer price," thus eliminating differential transport costs from consideration; and 6) poor locational planning as shown by intraindustry imbalances at certain locations of major industries.
Besides innovations in management and planning, the Chinese, especially in 1958-9, put increased emphasis on local initiative and technological innovation in so-called "native railroads." But the most common solution to the problem of bottlenecks was simply to increase the number of cars per train and the number of runs and/or miles per trip, and to reduce the turn-around time for engines and wagons. For example, the average daily run of freight cars increased from 154.9 kilometers in 1949 to 233.1 in 1951 to 255.6 in 1958. The average turn around time for freight cars was reduced from 4.39 days in 1949 to 2.9 days in 1952 to 2.47 days in 1959. This created added stress on already overworked equipment and crews. The situation was further exacerbated by cuts in capital construction funds during the "three hard years." Growth of new lines and manufacture of new equipment suffered as available construction funds were used to repair and improve existing facilities. It wasn't until 1965-6 that new construction was again emphasized. Thus, on the eve of the Cultural Revolution, the railroads were already suffering from insufficient investment, inadequate rolling stock, antiquated equipment, and inefficient management. The disturbances of 1967 and 1968 further exacerbated an already deteriorating situation.

C. System Overload: Peking

When Mao unleashed the Cultural Revolution and conjured up his revolutionary genies, the Red Guards, one of the first effects was a massive pilgrimage of young people to the capital and to various scenes of historic importance. Between August 1966 and February 1967,
millions of extra passengers, unplanned for and usually unpaid for, literally ground the railway system to a halt. This first source of railroad disturbances is best exemplified by the situation in Peking.

Student rebels in Peking began to agitate against university authorities and the cultural and Party leadership of Peking in the late winter and early spring of 1966. Already coalescing into groups of "Red Guards," many of these students were galvanized into action by the publication of Nieh Yuan-tzu's May 25 "big character poster" attacking Peking University president Lu P'ing. The Chairman's decision to support the "rebels" was manifested in the publication of his own "big character poster" on August 5, which urged Red Guards to "Bombard the Headquarters." There followed a nation-wide proliferation of student organizations as young rebels from Peking began to travel to other cities to "exchange experiences," and student activists on campuses around the country began to coalesce into factions of various sizes and political persuasions. When Mao legitimized these activities even further by accepting a Red Guard arm-band at an August 18 rally of upwards of a million young people, youngsters all over the country dropped their text books and took up banners, posters and slogans.

The effect of the Red Guard upsurge was not immediately felt on the railway system. Until the middle of August, the railroads seem to have operated normally. However, once Mao and Lin Piao had encouraged "exchange of revolutionary experiences" and put the railroads at the disposal of the students, chaos quickly ensued. Students "could jump on any train and go anywhere they liked on the pretext
of wanting to 'exchange experiences' in the Cultural Revolution, without paying a fen." The influx into Peking quickly became so large that the Peking Railway Bureau was compelled to set aside several train stations for incoming and outgoing "revolutionary teachers and students" beginning September 16, and to demand that tickets be obtained at least two days in advance. Moreover, "in Peking long rows of newly constructed worker houses had to be set aside for the lodging of visiting petitioners from the provinces."  

Between August and the end of the year at least 50 million persons were transported by train around the country, including 11 or 12 million received in Peking.  

Moreover, Peking's bus and trolley system, reinforced by 6000 drivers, conductors and mechanics and 1500 busses from 13 provinces and municipalities, has handled some 350 million passengers. In addition, the New China News Agency admitted that,  

The task of transporting the Red Guards came first. Nearly two-thirds of the Railway Department's passenger cars were given over to them. At least 60 trains a day came through Peking railway station alone.  

Not only were railroad passenger cars allocated to travelling youngsters, as late as January 1967, "Australian students photographed many Red Guards travelling in box cars." The situation on the trains became unsafe, not to say uncomfortable:  

The train was so packed that four of us were assigned to every three seats; we struggled to find a place to sit among quarrels and shouting...The train moved alone at high speed. As night came, many students and Red Guards fell asleep in their seats while others spread newspapers in the aisle and lay down there. The place was really a mess; some students could not even make it through to the lavatory...Even greater confusion reigned when we pulled into a station. Since stopovers were very brief, our huge mass of Red Guards would scramble off the train like
hungry tigers bounding from a cage to find something to eat. In the confusion one usually got a few cakes (shao ping) without paying. It was also necessary to steal hot water, and many of us got our hands burned while trying. As soon as the whistle blew everyone would pile back onto the train. There was absolutely no discipline.34

By November, "there were indications that the strain of providing a magic carpet for the Red Guards was beginning to tax the resources of China's fragile railway system." Railroad workers, from whom the Cultural Revolution "probably demanded more work...than from any other labor group" during the period, were suffering from morale problems. A spate of media paeans to "railway heroes" seems to have done little to alleviate ill feelings,35 as we shall see in the next sections. On November 3, Lin Piao addressed a mass rally in Peking. He now emphasized that:

Chairman Mao supports you comrades travelling on foot to exchange revolutionary experiences...Of course, this kind of travelling on foot for the exchange of revolutionary experience must be undertaken in a planned and organized way and must be well prepared.36

On November 19, the State Council issued an order that all Red Guard train travel to Peking would end by November 21. This ultimatum was completely unsuccessful and the deadline was moved forward to December 21.37 November and December, however, saw an even greater influx of passengers on the railways. With total chaos reigning in the educational system, and control over the railroad all but completely lost, students took advantage of the opportunity to shift from "revolutionary tourism" to "non-revolutionary tourism." Students travelled all over China seeking nothing more than excitement and a chance to "sight see" at no charge.
Before long we decided Tientsin was not so interesting after all. But while coming to the city was easy enough, leaving was another story altogether. The problem was that no passenger trains originated in Tientsin...Unsuspecting Red Guards like us had begun to pile up in Tientsin...Sure enough, in the waiting room at the train station, we found a long queue in which some individuals with sleeping bags had been waiting for over three days...That same evening when a train arrived at Tientsin...we dashed out of the waiting room to the platform...One fellow...finally stormed forward and with unbelievable strength smashed his fist through the thick plate glass of one coach door...We were able to push hard enough to force open the door and climb into the end of the coach. We had won at last.

The emotional strain on railroad personnel must have been tremendous:

Still half asleep, we alighted from the train to walk to a new coach. The cold wind outside soon revived our senses and forced us to pull our collars tightly around our necks. The railroad man first tried to lift us up and stuff us through a coach window farther back, but the people inside the coach pushed us out. Then he climbed in himself and directed a little ideological persuasion at the Red Guard passengers. He must have been forceful because we were soon able to climb in by ourselves.38

At the same time the State Council was attempting to force student Red Guards to go directly home, however, an influx of a new element was taking place. Large numbers of workers were beginning to flock to Peking to present their grievances. Some workers no doubt were influenced by leadership tactics of economism: the presentation of bonuses, free transportation, and time off. These attempts by local officials to "buy off" criticism and redirect rebel attacks have been dealt with at length elsewhere.39 The result for the railway system was that hundreds of thousands, perhaps millions of workers were now taking the place of deactivated students in the trains. On December 26, 1966 for example, Chiang Ch'ing addressed representatives of the All China Red
Worker Rebels' General Corp, an organization of contract workers thousands of whom had come to Peking from around the country. On January 10, 1967 Premier Chou met a group of representatives of railway workers. He reportedly announced that "workers of various districts are disrupting train schedules by rushing to Peking, just like at the time of the Red Guard movement, and that this is also dealing a blow to production." \[40\] Japanese correspondents reported that:

Several thousand workers have gathered in front of the Public Security Ministry (State Police), and are confronting the soldiers of the Liberation Army, who are standing guard at the entrance. There are also several thousand workers in the Tienanmen Gate Plaza. At Peking Station, workers are flowing in from all parts of the country in large numbers, in a manner resembling that at the time of the peak of the Red Guard movement, and despite Premier Chou En-lai's stern warning, several hundred workers are seen in a sit-down every night in front of the Party Center and the west gate of the State Council. \[41\]

Chou admitted that:

The number of workers who arrived in Peking far exceeded our expectations. Trains were thrown into confusion, accidents occurred, and the workers in the railway field were hit hard. Some people may say that the answer lies in increasing the number of trains. However, if the number of trains are increased, more workers will come to Peking. This is all a new form of the bourgeois reactionary elements' counter-offensive. \[42\]

Overcrowding, overworked staff, short tempers and factional problems led to occasional violence and breakdown of law and order, \[43\] with the result that confusion reigned and "on some lines, traffic has been paralyzed." \[44\] While overtaxing of the system was clearly not the only cause of this paralysis, as will be discussed in subsequent sections, it is clear that it heavily contributed to it. One result of the shutdown of the system was that food shortages began to occur.
As early as October, Red Guards were told to leave town because there were so many visitors in Peking that there were problems in supplying them all with food. Perhaps more important was the fact that with China in the grip of the coldest weather of the year, there were thousands of unfilled demands for coal. For example, the Yangshupu power plant - the basic supplier of electricity to Shanghai - was at one point down to a two-day supply.

In early 1967, the primary source of disturbances on the railroad system shifted. Stern measures by the central authorities finally resulted in the departure of the last two to three million Red Guard holdouts from Peking. Now the railway workers themselves became embroiled in controversy. Factional struggles broke out that pitted one group of railwaymen against another, or entailed confrontations between railway workers and outside elements. It is to these factors that we now must turn.

D. Factionalism: Intramural and Extramural in Shanghai, Harbin and Elsewhere.

Probably for no other area of China except Kwangtung has the Cultural Revolution been so thoroughly studied as for the city of Shanghai. Consequently, the rich documentation with respect to the general political situation, and the railroads in particular, provides ample opportunity to examine the second and third syndromes of rail disturbances. Intramural factionalism refers to the tendency for a single group, in this case the railway workers, to split into two or more opposing factions clashing over some issue or issues, or over the seizure of power. Such a clash does not extend past the
boundaries of the rail system, but a prolonged or intense confronta-
tion in such a vital sector is likely to be very disruptive. Extra-
mural factionalism refers to the tendency of groups within a single
functional area to link up with or submerge themselves in larger
factions that do extend beyond the borders of their system. Again
the clash may involve issues or power, but the result is the same:
disturbances of the function performed by the original group. We
not only find the existence of both intramural and extramural fac-
tionalism in Shanghai but we find that almost everywhere the one
occurred, at some time the other occurred as well. In Shanghai it
appears that extramural factionalism existed first, but was trans-
formed into intramural factionalism after the seizure of power by
the "leftists" and Chang Ch'un-ch'iao in the January Revolution.
Thereafter, conflict was to an extent confined to the clash of fac-
tions within the factory, school or workplace. In Canton and Kwangsi,
both kinds of factionalism appear to have existed. Interestingly,
however, once disturbances began to subside in Kwangtung, the railway
workers seem to have disengaged somewhat from factionalist activities.
When further problems occurred in Canton in June 1968, railwaymen
apparently were not heavily involved.

The fourth type of disturbance, Exterior Disruption, is most
clearly demonstrated in Chengchow. As in Canton in June 1968, the
Chengchow railwaymen do not appear to have been deeply involved in
factional hostilities. Stoppage of transport in this crucial railway
crossroad was rather due to general economic disturbance, dislocations
up and down the line, and general social chaos in Honan. A similar
situation may have existed in Harbin.
As early as May 1966, the railway workers of Shanghai were beginning to involve themselves in the Cultural Revolution. On May 8, People's Daily cited an article by a locomotive conductor from Shanghai urging railroad men not merely to "take care of their work" but to "fight with guns and pens" against the "class enemy." This militancy reflected the frustration of railroad workers with recent changes in labor policy that promised to affect them drastically and adversely. First suggested in 1962, by 1964 a program of deemphasizing regular workers in favor of temporary, part-time and contract laborers was being implemented. Under this system older, more privileged workers were being phased out by less skilled irregulars whose "overhead" costs were not so high. The regular workers had a great deal to lose:

Given the level of Chinese technology, railwaymen there are probably among the most skilled group of workers... Their pay is probably half again as much as the pay of the average industrial worker. This puts them among the elite who were bound to suffer most from austerity inherent in the Cultural Revolution...Railwaymen sometimes live together, have special railway schools for their children and hospitals for their sick. Furthermore many of them travel, in a country where most people are stuck in routine jobs with little chance of seeing the next town let alone the next province. In addition, the railway workers had their own insurance and public health system. Moreover, "one hundred 'five-good' workers of the Shanghai Railway Bureau were every year treated to a summer vacation at the famous resort of Lu-shan in Kiangsi." Regular workers were also much more likely to gain admittance to the Party than irregular workers.
The summer of 1966 was a time of considerable tension. Throughout much of the season the temperature in Shanghai hovered between 90° and 100°. The heat exacerbated rising social tensions and strains on the city's capacity to deal with between one and five million outsiders who had flocked into the city.\textsuperscript{57} In addition to Red Guards from other parts of the country (early September alone had seen the influx of about 2,000 from Peking), large numbers of dissatisfied peasants had moved into the city to present their grievances over the living conditions, low income and the gap between urban and rural life-styles.\textsuperscript{52} Another very large group of unauthorized residents consisted of returnees from the rural and mountainous areas, students sent to frontier posts like Sinkiang and Heilungchian in the hsia fang movement, and unemployed workers displaced by changes in labor policy or seasonal fluctuations in employment.\textsuperscript{53} These returnees were particularly vocal in expressing their anger and resentment at the harsh living conditions and lack of opportunity for upward educational, social, political or economic mobility. Finally, as described previously, the population was swelled by a large number of "tourists" taking advantage of free rail travel and time-off to see China's biggest city. So great was the immigration into Shanghai that the Municipal Party Committee set up "over fifteen hundred reception centers and staffed them with over 150 thousand workers."\textsuperscript{54} Despite the effort to bring some order into the confusion, the railway stations in Shanghai resembled total chaos. One witness reported:

I had been at the station on November 9, and it was clear from the thousands of students waiting for trains, the stench of urine rising from the tracks, and the general
air of a campground that the transport system was unable to cope and that travellers had been sleeping on the platforms.55

It was almost inevitable that in Shanghai, as in Peking, this influx of people from outside the city would lead to critical housing and food shortages. These began even before the December-January railway strike. Not only were there so many more mouths to feed, but the influx of these people was clogging the system that transported the food. Moreover, peasants had been stimulated to leave work to present their demands, and those who remained to grow and harvest other much-needed foodstuffs began to distribute more among themselves and ship less to the cities in an effort to redress the imbalance they perceived between their standard of living and that of the city dwellers. The railroads were also unable to transport normal quantities of industrial raw materials. This would later become a crucial problem in Shanghai, as elsewhere in China. By late summer it was already becoming inconvenient as shortages of consumer commodities began to occur.56

Further increasing the tensions in Shanghai in late summer was a shortage of funds. Workers had been demanding wage increases, reduced working hours and the reinstatement of bonuses and other benefits. (Not only had policy changed toward the labor system, including a noticeable reduction in training programs for workers to upgrade their wage level, but from late 1965 to 1966 an ideological campaign to denounce bonuses had been underway. In addition, the older workers were required to train the irregular laborers who would replace them!) Laid-off workers also were demanding their jobs back.
Irregular workers demanded regular status along with all its perquisites. Moreover, in order to get rid of "troublemakers" the municipal government decided to give free travel passes and allowances to large numbers of workers and students in order for them to "exchange experiences" (and create trouble) elsewhere. The resulting confusion led to a run on the banks by the citizens. No doubt Shanghai's 90,000 "capitalists," representing 90% of those so designated in the country, felt particularly vulnerable to expropriation and may have led the run. 57

Agitation from outside and existing tensions in Shanghai led to a split among the city's workers that by and large neatly followed the division between regular and temporary, part-time and contract laborers. This was especially true in the railroads. Shanghai's workers split into two major factions by November-December 1966. Workers, even railwaymen, had already been joining the pilgrimages of Red Guards to Peking intending to present their demands, voice their complaints or just see the sights. 58 However, on November 10 there occurred an incident that changed the nature and extent of workers conflict in Shanghai.

On November 9 the "radical" workers, including many irregular laborers, had convened a mass rally to inaugurate their new alliance; the Shanghai Workers' Revolutionary Rebel General Headquarters (or Workers' General HQ). 59 The municipal government refused to grant it official recognition or to accord to its demands, so on the next day some 2,500 rebel workers seized a train intending to go to Peking to denounce the "reactionary" Shanghai authorities. The train got
only a few stations out of Shanghai before it was shunted onto a siding at Anting; "conservative" railway workers apparently forewarned by the municipal government prevented the train from proceeding to Peking. The details of the resolution of this incident are well documented. Briefly, the Shanghai authorities got friends and relatives to convince about half of the workers to return; the central leadership, concerned about the potential effect on production, authorized Ch'en Po-ta to insist upon the return of the others. Chang Ch'un-ch'iao was dispatched to oversee the deescalation of the crisis. His subsequent capitulation to the workers' demands has been open to various interpretations. The importance of the Anting Incident for this chapter, however, is the fact that it resolved very little. The tension between conservative and radical factions persisted; neither side had won.

The failure of either side to emerge from the Anting Incident with a clear victory was exacerbated by the legitimation of worker participation in the Cultural Revolution embodied in the November 17 Cultural Revolution Group directive that workers should now take the leading role in the movement, and the subsequent November 19 State Council directive that free train travel to Peking for Red Guards would cease in two days. Tension and violence increased through late November, fueled by the arrival on November 20 of Nieh Yuan-tzu and her direct and fiery attacks on the Shanghai establishment. Workers' General Headquarters members joined students in besieging the post office and seizing the Liberation Daily on November 29-30. By December 5, the situation had gotten so out of hand that the Municipal
Party Committee signed the demands of the rebel workers. On the next day the conservative workers, prominently including regular railway workers, formed the Workers' Scarlet Guards for the Defense of Mao Tse-tung Thought.

Between the formation of this "conservative" factional group and the last week of December, the situation deteriorated even further. The Municipal Party Committee had totally lost control, but no successor had emerged to seize power. On December 25, Chiang Ch'ing, speaking to a group of workers, clearly advocated that they take time off to engage in politics. The next day she met a delegation of contract workers in Peking, and strongly endorsed their demands. Her opinions were accompanied by a People's Daily editorial legitimizing worker organizations. "This directive, more than any other single event, triggered the incidents of 'economism' in Shanghai." The very next day, December 27, the Scarlet Guards met and decided to strike, but omitted from their job action any disruption of electricity, water supply or night-soil collection.

Almost immediately, this strike created violent clashes between the conservative and radical factions. Between December 28 and 29, the factions fought it out in front of the East China Bureau Secretariat of the CCP on Kanping Road in Shanghai. While the issue was in doubt, on December 29, the Municipal Party Committee met and decided to give in to the demands of the conservative faction. They signed an agreement to give the workers 30 million yuan in wages and welfare benefits, and increased passes and allowances for workers, including many railwaymen, to go to Peking. The next day, however,
when it was clear that the Scarlet Guards had suffered a defeat at Kanping road, the Municipal Party Committee declared that the agreement had been extracted by force, and was null and void. The workers were now angry and on the defensive.  

As a result of these set-backs the conservative faction took two actions. First, on the morning of December 30, some 60,000 to 70,000 Scarlet Guards set out on foot and by truck to go to Peking in order to complain about rebel violence. Partisans of the Workers' General HQ intercepted them at K'unshan and a bloody battle ensued. On the one side were the 60-70,000 Scarlet Guards reinforced by local supporters; on the other side was "a numerically superior force of Rebels." Blood flowed freely, some were apparently killed, and the flame of tempers and antagonisms was fanned.  

The second tactic of the Scarlet Guards was to reinforce and extend their strike. At 7 o'clock on the morning of December 30, the railroad workers, among others including dock workers from Shanghai harbor, shut down operations and walked out. More than "50 passenger and freight trains...were compelled to halt." The conservatives still apparently represented a majority of the city's workers, so their "three-stop" strike was able to shut down not just the transportation system, but electricity, the water supply, and work in general. The ramifications for the railways and harbor were immediate and catastrophic. The two main rail lines from Shanghai to Hangchow and Nanking were shut down completely. Likewise, the Peking-Shanghai line was disrupted, as was virtually all rail traffic into or out from the city. The lines to Hangchow and Nanking remained shut at
least until January 10. Similarly, the harbor was totally paralyzed.

The result of the shutdown of transportation services was immediate discomfort with the prognosis of near-term disaster if the situation persisted. Food shortages increased; lack of raw materials and electricity shut down factories. Lack of coal began to cripple both industry and public utilities, and probably even the rail system itself. In those circumstances, the rebels increased their efforts to seize control. On January 3 Shanghai Mayor Ts'ao Ti-ch'iu was humiliated at a public rally; this was repeated in a televised spectacle of January 6, at which virtually the whole Shanghai Party and government hierarchy was exposed to criticism and removed from their jobs. On January 4, the rebels seized the newspaper, Wen Hui Pao, followed the next day by the seizure of Liberation Daily. With these propaganda organs in their hands, the rebels issued a "Message to All the People of Shanghai" which urged the conservatives to end their strike and assured them of a warm welcome back into the fold of true revolutionaries, since they had actually been "misled" by the "economism" and "sugar-coated bullets" of the disgraced city authorities.

Between January 6 and 9, Peking made known its support for the rebels. New China News Agency praised the efforts of transport workers over the past several months in remaining at work under adverse conditions, a clear indication of their desire to see the strike end. On January 9, Shanghai's papers (under rebel control) published a telegram from Mao denouncing the former Shanghai establishment for using "economism" to undermine the revolutionary fervor
of the city's workers. In the same papers, the rebels issued their "Urgent Notice" that the strike should end, that workers should go back on the job and that the city's economy should return to normal. Moreover, the appeal did not call for punishment of strikers but merely for their return to work.

These appeals to unity were apparently seen by strikers as demands for subordination. They were unsuccessful, and on January 9 the new rebel controlled government of Shanghai set out to break the strike. Groups of rebel workers were dispatched to take control of the railroads. A twelve-man delegation took over management of the control office, ordering the chief controller to resume his job. Some conductors were converted or compelled to help, but the majority of the labor power used to clean up the backlog of freight in both the railways and harbor consisted of PLA members and student volunteers.

Student Red Guards asked people not to go to the station, brought in food for those already there, got them off the railway lines, and started some of the 46 trains parked on various sidings along the line moving again...The rebel group now went to deal with 400,000 tons of accumulated freight and soon had it moving off at the rate of 80,000 tons a day.

It was not until the middle of January that the railway strike was brought to an end, and it was as late as January 23 that "Shanghai Radio was able to report that most of the ships in the harbor had once more begun to move."

At the same time that the strike-breaking activity was going on in Shanghai, the Railway Ministry establishment in Peking was coming under heavy fire. As early as November 27, 1966, railway workers had
met with Chou En-lai. Another meeting took place on December 1. On December 18, a third meeting was held between 40 workers and the Premier, accompanied by Minister of Railroads Lu Cheng-ts'ao, Vice-Minister of Railroads Kuo Lu and Vice-Minister of Railroads Wu Ching-t'ien. Already the Premier showed exasperation with his railway chief.\(^7^6\) Again on January 10, Chou met railroad workers and complained to them that their factional activities, especially in Shanghai and Tientsin, were paralyzing railway traffic.\(^7^7\) He also apportioned much of the blame to the faulty leadership of Lu Cheng-ts'ao, but denounced the idea of "dragging him out."

The Railways Ministry will be made to take firm responsibility. Instead of dragging Railways Minister Lu Cheng-ts'ao out to make self-criticism he will be made to carry out his work with responsibility. Railways Minister Lu was dragged out to Changhsintien (about 20 kilometers southwest of Peking) for four or five days, and even when I personally went to find him, I could not find him. Acting in such a way will not benefit anyone.\(^7^8\)

On January 13, Chou and Lu again met a railroad delegation. Chou criticized the minister, but apparently his admonitions against "dragging him out"\(^7^9\) infuriated the rebels because according to Chou's own account, they interrupted the Premier's speech and dragged Lu out.\(^8^0\) Criticism of Lu escalated in the next ten days, fueled by strident attacks from Ch'en Po-ta and Chiang Ch'ing. As early as January 10, while Chou was trying to protect Lu from being dragged out, Chiang Ch'ing was telling a Red Guard group that "Lu Cheng-ts'ao instigated revolutionary railways employees, had them hold strikes, and caused normal railway operations to stop functioning."\(^8^1\) She also reportedly said,
Lu Cheng-ts'ao has revealed his true nature this time himself. He once purged Comrade Lin Piao in the Northeast... From his counter-revolutionary standpoint, Lu Cheng-ts'ao resorted to his "Murder Weapon" and stopped trains. Without naming Lu by name, Ch'en Po-ta at the same meeting accused the Ministry of the "economist" tactics of buying off railway workers, sending them to the capital to complain, and inciting strikes. On January 18, Chiang Ch'ing publicly accused Lu "of being a sworn brother of P'eng Chen, of having instigated the railway strikes, and of being responsible for the disruption of the railway system."  

On January 22, the rebels seized the Ministry of Railroads and began accusing it of promoting economism and strikes. Within three days the situation was chaotic. While the scene in Shanghai may have begun to clear up by this time, an "Urgent Appeal" to "Chinese Revolutionary Railway Workers" showed that the rail system as a whole was in serious trouble. On that same day, 

Lu Cheng-ts'ao, State Council Railways Minister and concurrently Liberation Army Railways Corps Commander...was forced to were (sic, wear?) a three-cornered pointed hat, a brand of a counterrevolutionary element, and was paraded by truck through downtown Peking. He was expressly accused of firing "200,000 contract workers and temporary workers." His whole life was now exposed in wall posters and Red Guard newspapers. As a former subordinate of warlord Chang Hsueh-liang, and a later close associate of P'eng Chen, Lin Feng and Lo Jui-ch'ing, he was particularly vulnerable.  

The situation in China's communications system had deteriorated so far during the upheavals of December and January that on January 11 and 23 the Central Committee issued directives that the military
take control over broadcasting facilities. Also on January 23, the Central Committee, State Council, Military Affairs Committee and Cultural Revolution Group issued their joint "Decision Concerning the PLA's Resolute Support of the Revolutionary Masses of the Left." On January 26, the State Council also ordered the military to take control over the civil aviation system. Sometime in January, a Shanghai Military Control Committee was set up, but Chou En-lai apparently wished to avoid a military solution to the problems on the railways. Whether he feared the task was too large given the capabilities of the PLA, or that Lu Cheng-ts'ao as concurrent Minister of Railroads, commander of the PLA Railway Corps, and political commissar of same had "stacked the deck" against using those elements of the army to establish anything but conservative dominance, or whether Chou simply felt that the parties were not so far apart as to preclude a "revolutionary alliance" is unclear. It is clear, however, that the Premier called what was apparently his tenth meeting with railway workers, on January 27, over which he and Li Hsien-nien presided. He now told the rebels in no uncertain terms to pull together and get the trains rolling smoothly again:

Let your 20 revolutionary rebel organizations of railway departments take up responsibilities first! Railway transportation can never stop for even a single moment. First, you must rely on yourselves...You cannot relinquish power. You can neither assign it to a lower level nor submit it to me. I won't accept it even if you give it to me. You must stand up on your own...You must set up a practical work group. You must stand on duty by turns. You should elect members of this group immediately. I want to be answered whenever I ring you up...You should act like a revolutionary...You should study Chairman Mao's works together 30 minutes every day. For those who study military training, 30 minutes' serious study is quite
At this meeting they set up a "revolutionary rebel preparatory liaison group of railway systems all over the country" which later established an alliance of various factions.

During January, while railway disturbances in Shanghai were reaching a peak, disruptions of transport service were occurring on train lines all around the country. In Manchuria, the "Red Flag Corps" apparently paralleled Shanghai's Scarlet Guards. They "practiced economism extensively," including the reported expenditure of 50,574 yuan by one section alone. Some trains were delayed as long as 18 days, many wagons were damaged, the "proportion of goods trains arriving punctually fell to about 50-60 percent," the "proportion of passenger trains arriving punctually fell to below 50 percent," and over 6000 tons of freight had piled up in Harbin Station. Some individuals even engaged in sabotage:

On the morning of January 17, they filled with water the warm air pipes in over 100 passenger carriages and put out the fire in the furnace in a vain attempt to make the pipes burst because of freezing.

However, shortly thereafter the various factions came together to form a "triple combination." The Revolutionary Committee of the Harbin Railway Bureau included former director and Party secretary Li Po-t'ao as well as "rebel" representatives. 92

Similar situations obtained in Chengtu, Nanchang, Inner Mongolia, and elsewhere. 93 Even in Shanghai, despite the formation of a municipal three-way alliance and city administration, chaos continued.
With the defeat of the conservative coalition, February and March saw many mass organizations disband, with the workers taking their factionalism back to their jobs. As the big factions dissolved, intramural factionalism began to displace extramural factionalism. By late February, the PLA had assumed much of the responsibility for railroad operations, and in March new disruptions broke out that were to prove as bad as those of a few months before.

Following the so-called "black wind" and "adverse current" of February 1967, in which alliances were formed and production emphasized, March saw a resurgence of leftist activity exemplified by the final showdown with Liu Shao-ch'i, Teng Hsiao-p'ing et al. With the renewal of attacks on "capitalist roaders," the railroad again became embroiled in controversy. "Sabotage became more frequent, and in some places local bosses simply refused trains the right to operate in their territory." In March, Military Control Committees were set up in all the regional railway bureaus, but the situation through the spring and summer of 1967 worsened further. In Inner Mongolia, factional fighting led to military control in April; the Peking-Canton line was disrupted several times; and as a result of the July upheavals in Wuhan the bridge across the Yangtze was closed to traffic. The renewed factional fighting between March and May led Chou En-lai to conclude that the alliances formed in the railroad system in February had broken down, and some time shortly before May 26, the Premier was "obliged to introduce military control and take it over myself. I have not been willing to do this." To show why this became necessary, and how it failed to solve the problem,
we will now turn to the causes of railroad disturbances and central attempts to quell them between March and the end of the year in two areas: Chengchow and Canton.

E. Exterior Disturbances: Chengchow

The situation in Honan Province after January 1967 provides a good example of the effect of what I have called Exterior Disturbances on the railways. Apparently very little is known about the actual factional alignments within the railroads themselves in the Chengchow district. What information is available tends to indicate that most of the workers could be classified as "conservative" and that factionalism on the railroad per se was not particularly evident. Nevertheless, the railroads passing through Chengchow, which is one of the most important rail junctions in China, suffered severe dislocation throughout 1967. With the city sitting astride the main east-west trunk (the Lunghai), and the main north-south line across the Yangtze (Peking-Wuhan), the effects of this disruption on China's economy would have been extremely serious.

In the city of Chengchow, as elsewhere in China, there were two main factions by January 1967. The struggle between them was heightened by the fact that the PLA military district seemed to support one side, while the Party organization, still with strong central backing, supported the other. Throughout February and March, the factions jockeyed for power. On March 30, for example, one faction stopped a train on which there were 18 supporters of their opponents returning to Sining (Tsinghai) from a visit to Peking. An all day battle
ensued involving fist fights, kidnappings and beatings. The train was held up from 10 a.m. until 7:10 p.m. Incidents like this conveyed to the Peking leadership the need for more control, and in April they ordered military control over Honan. The PLA and security forces began to crack down and reassert order, but there were rumors (apparently stimulated by the far-left component of the Cultural Revolution Group like Wang Li) that these forces were acting on the basis of forged directives. Uncertainty led to a renewal of disturbances in May and June. On May 4, 14, 24, 25 and 27 bloody clashes occurred in K'afeifeng and Chengchow in which factions fought one another, peasants ambushed armymen, and (possibly) public security forces confronted their PLA counterparts. "According to one account, several demonstrators were killed and more than one thousand were injured when rebels of the 'February 7 Commune' staged a huge oath taking rally and parade on May 26, 1967...and clashed violently with members of the 'Honan Workers Rebel Headquarters'."

For an idea of how extensive and violent this factional conflict was, and its potential impact on the economy and transportation system of Chengchow, examine the following excerpts from a report on one clash in late May:

The royalists hit at a building with a big crane to which was tied a big iron hammer, breaking the wall. Then, they directed water from a high-pressure hydrant to the wall. The wall collapsed. Then they stretched the arm of the crane into the window to pull down the beam. Bulldozers were used on the ground to push at the corner of the building...The cotton quilts of the Workers' Ch'ih Wei Tui were doused with petroleum and flung into the building through the window...Incendiary bombs were also thrown...A kind of poisonous gas was also used. Lastly they added petroleum to the flames. The blaze was very high, and the
tongues of fire reached 50 to 60 meters high and could be seen from every part of Chengchow...It was reported that two men were burnt to death.105

So serious was the situation that Premier Chou found it necessary to dispatch a medical team from Peking to assure that casualties on both sides received medical attention.106 Thus it is little wonder that from at least May 27 rail traffic was severely disrupted. Why, then, was the military unable to restore order?

"The major significance of the GPCR [Great Proletarian Cultural Revolution] in Honan up to the summer of 1967 was that the local PLA authorities had overtly acted against the Maoist leadership." In attempting to suppress the faction with central support they had actually encouraged conflict. "Peking undoubtedly regarded the performance of the Honan PLA leaders a direct challenge to the central authorities."107 Following the open rebellion in Wuhan, the center purged much of Honan's military apparatus. The military began to use force to reopen the railways, first by seizing the Yangtze bridge at Wuhan, later by a show of force in especially troubled cities like Nanking, and finally, in September and October, by taking over railway operations altogether.108 In Honan, by August the situation was beginning to quiet down.109 By September, Mao even saw the situation as sufficiently improved to offer his congratulations on a three-way alliance within the railway system by presenting some railroad workers with the slogan "Combat selfishness, Criticize Revisionism."110 Before leaving 1967, an examination of railway disturbances in Canton will help clarify the situation even further.
F. Canton: A Microcosm

The documentation on the Cultural Revolution in Canton is even more voluminous than that for Shanghai. As a result, we know more about the railway disturbances in South China than in most other areas. Perhaps it is a function of substantial information, but Canton provides a microcosm of all four kinds of railway disruption syndromes outlined above. Hence an examination of the Cultural Revolution on the Canton railroads provides an appropriate way to close out the first full year of disruptions.

The Cultural Revolution first came to Kwangtung Province as it did to Peking or Shanghai, via the attack on cultural figures from late 1965 to mid-1966. With the end of the school year, Canton's students responded enthusiastically to the May 16 Party Central Committee circular which called on them to "criticize and repudiate those representatives of the bourgeoisie who have sneaked into the Party, the government, the army." Factional fighting and rebel attacks occurred in Canton in 1966, but unlike in Shanghai the radicals never firmly gained the ascendancy. First, because old south China Party boss T'ao Chu had moved to Peking as the "fourth ranking man in all of China," the establishment in Canton was under less pressure than was the case in other areas. Second, Chao Tzu-yang and Huang Yung-sheng had fairly strong control over the Party and army in the province; both of these forces "were struggling to keep control of the campaign in their own hands and out of the hands of the more extreme Maoists." With the escalation of the movement during the summer of 1966, Chao created "royalist" Red Guard groups and directed
their attack against Canton's bourgeois class - rather than Party, government and army "capitalist-roaders."

By November-December 1966, however, T'ao Chu was under attack, Chao Tzu-yang was compelled to criticize himself and was subjected to public struggle meetings, and Peking Red Guards streamed into Canton to lead the struggle. On January 22, Chao handed over the city's official seals to a radical coalition of Red Guard groups.

Trouble immediately developed:

The problems of the January 22 power seizure were so serious that even the Small Group, which had instigated the action, could not openly support it. First, the units participating in the power seizure were so few that it could not by any criteria be legitimized...Furthermore... the peaceful transfer of power spoiled Mao's conception of what power seizure should entail. Moreover, since one of the most important factors for successful power seizure was the availability of an alternative leadership among Party Committee members, the radicals, as a minority without the support of cadres within the Party organization, had no choice but to rely on the former Party Committee in order to exercise power as effectively as possible. Consequently, all the members of the Party Committee, including Chao Tzu-yang, continued to perform their functions. 114

Controversy over the January 22 "seizure of power" created a split in Canton's population into two distinct factions. The Kung-ko lien (Workers' Revolutionary Alliance) or Red Flag faction was the more radical, containing low-ranking government cadres, a large number of students, demobilized soldiers, "sent down" youth, and some 50,000 railway coolies of the Canton Railway Workers' Headquarters. The more conservative Kung-ko Hui (Workers' Revolutionary Association) or East Wind faction was composed primarily of regular factory workers, privileged students, militia members, middle-ranking provincial
and municipal cadres, and some 10,000 railway cadres and skilled workers of the Spring Thunder group. The army at first tried to maintain its neutrality, but on February 8 the Red Flag group "gathered one hundred thousand persons and raided the Kwangtung Military Command compound." Another clash on February 20 led to a shift in the balance in favor of the conservatives, and by February 25 the military and militia began forcefully to support the conservatives. On February 28, thousands of rebels were jailed after yet another clash. "In the beginning of March, the PLA started to pressure the Red Flag faction directly." A number of conservative-dominated revolutionary committees were established in factories and schools with the result that the "proclamation of military control for Kwangtung Province on March 15, 1967, amounted to official approval of an accomplished fact rather than the launching of a new policy."

From late February until early April, the army and the conservatives were dominant. This situation was reflected in the railroads as well:

After turning the balance of power between the East Wind and Red Flag factions in the former's favor, the PLA proceeded to establish revolutionary committees which were dominated by the conservative mass organizations. One of the most conspicuous examples of this type of revolutionary committee was at the Kwangtung Railway Bureau, which the Kwangtung PLA widely propogated as a model. Originally, the radical Revolutionary Rebel Committee of the Kwangtung Railway Bureau consisted of unskilled workers, who declared a power seizure on January 23, 1967. When the Military Control Commission was imposed, however, the PLA reactivated the Spring Thunder group, the conservative mass organization controlled by the cadres of the bureau's political department. With the PLA's support, Spring Thunder expanded its membership from seventy persons to thirteen thousand and set up a new Revolutionary Committee.
The conservative heyday of March was interrupted by renewed pressure from Peking's radical leaders. On April 6, 1967 a central directive was issued instructing army leaders to give more support to the "revolutionaries." Soon afterwards, K'ang Sheng visited Canton to confer with the PLA and, no doubt, urge them to support the rebels. Then, between April 15 and 18, Chou En-lai visited Canton to oversee preparations for the spring trade fair. He held a meeting with the two factions, urging compromise. He insisted on the rehabilitation of some of the radical groups closed down by the PLA, decried the conservative tendency of the current revolutionary alliance, and acknowledged that the army in Kwangtung had made mistakes.119

"Because of the pressure from the Peking leaders, the Kwangtung PLA changed its stand during May and June from one that was pro-East Wind to one of neutrality." With the army neutralized, and the factions "well matched in strength,"120 there followed "the most disorderly summer since the Communist rise to power."121 As shown in previous pages, the railroads suffered severely during these summer upheavals. A June 1 joint directive of the Central Committee, State Council, Military Affairs Committee and Cultural Revolution Group demanding that all should "resolutely maintain revolutionary order in railway traffic" was flouted.122

"Perhaps the worst hit of all lines...was the Canton-Shumchun line to Hong Kong." Loaded freight cars arriving in Hong Kong from China dropped from 2,866 in March to 869 in August. It is evident, however, that the interruption of service to the Crown colony was much less a function of the upheavals in Hong Kong itself, than it
was a result of fighting in Kwangtung. This is because the Spring Thunder group of the conservative East Wind faction was largely composed of railroad workers, and was continually in the forefront of the violence. As in Chengchow, this violence was extreme. For example, a

big clash took place on July 23, when several thousand Red Guards raided members of an opposing faction who were holding memorial services for comrades killed in a smaller encounter two days before. The conflict that followed was fought with great violence, and sometimes was accompanied by considerable cruelty. According to numerous reports, the gouging out of eyes and the cutting off of ears and noses became frequent occurrences.

In the aftermath of the Wuhan uprising, the army was powerless to resist the leftist tide of July and August. "When the PLA abandoned its active attempt to bring the warring factions together, the two sides confronted each other without restraint, employing increasingly violent means."

In August, the municipal Public Security Bureau is reported to have suspended operations. August 9, the members of one faction robbed a freighter loaded with arms intended for shipment to North Vietnam. In consequence, rifles, machine guns, and even heavier weapons came into play. Buses and other means of public transportation ceased to function. Robbery and looting became problems. Foreign travellers passing through Canton reported corpses hanging from trees and lamp posts. There was fighting at the railway depots, the trains began to run irregularly.

In mid-August, the Premier moved troops into the area from outside; they were unable to restore order. Representatives of the factions were called to Peking; the agreement they reached promptly broke down. More troops were sent. On August 20, Huang Yung-sheng and the Canton Military Region "submitted a self-examination to Chairman Mao" and "apologized publicly" to him. Violence continued
throughout August, but late in the month the Chairman apparently decided that the radicals had gone too far. On August 25, he had published a notice putting forth the slogan, "Support the Army and Cherish the People." Chiang Ch'ing apologized for her excessive leftism; and the "May 16" group of ultra-radical members of the Cultural Revolution Group were removed from office and arrested.¹²⁹

With Mao personally backing the deradicalization and attempting to restore some of the "PLA's prestige and organizational integrity,"¹³⁰ a national railroad conference was convened in Peking in early November. An NCNA release of November 11 said that although the "railway workers and staff and their organizational and marshalling work had undergone a severe test and rich experience had been accumulated," the "situation on all railways was now excellent."¹³⁰ One of the successes of this conference was apparently a preliminary agreement between opposing factions in the Canton railway sub-bureau. Representatives of the Canton Railways General Headquarters and the Canton Railways Sub-Bureau Revolutionary Committee signed a pact to support the army and "resolutely guarantee the smooth conduct of railway transportation."¹³² One analyst felt that "Peking's greatest success in railway policy in autumn 1967 was probably the settlement of the factionalism on the railways in Kwangtung."¹³³ Nevertheless, to insure continued discipline on the railroads, Chou En-lai put the Canton sub-bureau entirely under military control.¹³⁴ Following intensive efforts by the Premier, Canton military authorities and members of various factions, a Preparatory Committee of the Revolutionary Great Alliance for Canton was set up on November 9. Order was sufficiently
restored to open the Canton Trade Fair on November 15, only a month later than usual. 135

These efforts were at least partly successful. Despite some disturbances and intermittent fighting, order on the rails was largely restored. After the most confused month of August, September shipments of freight to Hong Kong were still down sharply as railwaymen struggled to straighten out the mess. By the time the backlog and destruction were cleared up, however, the October total was 2,614 loaded cars entering Hong Kong, down only some 250 cars from the high point in March. Similarly, the number of rail lines reported closed had been reduced. 136

G. Denouement: 1968 in Kwangsi

By early 1968 most railway stations and bureaus had undergone substantial disruption of service and many had become embroiled in either intramural factionalism or extramural factionalism or both. In addition, the spill-over effect of general political turmoil, strikes and economic paralysis was both a cause and an effect of rail dislocation. The new year brought the promise of a return to normal. From January 5 to 13, a central railway conference in Peking "laid down a stronger line against factional fighting," and reiterated demands that mass organizations stop fighting and form three-way alliances. It further resolved that "various factions in the railways should stay away from organizations outside the railways and that they should concentrate on their own alliances without getting involved in the local, non-railway politics." 137 At first it seemed that
improvements would follow. In Chengchow, the handling of petroleum in transit from Lanchou was speeded up. In Harbin, freight began to move again and the backlog was cleared up. Likewise in Canton, the situation was returning to normal.

By April, a real improvement seems to have taken place in some of the troubled spots. A case in point was the freight handling at Pengpu, an important junction on the Tientsin-Pukow line. Here, Chinese news media gave the February loading figure as 48 percent above January and unloading more than double. In April it was respectively 20 and 55 percent over March, and in May the unloading figure was said to be 43 percent above April.138

Between May 12 and 15, Chou En-lai, Ch'en Po-ta, K'ang Sheng, Chiang Ch'ing and Yao Wen-yuan convened the third, and largest, railroad conference of the Cultural Revolution. More than 6000 delegates gathered to hear reports and receive "very important instructions" from the leadership. It was reported that,

Up to the present, 97 per cent of the units in the railway and communications departments throughout the country had realized revolutionary great alliance. Out of this number, 62 per cent had set up revolutionary committees... The daily average efficiency of freight-loading on the railways of the whole country increased by 25 per cent... A new upsurge in transport is emerging.

Apparently pleased with this progress, "the great leader Chairman Mao and Vice-Chairman Lin Piao received all delegates to the conference."139 That all was not completely returned to normal was hinted at by Chou himself when he referred to recent railway problems in Canton and reported that traffic to Hong Kong was still some 40% below normal.140 In fact, the promise of a return to normal on the railroads would not come true for almost a year. Some of the worst fighting and turmoil of the Cultural Revolution would break out within days of Chou's speech and continue throughout the Spring and Summer
of 1968. The central leadership would find itself relying more and more on the main-line forces of the PLA to control the situation that the regionally administered military forces had proved unable to control.

When the military had first been enjoined to support the left in January 1967, the main army corps forces had remained aloof. "In contrast, the military districts were heavily committed." By design, the central leadership held their main forces in reserve both for internal and international security reasons. The regional forces, however, proved more interested in maintaining stability and order, in limiting rebellion and in protecting the current local leadership than in promoting revolution and supporting the left. By March and April, central leaders were dissatisfied with regional military performance; the Wuhan incident proved to be the catalyst of a change in policy. "Peking decided to exert even stricter control at the expense of regional forces. The PLA was further centralized by having the main forces units partially supplant the political roles of the regional forces." The necessity of introducing the backbone elements of the army into civilian administration signalled the leadership that for the very sake of its survival the Cultural Revolution would have to be brought to a speedy conclusion. The role of these military forces in 1968, and the last of the violent railway upheavals are the topic of the next section.
The Kwangsi Chuang Autonomous Region was an area in which the Cultural Revolution took on its more violent and intractable forms. Bordering on Vietnam, it was both a militarily sensitive region and a conduit for Soviet and Chinese aid to an embattled ally. Nevertheless, as early as December 1966 and January 1967, factionalism began to occur. On January 23, 1967, the "Kwangsi Revolutionary Rebellion Army" seized power. The central leaders refused it recognition and the military district forces suppressed it. As a result, there was a strong legacy of bitterness and resentment between local military authorities and the leading rebel faction, the "April 22 Headquarters." As in Canton, however, the ascendancy of the conservative/military alliance was threatened in April 1967 by a renewed leftist emphasis from Peking. The result was the same as in Kwangtung: renewed factional fighting and violence. For example, in "mid-September persons arriving in Hong Kong from Nanning in the Kwangsi Chuang Autonomous Region reported that transport of supplies by rail and waterways to Hanoi, some 200 miles to the southwest, had been disrupted by serious fighting between the Maoists and their opponents." No doubt the level of this disruption was due to the fact that in Kwangsi, as in other areas, "factionalism flared between the regional and main forces." The 55th Corps sent in to maintain order, was opposed by Kwangsi Military District Political Commissar, Wei Kuo-ch'ing. Each side apparently supplied its favorite mass organizations with armaments and logistical support, thus avoiding direct conflict by means of "proxy" battles.
These disturbances caused Premier Chou to order members of the "April 22 HQ," conservative mass organizations, and the Kwangsi Military District to Peking. All sides were compelled to confess and criticize themselves, and in November, a solution was imposed. The "Decision on the Kwangsi Problem" actually added up to "an endorsement of the status quo. The legitimacy of all groups was affirmed by the center, and they were dispatched back to Kwangsi with orders to implement the agreements signed in Peking." With this kind of non-solution, it is little wonder that the "agreement" broke down after a few months.

Between January and May, dozens of incidents occurred all over Kwangsi in which scores of people apparently were killed. The "April 22" radicals came out the losers in most of these exchanges. Only five days after the "successful" conclusion of the May railroad conference in the capital, the "excellent situation" dissolved in a seemingly senseless and cruel killing in Kwangsi:

On May 20, Comrade Wu Ken-shen, representative of the revolutionary rebel group of Liuchou Railway Bureau to the National Railway Conference, took a train on his return to Liuchou...When he got down from the train at Liuchou station, he was suddenly arrested by some armed thugs of the Liuchou Combined Headquarters and the Steel Combined Headquarters of the Liuchou Railway Bureau. His two children were also arrested...He was forced to make a confession under severe ordeal and was seriously wounded...The thugs of the Combined Headquarters did not release him. Instead, they murdered him one night at the end of May...His two eyes were gouged out and his nose cut away...The whereabouts of his two children is still unknown.

Between May 5 and 24, the city of Wuchow was the scene of fighting of extraordinary intensity. "Half of Wuchow was levelled to rubble and there was serious disruption of rail traffic and supplies bound for
During this period, in fact,

Tens of thousands of weapons destined for Vietnam were seized by the belligerents, and other thousands were handed over by one military unit of the other to the side it favored...Tanks, artillery, and anti-aircraft guns were reportedly used against strong points, and gas shells or explosives were used to flush out those who were fighting from sewer ducts...that spring and early summer scores of bodies, some of them trussed up and mutilated, floated down to Hong Kong and Macao, on the two sides of the estuary of the Pearl River. Since the estuary is about forty miles wide, it must be assumed that many other bodies simply floated by and out to sea.150

On June 1, the No. 5 express train from Peking to Nanning was held up for four days, 1000 passengers and 100 army men were detained, robbed, insulted and abused. Apparently several were injured and one killed.151 On the same day, the Liuchiang bridge was blocked by an intentionally derailed train.152 On June 8, Chou En-lai, K'ang Sheng, Ch'en Po-ta, Wu Fa-hsien, Huang Yung-sheng and others received Kwangsi boss Wei Kuo-ch'ing and members of the Autonomous Region's preparatory revolutionary committee, to discuss the questions of railway transportation in Kwangsi region and the questions of supporting the left by the Preparatory Group and Kwangsi Regional Revolutionary Committee and the Kwangsi Military District Command. The Central leaders criticized Wei Kuo-ch'ing and wanted him to examine whether he had made any mistakes in supporting the left.153

On June 13, a directive from the Central Committee, State Council, Military Affairs Committee and Cultural Revolution Group openly admitted that:

Recently, in their armed struggle, certain mass organizations in the Liuchow district of Kwangsi, acting against the general order of the Central authorities, looted our country's support-Vietnam supplies and arms and equipment of the People's Liberation Army. They also carried out armed attack against trains and damaged railways,
completely disrupting railway traffic in the Liu-chow district. This has badly affected the sending of support-Vietnam supplies and the transport of exports for foreign trade...The two opposing factions of railway mass organizations must immediately stop violent struggle. Personnel from outside units must immediately leave the various units of the railway system and are not permitted to take part in the great proletarian cultural revolution of the railway system... All support-Vietnam supplies and the PLA's arms and equipment looted must be returned.154

On June 14, probably before the telegram could reach the workers, the rails on the bridge at Fengshan were removed in order to disrupt traffic.155 Despite the protestations of one faction that on June 15 they "risked their lives" to implement the central directive,156 on June 19 Chou En-lai was compelled personally to telephone his instructions that fighting stop and rail service be resumed unhindered forthwith.159

Even Chou En-lai's authority was insufficient to bring an end to the turmoil. Railway traffic in Kwangsi had still not been restored by early July. On July 3, the Central Committee, State Council, Military Affairs Committee and Cultural Revolution Group sent another directive, this one with Mao's signature and notation to "Take Action Accordingly," demanding an immediate end to fighting, restoration of rail traffic, and the return of military equipment.158

This too bore no real fruit, and Peking angrily met with representatives of the factions (with all the key central leaders present) to demand a solution to the problem. Some sources allege that at this point the center threatened to dispatch newly organized "Central Support the Left Units" to solve the problem of endemic disorder.159

By late July, Mao's patience had been exhausted. Symbolized by his tearful meeting with the Red Guards who had disappointed him, Mao had decided "to force the dissolution of the Red Guard coalitions
In order to accomplish this, the military was ordered to impose revolutionary committees on the remaining provinces. This was accomplished within a five week period. The major casus belli of military factionalism was thereby removed. The contending mass organizations were virtually eliminated and the decisions as to who would hold power in the provinces were made.\textsuperscript{161}

In Kwangsi, the radical coalition fell apart. Last ditch appeals to Peking were to no avail. "The Leftist group in the region, thus deserted by the Centre, was not able to place any members on the Revolutionary Committee which was formed on 26 August. The old regional leader, Wei Kuo-ch'\'ing, reappeared as Chairman, with General Ou as one Vice-Chairman."\textsuperscript{162} It would take almost two years for the military to disengage substantially from railway administration and return the trains to normal civilian operations.\textsuperscript{163} By December, however, order had been by and large restored. Railway "freight loading volume was more than double that of the corresponding period of 1967...more locomotives have hauled capacity loads and more freight, on the average moving 280,000 tons more goods every day in the last three months" of 1968. The leadership was cautiously optimistic that the railway situation was returning to normal.\textsuperscript{164} After summarizing some of the principle findings on the role and performance of the PLA between 1966 and 1968 with respect to the railroads, we will turn to the question of why civilian control was reestablished in 1969-70.
H. Synopsis: The Cultural Revolution on the Railroads

Through an examination of railway disturbances in China during the Cultural Revolution, I have identified four syndromes of disruption. The first I have labelled "system overload." The existence of transportation bottlenecks due to overuse of the system is most evident in Peking. Some 11 to 12 million Red Guards passed T'ien An Men in review during the summer and autumn of 1966. By winter 1966-67 they had been largely replaced by dissident workers and peasants in the capital to present their grievances. Peking, however, was not the only place to suffer railway system overload. Between one and five million Red Guards, angry peasants, unemployed or disgruntled workers and rusticated youths descended on Shanghai. Similarly, Canton and other cities received an influx of Peking rebels and youthful tourists, and transportation facilities to many scenes of historic importance such as Yenan, Chingkangshan and Mao's birthplace were bogged down. In all some 50 million youths were shuttled around the country in late 1966.

With the further radicalization of the Cultural Revolution, and the introduction of new social elements into the conflict as "rebels" and "power holders" vied for power, the chief cause of railway disturbance shifted from overload to factional fighting. I have identified two kinds, each of which affected the operation of the transportation system differently. "Extramural factionalism" took place when workers in a particular functional area of the economy or administration joined opposing alliances of citizens with similar grievances.
Involving either policy or the exercise of power. In Shanghai we saw that railroad workers split almost uniformly into the group of regular workers enjoying special benefits, perquisites and bonuses, and the irregular (contract, part-time, and temporary) "coolies" who received none of these privileges. Their antagonism was heightened by recent policy shifts that threatened simultaneously to phase out regular workers without providing their irregular replacements with any of the advantages of steady, state employment. The same situation obtained in Canton and Kwangsi, and almost certainly elsewhere as well. In Shanghai, with the power seizure by the "radicals" under Chang Ch'un-ch'iao in January and February 1967, the defeated "conservative" Scarlet Guards demobilized. They retained their grievances but in returning to the workplace transformed them into "intramural factionalism." Even after the power seizure, it took some weeks to convince the regular workers to return to work and end their strike. Most of the clean-up of freight backlog was performed by soldiers and students. While I was unable to locate sufficient information to indicate a temporal progression from "intramural" to "extramural" factionalism or vice versa in other areas of China, it is clear that in Shanghai, Kwangsi, Canton, and probably elsewhere both kinds existed at some time. Moreover, the blatantly economic nature of railwaymen's grievances and demands between 1973 and 1977 clearly shows that the "intramural" variety of cleavage did not disappear with the end of the Cultural Revolution.

The fourth disturbance syndrome on the railways was what I have called "exterior disturbance." In some cases system overload
contributed to food shortages, lack of raw materials and undependable transport of finished goods for sale or export, as occurred in Shanghai and Canton. Indirectly, system overload contributed to the number of unauthorized citizens disturbing the economy and administration of China's municipalities. With 150,000 persons involved in receiving visitors to Shanghai, and with ministry personnel and facilities in Peking occupied by Red Guard tourists or rebels, it must have been extremely difficult, if not impossible, to get any real work done. With chaos in the economy and administration of China, even had the railway workers stayed aloof from factional fighting, the transport system would have suffered substantial chaos. This notion is partly supported by the conditions in Honan, where railwaymen appear not to have been heavily engaged in Cultural Revolution activities. It also seems to have been the situation to some extent in Harbin, and at least one source reports that rail disruptions in Canton in June 1968 were not the result of railway factionalism but of exterior influences. Similarly, the closing of the Wuhan trans-Yangtze bridge was not apparently caused by transport workers but by military and worker factional units from the triple city.

As a result of these syndromes of transport disruption, the military was called in to restore order. However, the kinds of forces introduced, the functions they performed and the groups they supported varied considerably. Early in 1967, regional forces began to react to Red Guard excesses. In February and March, the regional forces established Military Control Committees in almost all railroad bureaus and sub-bureaus.
While never clearly defined, the PLA's role appears to have been threefold: 1) labor support to help fill in for absent trainmen and to assist in the loading and unloading of goods that had accumulated as a result of the rail stoppages; 2) assistance to certain groups (ostensibly rebels) to effect "seizures" and restore order at those rail centers where work had been hampered by conflicts; and 3) the assumption of administrative and executive responsibilities where needed. 167

In addition, soldiers rode the trains "propagating the thought of Mao Tse-tung," and guarded facilities against sabotage and interference. 168

During this period, then, the regional forces almost uniformly supported the "right." After April, when the gross "unreliability" of the regional forces was demonstrated by Ch'en Ts'ai-tao at Wuhan (as well as by others like Wang En-mao in Sinkiang and Chang Kuo-hua in Tibet), the Cultural Revolution Group decided to introduce the centrally controlled main-line forces to restore order and "support the left." However, the army was enjoined to use reason, not force, and to give support to the "rebel" left. The short-lived campaign in summer and early fall 1967 to "drag out the handful of capitalist roaders in the PLA" further undermined their prestige and authority. With such severe restraints imposed over their activities, the military was unable to restore order on the rails and elsewhere.

After the most chaotic summer since 1949, the central leadership decided to restore peace and stability. The "ultra-left" May 16 group was purged and the main-line forces were released to use force if necessary in reestablishing peace and order. As a result, some of the most savage fighting of the Cultural Revolution took place in the spring of 1968, as for example in Kwangsi. By July and August, the PLA had imposed revolutionary committees throughout China,
thus determining the structure of power. The "left" was systematically excluded. Even such "strong arm" advocates as Wei Kuo-ch'ing, Wang En-mao and Chang Kuo-hua remained in charge of their provinces. However, the very imposition of martial law by the backbone forces of the PLA signalled the need to disengage the military and return to civilian administration. In the next section, we will return to the politics of the decline of Lin Piao and of the military influence; it is apparent that the seeds of this eclipse were sown in 1966-67. By 1968, however, a security threat was clear for all to see. The Soviet build-up along the Sino-Soviet border had proceeded apace during the Cultural Revolution. International prestige with the West and Third World were at an all-time low. The military was dispersed all across the map of China, tied down to civilian administrative jobs. Hence, Brezhnev's enunciation of the "Doctrine of Limited Sovereignty" and the invasion of Czechoslovakia in August 1968 made the central leadership aware of the compelling need to reestablish order quickly and disengage the army's main force units in order to free them for their real task of defending China's borders. However, as is usually the case with militarily imposed solutions, the reestablishment of order on China's railroads did not solve the basic problem. In fact, the central government continued its policy of down-playing bonuses, material incentives and perquisites for regular laborers. But neither did it substantially improve the lot of the temporary and irregular workers. Both sides remained dissatisfied and, when a new central leadership power struggle became evident in 1973, railway disturbances and factional difficulties again occurred.
I. 1969-70: Return of Civilian Control

If the situation on China's rail system was somewhat improved by January 1969, the tensions which had caused disruptions over the past two years still existed just below the surface. Occasionally there were hints that disturbances were actually recurring across the land. Despite a doubling of the volume of freight loaded in 1968 (over 1967), and the transportation of an average of "280,000 tons more goods every day in the last three months of last year, which is equivalent to 90 more trains per day," January 1969 witnessed recurring factional problems and intermittent transport stoppages. For example:

trains were reaching the capital well behind schedule...
In Hong Kong there were several days in mid-January when supplies of pigs from China dropped off almost entirely, suggesting disorganization on lines in Kwangtung and northwards...a railway conference in January on grasping revolution and boosting production hinted that neither of these activities was progressing fast enough...At Sian, on the line to the west from Chengchow, the freight situation is still very bad and references to the "severe struggle against the class enemies who attempted to sabotage railway transport" in no way indicate that the struggle is finally over.170

In spite of continued problems, however, railway conferences were held during the winter and spring in at least Liaoning, Inner Mongolia and Kwangtung. A decision was reached to institute a new system of "joint transport" in which cooperation between rail, road, waterway and civil aviation systems would assure better coordination and speed in transporting goods and passengers.171 This and other attempts to tighten up operations on the train lines created disension among railway workers.
It is plain that Peking has been trying to get more work out of the men and the reaction has been active hostility. The official news story from Canton Radio blames the counterrevolutionary economism of the early revolutionary committee for instituting slacker hours...railwaymen...were deeply resentful about their conditions of work. At any rate, there seems little doubt that heavier shifts are now being introduced. 172

Despite the existence of tensions and the recurrences of disturbances, generally "in 1969 trains seem to have run with reasonable efficiency." 173 This was undoubtedly due to the retention of provincial administrative and political control by representatives of the PLA, and to patriotism in the face of the Soviet threat. Throughout early and mid-1969, main central forces were removed from local duties and transferred to sensitive areas. As this occurred, despite the appointment of some main-line unit leaders to political jobs in the provinces, control by and large devolved on the very forces who had all along supported law and order and conservative factions: the regional military commanders. This among other factors, created a growing conflict between Lin Piao and his central military apparatus, and the powerful, semi-autonomous local officers. 174

Both sections of the army emerged as clear victors at the April 1969 Ninth Party Congress. However, the unwillingness of the central apparatus to see the civilian Party hierarchy rebuilt and resume control isolated them from both their "leftist" Politburo colleagues and from Chou En-lai and his government bureaucrats. Indeed, Mao himself was increasingly dissatisfied with his "closest comrade in arms." The details of the fall of Lin Piao have been chronicled elsewhere. 175 Here it is appropriate only to show that as early as the Ninth Party
Congress, Mao himself was shifting his reliance more and more onto Premier Chou and away from Vice-Chairman Lin.

In a series of articles published in November 1969, Mao's criticism of the PLA-dominated apparatus escalated with the levelling of a new and more serious charge: that its defective work-style resulted from ideological shortcomings...it appears that Mao and Lin had already begun to differ over the reliability and loyalty of the Army-dominated political apparatus by the autumn of 1969.176

Sensing Mao's shift of trust to Chou En-lai, Lin made an attempt both to capitalize on his popularity and position as heir-apparent by reinstating (and personally assuming) the deactivated title of Chairman of the State, and by making a series of policy proposals that would appeal to either the military, the leftists or both. Mao personally interceded to put an end to Lin's scheme for the Chairmanship. Likewise, Lin's policies were unpopular with the Chairman. His proposals have been characterized by one analyst as "Back to the 'Great Leap'," and it is unlikely that with Chou's influence on the rise, such policies would achieve recognition.177 By the August 23 to September 6 Second Plenum in 1970, matters had come to a head. Mao "killed the chicken to warn the monkey;" he purged Ch'en Po-ta, Lin's ally and fellow "leftist." In the weeks following the Second Plenum, however, confronted "by a powerful coalition of military leaders, Mao was compelled to move cautiously and indirectly."178 For example:

To begin with, immediately after the end of the Second Plenum, a new director of the Party organization within the army seems to have been appointed...the new director was not a typical Lin-man; he was Li Te-sheng...An independent figure, he was more a representative of the moderate regional commanders than of the central army apparatus.179
In December 1970 and January 1971, the Peking Military Region leadership was reorganized; about this time, also, the Public Security forces were again detached from PLA control. Similarly, late 1970 and early 1971 saw the reformation of provincial Party committees. As part of this effort to undermine Lin Piao and restore civilian administration to the economy, between October and December 1970 the State Council was reorganized and streamlined. Beginning in October, "NCNA began to omit the category of 'military representatives' from name-lists of both the Central Party departments and the Central Government Offices." Also in October the government press began to release names of ministries and their personnel. The old Ministry of Agriculture, Ministry of Forestry and Ministry of State Farms and Land Reclamation were combined in a Ministry of Agriculture and Forestry. Ministries of Education, Higher Education and Culture were joined in a single unit. Both ministries of light industry and the textile ministry were consolidated in a single Ministry of Light Industry. The Eighth Ministry of Machine Building was added to the First Ministry of Machine Building. Petroleum, coal and chemicals were combined in a single ministry. And the pre-Cultural Revolution Ministry of Railways was submerged in the Ministry of Communications.

As stated before, factional troubles on the railroads had not completely disappeared after the Cultural Revolution:

Although "anarchism" was a problem, it was not an over-riding one. In the Shenyang railway bureau, for example, although "factionalism" and the "theory of many centers" had existed, it was reported in June [1969] that the masses had rid themselves of these tendencies. Although they had "new problems" during this period, they were suddenly eager to be "models of unity."
Nevertheless, by autumn 1970, the situation was almost completely back to normal. An approximate 15-20% increase in rail traffic had been realized in 1970. "The volume of rail freight traffic in 1970 may have amounted to about 560 million tons or 10 times the volume in 1949." Thus the military presence on the rail transport system began to decline. "PLA personnel were still guarding the trains and patrolling the depots in the summer of 1970, but by the summer of 1971 visitors to China no longer reported such military guards." Military representatives remained in some of the ministries with traditional ties to the service branches like Fuels and Chemicals. In view of the fact that the newly named Minister of Communications, Yang Chieh, had a military background, it is very likely that at this time the army also still had some responsibilities over the rails.

J. Railroads in the 1970's

If the situation on the railroads was back to "normal" by 1970, socio-economic tensions still existed just below the surface. Temporarily submerged during the period of national security crisis, these tensions would reemerge and heighten between 1971 and 1976. With the failure of his coup attempt against Chairman Mao, and his subsequent death, Lin Piao momentarily sealed the fate of most of the top central military leaders who had risen to power under his auspices. A large number of them were purged shortly after September 1971, leaving three major Politburo "opinion groups": Chou En-lai and his government bureaucratic colleagues; Chiang Ch'ing and the survivors
of the Cultural Revolution Group; and the provincial military leaders.

These leadership alignments were clearly reflected in the hierarchy elected at the August 24-28, 1973 Tenth Party Congress. "The composition of the new top Party organs confirm[ed] Chou's ascendancy to the position next to Mao in the wake of the Lin affair." At the same time, however, the ranking Party vice-chairmen after Chou were Wang Hung-wen and K'ang Sheng, both "radical" Cultural Revolution Group members, followed by Yeh Chien-ying (a long-time Chou protege but also the most powerful central military figure remaining), and Li Te-sheng (a regional military chieftan). Similarly, the make-up of the remaining membership of the Politburo showed an attempt to maintain a balance between three strong groups. In addition, shortly before the Party congress, Teng Hsiao-p'ing began to be seen, as did a host of other prominent Cultural Revolution purge victims. Many of them were returned to Central Committee membership, and Teng himself still retained the rank of State Council vice-premier.

In the railroad sphere, 1972 and early 1973 seemed to be a time of relative stability. Central policy appeared to favor labor discipline, transport efficiency, and reliance on technical skill. Many purge victims were rehabilitated and People's Daily ran an article on "old cadres" as the "backbone" of the railway system:

Full of vigor and vitality, many old cadres of Changchun Railway Sub-Bureau under the Shenyang Railway Bureau fight on the first line of the three great revolutionary movements...
Most of the cadres taking leadership work at the level of such units as the station and section or higher already participated in railway service during the democratic revolution or were promoted from among workers during the early post-liberation period...
From January to October this year, although its task of transportation increased by 23 percent as against that in the same period of last year, this station overfulfilled its various targets in an all-round manner according to the state plan and carried out production in safety for 298 days running...190

1973 was also reported to have been a good year, in which "China registered a 60 per cent increase in freight traffic by rail, road and water...compared with 1965."191 However, by using the campaign to criticize Lin Piao and Confucius, the radical elements on the Politburo began to jockey for position in the impending succession struggle. One of their key targets was the railway system. The campaign itself was widely interpreted as a dual effort by these elements. On the one hand, they wished to protect the "new born things" of the Cultural Revolution. Thus, in one sense, the purpose of the campaign was "to muster support for a positive retrospective view of the Cultural Revolution and for the protection of the changes brought about by that watershed movement."192 Part of the protection of the image of the Cultural Revolution was the campaign to discredit Chou En-lai by covertly comparing him to Confucius, and to call into question his policies of moderation, regularity and modernization. A wall-poster campaign critical of the Premier was even launched. On the other hand, the Cultural Revolution leadership hold-overs feared that the large-scale rehabilitation of former cadres, exemplified by the return of the "number two capitalist roader" Teng Hsiao-p'ing, threatened to undermine their position of power. Moreover, the same process in operation in the city and local governments threatened to unseat their only constituency that held an organizational base of power. For this
reason, they were forced to rely on the social elements they had unleashed during the Cultural Revolution, who's demands had not been met and who's ambitions had been frustrated. In the railroads this largely meant irregular workers and junior cadres who's mobility was blocked by the "backbone" old cadres.

That they were relatively successful for a time in mobilizing dissident social elements is shown rather clearly in the railroad system. The four key radicals that would later be dubbed the "gang of four" used a wide variety of tactics to extend their influence by mobilizing dissatisfied railway personnel, thus disturbing the transportation system. As a result, 1974 was a generally poor year for China's industry. One method they used was to contact a sympathetic cadre in a local sub-bureau or station.

In the movement to Criticize Lin Piao and Confucius in 1974, the "gang of four" went its own way, shot three arrows at the same time and directed the spearhead at our great leader Chairman Mao, at our esteemed and beloved Premier Chou and at other leading comrades of the central organs. The gang extended its sinister tentacles into some important railway units and frenziedly sabotaged railway transport, thus affecting the development of the national economy.

Two particular cases were discussed in the Chinese press in 1977. In Kiangsu, the Soochow Railway Sub-Bureau was thrown into chaos after the movement to criticize Lin Piao and Confucius began in early 1974 when the gang of four backed a handful of bad elements in the sub-bureau. They stirred up factionalism, resorted to beating, smashing and looting, disrupted the work of party committees at various levels and struggled against leading cadres.
In Canton, the situation was similar:

In the spring of 1974 when the movement of criticism of Lin and Confucius was in full swing, Chiang Ching acted against Chairman Mao and the Party Central Committee and, in her own name, sent books, materials and instructions to the railway staff and workers throughout the country. She even wanted the railway staff and workers to study them seriously and profoundly comprehend them...Her aim was to attempt in vain to stretch her black hands into the railway departments in order to seize power, sow discord and create confusion. This has fully shown that the antiparty clique of the "gang of four" are true bourgeois conspirators and careerists.196

Apparently fearing a return to the anarchism on the railways during the Cultural Revolution, Mao personally took an interest in restoring order. First, he appears to have gone along with the reelevation of Teng Hsiao-p'ing and with his assumption of many of the duties of the ill Chou En-lai. In "allowing Teng to take the second seat to his right during visits by foreign dignitaries, beginning with that of 11 May 1974 by the Pakistani Prime Minister Bhutto, Chairman Mao implicitly acquiesced in Teng's assumption of responsibilities which had previously been discharged by Premier Chou."197 Teng's elevation in 1975 to Party vice-chairman, first vice-premier and PLA chief of staff appears to have been an attempt by Mao and Chou to counter-balance the "radical" and regional-military factions in the face of the Premier's illness.198 Also supporting the notion of Mao's interest in late 1974 in the reestablishment of order on the railroads is the fact that the Chairman personally sent a wreath to the funeral of former Minister of Railroads, T'eng Tai-yuan.199 T'eng had been a long-time subordinate of P'eng Te-huai and was reportedly removed from the ministry for his connections with P'eng.200 Despite the fact that Mao had no
overt reason to pay him this honor, he sent a wreath of condolences, Yeh Chien-ying presided over the memorial service, and Teng Hsiao-p'ing delivered a truly adulatory eulogy. Also present at the ceremony was Lu Cheng-ts'ao, listed as one of "Comrade T'eng Tai-yuan's friends."

Finally:

Among what came to be known as Mao's "three directives"—directives advocating unity, class struggle and production—it was the theme of unity which was stressed in mid-winter 1974-5. A directive from Mao, perhaps spurious, since it was apparently not picked up in the official press, was seen posted in Peking which read, "The Cultural Revolution had been going on for eight years. It is time to settle down. The Party and Army should unite."201

In this spirit, between January 13 and 17, the Chinese regime convened the Fourth National People's Congress. This was clearly Chou En-lai's show. Mao was absent; Teng Hsiao-p'ing was raised to the position of Chou's heir-apparent, and the major policy decisions taken revolved around the "four modernizations" of agriculture, industry, national defense, and science and technology. The Fourth NPC also approved the expansion of the State Council. Among the new organizations was a Ministry of Railroads.202 The man chosen to head the ministry, Wan Li, typifies both the types of policies endorsed by the NPC and the ascendance of Teng Hsiao-p'ing. Wan, like Teng, is a Szechuan native who studied in France during his youth,203 where he apparently knew Teng, and almost certainly knew Chou En-lai, Li Fu-ch'un and the other students who later became important PRC bureaucrats and leaders.204 Between 1948 and 1952 he became briefly involved in the Nanking area, then moved directly under Teng Hsiao-p'ing as deputy director of the Industrial Department and member of the Financial
and Economic Committee of the Southwest Military and Administrative Committee. Shortly after Teng moved to Peking, Wan followed, receiving a number of State Council posts at, or just below, ministerial level. He also served as secretary of the CCP committee and vice-mayor of Peking from 1958 to 1966. In view of Wan's fate after the death of Chou and the second fall of Teng, discussed below, his appointment is almost certainly best seen as a reflection of Teng's increased influence. Moreover, there is circumstantial evidence that the reestablishment of a ministry of railroads may have been designed to reassert State Council control over the rail system at the expense of the military. First, Yang Chieh was at least partly a "military man." It has also been shown that military representatives remained in some ministries long after the Cultural Revolution was over. In addition, Chang Ch'un-ch'iao was appointed head of the PLA General Political Department, while in the provinces there were "still left entrenched seven powerful regional commanders, all of whom exercised additional authority as provincial Party secretaries, and some of whom headed provincial governments as well." At least one analyst has seen Mao's acquiescence in the reascension of Teng Hsiao-p'ing as an attempt to "put the cap-stone on his handling of the Lin Piao affair, strengthening the authority of the centre vis-a-vis the regions and putting the military genie back into the bottle of Party control." Thus it is possible that Chou and Teng, wishing even further to limit the leverage of the military, wanted to close out a chapter in the history of China's railroads by eliminating military control and appointing a long-time civilian bureaucrat in place of
the traditional semi-military figure. Tending to support this notion is the fact that Yang Chieh disappeared from view for a few months, reappearing sometime before January 1976 as vice-minister of posts and telecommunications, a demotion and a move into a sphere with clear military significance. If Wan was selected with the idea in mind of returning the railways to normal, he was at least temporarily successful. In March, presumably under the direction of Chou, Teng and Wan, the CCP Central Committee issued a "Decision on Strengthening Railway Work." It was personally approved by Mao. According to the secretary of the CCP committee of the Peking Railway Bureau, Chao Wen-pu, in 1977,

Workers and staff members under our bureau have conscientiously implemented this decision. As a result, this bureau accomplished its transport task for 1975 18 days ahead of schedule in addition to smashing its previous record for 16 major economic quotas.

Liu Pai-tao, secretary of the Party committee of the Shanghai Railway Bureau reported that,

In 1975 vast numbers of workers and staff members under our bureau made conscientious efforts to implement the Party Central Committee's decision on strengthening railway work. However, the henchmen of the "gang of four" in Shanghai chanted hymns at variance with the party Central Committee and viciously attacked its document approved by Chairman Mao.

In the autumn of 1975, Teng drew up his program for modernization, the so-called "three poisonous weeds": "On the General Program of Work for the Whole Party and the Whole Nation," "Some Problems in Accelerating Industrial Development," and "On Some Problems in the Field of Science and Technology." They very clearly reflect Teng's priorities of economic regularity, labor discipline and centralized
Teng's plans for modernization were not to come to pass in 1976. The death of Chou En-lai led to a large demonstration of mixed grief, reverence, anger and frustration. With Chou gone, the radical coalition made its move. They were apparently successful in convincing Mao that their major obstacle, Teng, was an unworthy successor to Chou. Consequently "at the insistence of Chairman Mao" Teng was dismissed from all his posts. It was following Teng's purge that railway disturbances reached their peak. Thus,

In late March 1976 when their principal follower at Tsinghua University and a counter-revolutionary element of the Taiyuan Railway Bureau were plotting to undermine railway transportation, they laid bare their counterrevolutionary conspiracy to usurp party and state power. They said that they wanted to seize power through criticism of Teng Hsiao-p'ing and that "It is the time to replace the rulers. Most of the old cadres represent old things. They should be overthrown if possible, otherwise they should be kicked out or wounded"... They placed their henchmen in railway departments and units, established secret liaison centers at important railway junctions, created trouble and incidents everywhere, ferreted out the so-called agents, openly opposed the party leadership and wantonly engaged in the plots to usurp party and state power.

Among the worst hit rail sections were Soochow and Chengchow. The "gang" made Soochow "one of their major targets in the overall scheme to disrupt production," and their agent declared "Soochow is... a junction on the Peking-Shanghai line and the Lunghai line. Act boldly." His faction engaged in "beating, smashing and looting."

In Chengchow the situation was even more critical. Already having been unable to meet its coal transport quota for over four years, Chengchow had also been unable to fulfill its freight transportation plan for 19 months.
In 1976, the bureau's accomplishments in carrying out various tasks declined considerably and the bureau could not fulfill its tasks for a single month.\textsuperscript{217}

The bureau's coal transport volume fell by 12 million tons in 1976.\textsuperscript{248}

This was reportedly because the "big careerist Chiang Ching instigated the gang's henchman at the Chengchow Railway Bureau to paralyze the railway transportation in that area," by bribing him with official position. She is reported to have said,

The State Council does not function well; neither does the [Honan] Provincial CCP Committee. You will be named secretary of the provincial CCP Committee in the future.

Furthermore,

The "gang of four" said those who followed their instructions and took their road were leftists with high political consciousness and placed them in important posts. The gang even named a nonparty member of a certain railway bureau to be deputy secretary of a unit party organization before he submitted his party membership application.\textsuperscript{219}

In mid-1976, the "gang" reportedly even had the audacity to interfere with the goal of the "Mao Tse-tung locomotive" crew to achieve 3 million kilometers of safe running in time for its 30th anniversary on October 30. They sent university people to intellectually intimidate the workers by denouncing the practice of "putting punctuality in command," and announced that "we would have a behind-schedule train that is socialist rather than an on-schedule train that is capitalist."\textsuperscript{220}

Minister Wan and the State Council attempted to fight back. In June, for example, they ordered provincial party, government and railroad officials to go down to the grass-roots level and investigate the problems.\textsuperscript{221} Nevertheless, disturbances continued on many lines
including the Peking-Canton line at Shihchiachuang, Hantan and Pao-
ting; throughout Kiangsu, Anhwei and Chekiang; and in Shansi. As
a result of constant pressure against "old cadres" and cronies of
Teng Hsiao-p'ing, the gang was able to force the purge of Minister of
Railroads Wan Li some time during the summer of 1976.

Within less than a month of the death of Mao on September 9,
1976, the "gang of four" was arrested and relieved of all titles and
positions. Almost immediately the new leadership coalition began
cracking down on railroad problems. By December, soldiers were again
actively involved in railway affairs, but apparently were not immedi-
ately successful in ending sabotage.

In one of the worst hit areas, Honan, the leadership took strong
measures. In January 1977 it was announced that,

the party Central Committee headed by Chairman Hua has
decided to transfer Kuo Wei-cheng, deputy commander of
the PLA railway corps, and appoint him first secretary
of the CCP committee of Chengchow Railway Bureau; appoint
Wang Wei-chun, deputy secretary of the provincial CCP
committee, to be concurrently second secretary of the
CCP Chengchow Railway Bureau; and appoint Wang Hui,
director of the engineering corps of the Wuhan Military
Region, to be third secretary of the CCP committee of
the Chengchow Railway Bureau. At the same time, it has
asked the PLA railway corps to send some of its cadres
to Chengchow Railway Bureau to help in work for some
time.

In March, the Chengchow railway bureau challenged the Peking bureau
to a labor contest. Their plan was to achieve 95% punctuality for
passenger trains and 80% for freight trains. Their method for
achieving such improvements had been outlined in January. Despite
their intention to "implement the principles, 'Learn from past mis-
takes to avoid future ones and cure the sickness to save the patient,'
and 'Expand the sector of education, narrow the sector of attack and unite all people who can be united,' there was no question that a crack-down was beginning. Honan Party First Secretary Liu Chien-hsun called on the Party to "eliminate bourgeois factionalism, further strengthen revolutionary unity" and "strive to fulfill and overfulfill the plans for transport and production." The two new military representatives were even more forceful. Kuo Wei-cheng and Wang Hui said that their colleagues must

fight in a big way a people's war of exposing penetratingly and criticizing vehemently the "gang of four" and their black hands extending into Honan and into the railway bureau. We must...ensure the smooth progress, safety and punctuality of railway transport. We must strike to fulfill and overfulfill the plans for transport and production and resolutely make up for the delay and losses caused by the interference and sabotage by the "gang of four."227

Kuo would later be rewarded for his success in restoring order in Honan's railway system by being appointed minister of railroads.228

In February 1977, the State Council held a national conference on railway work.229 Representatives from various bureaus spoke but Kuo Wei-cheng of Honan took an especially forceful approach. He announced that "we have taken firm measures and mobilized the masses to criticize and deal relentless blows to the bad elements who were protected and placed in important positions by the gang."230 On February 28, People's Daily carried a "report on Honan Province's vigorous efforts to strengthen railway security and put railways in order."231 Likewise, Hsieh Chih-kuo, secretary of the Party committee of the Taiyuan Railway Bureau, reported that,
Railways are an artery of the national economy and are essential to the military. Therefore, railways must be placed under the centralized leadership of the party.\textsuperscript{232} And on February 20, NCNA reported that railwaymen were to be organized into a "mighty, semi-military industrial army," with good labor discipline and the continued presence of the PLA to insure peace, security and a return to normal.\textsuperscript{233} The first step toward achieving this was the appointment of a new minister of railroads. Despite rumors that Wan Li was to recover his position, Tuan Chun-i was appointed to the job.\textsuperscript{234} Tuan, a graduate from a school of technology in Shantung and a veteran of the December 9th movement, held important economic posts in the PRC, most significantly as minister of the First Ministry of Machine Building from 1969.\textsuperscript{235} Given the severe problems of equipment shortage and lack of investment in rolling stock and trackage,\textsuperscript{236} Tuan should certainly have possessed the knowledge and bureaucratic expertise to expedite solutions to these problems.

Railway traffic was improved considerably in 1977. For example, massive coal pile-ups in China's major coal mines of Tatung, southeast Shansi, Heilungkiang and other places, which were due to the near-paralyzed state of rail transport last year caused by the sabotage of the "gang of four" in railway departments, had been cleared by the end of last month. [i.e. August 1977]\textsuperscript{237} Nevertheless, in 1977, freight transport accidents...increased considerably compared with the year which had the lowest number of such accidents. On the average, compensation costs amounted to 12.9 yuan out of 10,000 yuan of freight revenue. In addition, serious losses were caused to the property of the state and the people.

...The principal cause is that the "gang of four" confused people's thinking and disrupted the various rules and regulations centering on the system of personal responsibility. This accounts for the bad quality of loading and unloading, transport and packing.\textsuperscript{238}
That the regime was deadly serious about straightening out this situation was made clear by three events in 1978. First, in April, a National Railway Conference on Learning from Tach'ing was held. Present were Li Hsien-nien, Yu Ch'iu-li, Ch'en Hsi-lien, Keng Piao, Fang I, Wang Chen, Ku Mu and K'ang Shih-en.239

Vice Chairman Li instructed the masses of railway workers and staff members to further develop the movement to learn from Taching, consolidate their leading bodies at all levels, renovate equipment, step up education in strict discipline, and work still harder to bring China's railways up to advanced world standards at an early date... Vice Premier Ku Mu expressed the hope that in the current excellent situation the masses of railway workers and staff members will keep clear heads and not become complacent, and that they will spot problems and take measures to overcome them... Although many of our comrades have worked on railways for many years, they are still far from knowing their technical work well. Thus they have remained non-professionals for a long time. How can modernization be achieved without changing this situation rapidly?240

Not long after this conference, on July 5, a rally was held to mark the 30th anniversary of the founding of the PLA railway corps. Vice-Premier Wang Chen, the first commander of the corps, gave a speech. Minister of Railroads Tuan Chun-i also spoke. But the amazing thing was the revelation that the PLA railway corps' political commissar was none other than Lu Cheng-ts'ao (the former minister of railroads) and its commander was Ch'en Tsai-tao (former commander in Wuhan and engineer of the Wuhan rebellion of July 1967)! No clearer signal of the leadership's intent to crack down on railway disturbance could have been given.241 Finally, in order to implement their policies, the regime reestablished the Chinese Railway Workers' Union, one of China's oldest and the first to be restored after the Cultural Revolution.242
K. Summary and Conclusions

Between 1966 and 1969, the Chinese railroads experienced severe and recurrent disruptions. These disturbances were the result of two factors. First, by 1966 the railroad sector was suffering from the effects of neglect. Insufficient investment had led to shortages of equipment and track, and to overuse of existing facilities. A by-product of this situation was increased strain on railroad personnel. The second factor exacerbated this strain. As a result of a series of economic policies and political decisions in the early 1960's, social ("class") tensions within the railroad sector were at a peak. Full-time regular workers were in danger of losing their jobs, perquisites, and privileged positions, while the unskilled workers who were to take their place were not experiencing the expected embetterment of their socio-economic position. These two factors coincided with the final breakdown of leadership agreement about the "rules of the game" in Chinese politics. Originally, political conflict had been confined to the Politburo. In 1955, Mao expanded the arena of conflict to include regional and provincial authorities; in 1958 he again expanded it to encompass district and commune leaders. In 1966-67, Mao opened the flood gates to include even non-Party elements and non-elite socio-economic groups. The result of this expansion of the arena of conflict was chaos. Consequently, Mao was compelled to rely on the military to reestablish order. However, by 1969-70, the Chairman had become disillusioned with the centralization of power in the hands of the PLA, and especially of its chief, Lin Piao. Chou En-lai was to serve Mao as one counterweight to Lin and the PLA. One
element of this strategy was to renovate the government apparatus and to rehabilitate some of the less "obnoxious" pre-Cultural Revolution bureaucrats. However, one central theme of the Cultural Revolution had been the denunciation of the evils of "bureaucratism" and "commandism" on the part of government and Party cadres who had become "divorced from the masses." The bureaucracy now was to implement the policies of "better troops and simpler administration," and of becoming one with the masses through thought-reform and labor at May 7 cadre schools. The external threat to China in 1969 provided both the rationale and the manifest necessity for the disengagement of the PLA from many of its domestic economic-administrative chores. Thus, in late 1970, we begin to see the reemergence of a State Council in stream-lined form. Many cadres have been "sent down" to lower levels or to May 7 schools, and a number of agencies are disbanded or combined. 243 The railroad apparatus is submerged in the Ministry of Communications.

Between 1970 and 1975, the balance of forces in the Chinese leadership changed dramatically. The death of Lin Piao and the purge of his followers was succeeded by a noticeable reduction in the representation of the military in the Central Committee and a corresponding increase in the representation of civilian government officials. Moreover, between 1972 and 1975, many prominent Cultural Revolution victims, including Teng Hsiao-p'ing, reappeared. On the other hand, the Politburo also contained a group of Cultural Revolution beneficiaries who maintained a following in a few provinces and in a number of counties, factories and work units. The conflict between these
groups, furthermore, took place within a political system that had been fundamentally altered by the Cultural Revolution. Leadership struggles were now seen as contests between alternative leadership groups with fundamentally different goals and policy programs. The Cultural Revolution had replaced the system of policy disagreement within a consensus on procedure with a "zero sum" system in which coexistence at the summit was all but impossible. One result of the change in the dynamics of Chinese politics was that appointments to ministerial positions seem less the result of political compromise than they did before 1966. In the mid-1970's "factional" ties to one or the other central leadership group appear to be the dominant factor in ministerial appointments and dismissals.244

Furthermore, political conflict was no longer confined to the Politburo, the Central Committee, or even to the Party. Social segments mobilized during the Cultural Revolution retained their grievances and mutual hostilities. They were easy targets for mobilization again in the 1970's. Thus, in 1973-4, the Cultural Revolution holdovers on the Politburo attempted to bolster their position in the impending succession struggle by launching the Anti-Lin and Confucius campaign, and by mobilizing dissatisfied elements in society (particularly in the railroad sector). By January 1975, however, Premier Chou appeared to have gained the upper hand. In order to implement his policies of modernization he had seen to the rehabilitation of many of his former State Council subordinates and proteges. At the Fourth National People's Congress he took an additional step. In an attempt to enforce discipline and circumvent radical elements in the
provinces and the workplace, he engineered a recentralization and 
proliferation of the government administration. Part of this effort 
was the reestablishment of a Ministry of Railroads, under a "no non-
sense" civilian administrator, to straighten out the situation in one 
of the hardest hit sectors of the economy. 245

The death of the Premier and the subsequent purge of Teng Hsiao-
p'ing were followed by a resumption of railroad disturbances. However,
within 18 months Mao too was dead and the "gang of four" removed from 
power. The post-Mao leadership coalition has made a major commitment 
to the modernization of China's railroads. Plans were laid to build 
six new trunk lines within a decade, 246 and some successes in railway 
construction have been achieved. 247 However, despite her enthusiasm 
for quick modernization, the People's Republic is running into economic 
"fixed parameters" that it has only recently begun to recognize and 
acknowledge. 248 Trends during the spring and summer of 1979 show that 
the leadership has begun to realize that many of their goals were 
unachievable. One result, as discussed in the next chapter, has been 
the return to power of "conservative" economic thinkers like Ch'en Yun, 
Po I-po, Sun Yeh-fang, Yao Yi-lin and Hsueh Mu-ch'iao.

Another factor limiting China's ability to modernize her rail-
roads is the continuing existence of social and "class" tensions both 
within society in general and within the railroad sector. The current 
regime has opted for a policy of emphasizing bonuses, expertise and 
productivity. Whereas up until 1978-9 no one in the railway system 
was satisfied, now some groups are more clearly advantaged. As the 
Chinese leadership shifts from a search for "equality" to an attempt
to achieve "equity," there will be winners and losers. This situation bears the seeds of further factional disturbances on the rails, and it will take a far-sighted and sensitive leadership to avoid further derailments on the road to modernization.
Organization of the Ministry of Railroads

Figure 6

Source: Pierre Perrotte, "Politics and the Construction of Chinese Rail-

18 to 28 Railway Administration Bureaux
NOTES


8. Qin Yun and Dai Wei, "Zhengzhou and the February 7 Strike," Beijing Review (hereafter BR) #34, August 24, 1979, pp. 11-13. Also Harrison, op.cit., pp. 36-8. This uprising has retained significance for the Communist regime, and the railway workers, as is shown by "Anniversary of Railway Strike Marked in China," New China News Agency (hereafter NCNA), February 7, 1964 in Survey of China Mainland Press (hereafter SCMP) #3158, February 11, 1964, pp. 21-2. Likewise in 1969 anniversary memorial services were held "under the close supervision of the local military control commissions. The celebrations suggested the need for a bit of railway propaganda to boost morale." Colina MacDougall, "Off the Rails Again?" In Far Eastern Economic Review (hereafter FEER), February 20, 1969, p. 307.

9. See Harrison, op.cit., pp. 62-86. In 1978 the union would have 2.4 million members. See NCNA, "Railway Union Resumes Activities After 12 Years Suspension," Foreign Broadcast Information Service (hereafter FBIS) Chi78-217, November 8, 1978, pp. E15-16. Wang Chen, for example, later Commander, PLA Railway Corps and Minister, State Farms and Land Reclamation, was originally a railroad worker. See below.


12. (continued)
Background (hereafter CB) #247, January 10, 1954, pp. 2-12;


15. Wu, op.cit., p. 155; see also Perrolle, op.cit., pp. 78-9, 111.

16. E.g. see Hai Feng, "Railways, the Main Artery of China's National Economy," JMJP May 12, 1964 in SCMP #3230, June 3, 1964, pp. 5-8. The railroads are connected to almost every sphere of the economy. E.g. see S. D. Richardson's discussion of the fact that "railway construction in China is currently limited, not by a lack of iron and steel, as is often supposed...but by availability of suitable timber for the manufacture of ties." Forestry in Communist China. Baltimore: Johns Hopkins, 1966, p. 12; see also pp. 164-5, 177-84. See also Pierre Perrolle, op.cit., pp. 24-9.


21. Ten Great Years, p. 70. The figure for 1958 is, of course, suspect.


29. "China: Transport," FEER Yearbook 1968, p. 161. Strangely, according to Perrolle (op.cit., p. 221-287) railroad construction (as opposed to operations) seems not to have suffered very much during the Cultural Revolution.


32. "Chinese Transport Workers Make...," p. 17. See also Editor, CS, p. 2; and Yearbook 1968, p. 161.

33. Editor, CS, p. 2.

34. Bennett and Montaperto, op.cit., pp. 89-90.

35. Editor, CS, p. 2.

37. Editor, CS, p. 2. At least some students apparently were convinced that "ch'uan lien" was over. See Bennett and Montaperto, op.cit., pp. 119-20.

38. Bennett and Montaperto, op.cit., pp. 113-16. The phrases "revolutionary tourism" and "non-revolutionary tourism" are theirs.


45. Bennett and Montaperto, op.cit., p. 100.

46. Editor, CS, p. 4; also Hunger, Shanghai Journal, p. 218.


This is also dealt with at length in Andrew Walder's excellent Chang Ch'un-ch'iao and Shanghai's January Revolution, Ann Arbor: Michigan Papers in Chinese Studies, 1977, pp. 39-50 and in Hong Yung Lee's equally excellent monograph cited in footnote 1. This problem was exceptionally critical in Shanghai which not only contains a large proportion of China's factory workers, but which has the longest history of industrialization in China, and a radical proletarian tradition. Moreover, the length of industrial experience has provided Shanghai with a high percentage of skilled workers.


53. Anderson, op.cit., p. 14 and 17; Rice, op.cit., p. 291; Vivienne B. Shue, "Shanghai After the January Storm," The Cultural Revolution in the Provinces, Cambridge: Harvard, 1971, pp. 87-8. See also Lynn T. White's excellent article, "The Road to Urumchi," CQ #79, September, 1979, pp. 481-510. The rustication of Shanghai's youth was being stepped up at the same time the above-discussed changes in labor policy were being implemented. Thomas Bernstein estimates that between half and two-thirds of "sent down youths" returned to the cities during the Cultural Revolution. Up to the Mountains and Down to the Villages, New Haven: Yale, 1977, pp. 263-69.

54. Walder, op.cit., p. 46; Bennett and Montaperto, op.cit.


56. Anderson, op.cit., p. 14; Walder, op.cit., pp. 46-7. One of these raw materials was cotton to supply the city's textile industry. It is also known that in 1957 Shanghai relied on some 32 coal mines, one as far as 3,000 km away, for her supply. (Howe, op.cit., p. 108) Thus problems anywhere along the line could disturb Shanghai's economy. However, how much these shortages were due to transportation problems and how much to labor disruption at the wholesale/retail level is impossible to determine.


60. Accounts differ over who was responsible for waylaying the train. Most accounts credit the Municipal Party Committee with undermining the rebels (Nee, p. 329; Hunter, pp. 138-42; Miltons, pp. 191; even Walder, pp. 28-30). It seems this may overlook the self-interest of the railroad workers in preventing opinions detrimental to them from being heard in the capital. Hunter, however, makes the interesting observation that the train could hardly have been cleared of Red Guards in Shanghai and sent on its way without violence unless the rebels had "powerful friends in the Railways Department." p. 138. Walder's interpretation of the Anting incident is the most sophisticated. The CCP leadership after the October 1976 incident blamed "Wang Hung-wen and his ilk" for creating the incident in an attempt to seize power and sabotage the country. See "By Lying Across Railway Tracks to Block Trains, Whom Are They Attempting to Imitate?" Chieh-fang Jih-pao (Liberation Daily), February 14, 1979 as reported in FBIS CH79-32, February 14, 1979, pp. 64-5. For Chang Ch'ung-ch'iao's own account see version reported as "The 'January Revolution' Experience in Shanghai" Kuang-ying Hung-ch'i (Canton Printing Red Flag) in SCMP #4145, March 25, 1968, pp. 1-8.

61. See Rice, op.cit., p. 289; Walder, op.cit., pp. 31, 34; Editor, CS, p. 2; Shue, op.cit., p. 66. Especially see Editor, CS, p. 3 who says the group was "apparently composed largely of transport workers." Hunter (p. 218) also identifies railroad workers as a strong source of Scarlet Guards.

62. "Chiang Ch'ing Tung-chih ti Chiang-hua," ("Comrade Chiang Ch'ing's Speech") Huo Ch'e t'ou (Locomotive) #1, December 27, 1966, p. 2. I am indebted to Mr. John Dolfin of the Universities Service Center, Kowloon, Hong Kong for providing me with a number of issues of this journal and of T'ieh-tao Hung-ch'i (Railroad Red Flag) and Hung T'ieh-tao (Red Railroad).

63. Walder, op.cit., p. 47.

64. On the agreement see Editor, CS, p. 4. Rewi Alley says 35 million yuan were promised and 350,000 yuan were actually distributed. Travels in China, 1966-71, Peking: New World Press, 1973, p. 69. See also "Struggle for Power at Shanghai Railway Station," and Rice, op.cit., p. 294.

65. Hunter, Shanghai Journal, pp. 197-205. Why they didn't take the train is a mystery. Perhaps they felt the rebels would expect it and would intercept them just as they had done at Anting. (They probably also feared that the Municipal Party Committee
would even alert the rebels as to where the train was, where to intercept it etc. as they had done for the conservatives on November 10.) Or the trains may have been so bogged down that they felt they could get there faster otherwise. Or they may have feared violence if they tried to evict Red Guards in order to take the train to Peking.

"Struggle for Power at Shanghai Railway Station."

The shutdown of the Nanking line was partly due to the Kunshan violence, partly to the strike. See "Clashes Near Shanghai; Railway Transportation Suspended Between Shanghai and Nanking," Sankei January 7, 1967, DSJP January 11, 1967, p. 41. See also Nee, op.cit., p. 337-8; Walder, op.cit., pp. 49-50; Anderson, op.cit., p. 14; Yearbook 1968, p. 161; White, op.cit., p. 329.

Neale Hunter, "Port in a Storm," FEER June 22, 1967, pp. 663-7; White, op.cit., p. 329; Alley reports that 80% of the ships lay idle (p. 69). Hunter also reports, "One ship cabled its home port that Shanghai was crippled by a great strike and asked permission to return without unloading; another flew the Chinese flag upside down as a mark of protest." (Shanghai Journal, p. 219)


Editor, CS, p. 5; Nee, op.cit., pp.334-6; and see "32 Shanghai Revolutionary Rebel Organizations Issue 'Urgent Notice','" in PR#4, January 20, 1967, pp. 7-9.

Editor, CS, pp. 5-6; "Struggle for Power at Shanghai Railway Station;" Nee, op.cit., pp. 337-8; Hunter, Shanghai Journal, pp. 219-20.

Alley, op.cit., p. 69.
75. Anderson, op.cit., p. 16. Even so, some railway workers resisted "unity." Chang Ch'un-ch'iao reported of the railwaymen of Pengpu substation that their "private interests were so important to these workers that they didn't care much about the interests of the whole country," and thus resisted forming an alliance. See "The 'January Revolution' Experience in Shanghai," p. 8.

76. See transcript in Huo Ch'e T'ou #1, December 27, 1966, p. 3.


82. Both Chiang Ch'ing's and Ch'en Po-ta's comments are in "Real Power Faction in Communist China Inciting Strikes; Train Service Disrupted," Mainichi, DSJP January 14-16, 1967, p. 1.

83. Rice, op.cit., p. 323.

84. On rebel seizure and accusations see Editor, CS, p. 6; see also Ch'in T'i, "Government System in Mainland China in 1967," in Union Research Institute, Communist China: 1967, Hong Kong: URI, 1969, p. 97; Powell, "The Role...," p. 6 says the PLA was involved in the takeover. I have found no corroboration for this allegation but the evidence cited below does not make it seem likely.
84. (continued)

85. "Railways Minister Lu Cheng-ts'ao Paraded," Yomiuri, DSJP January 30, 1967, p. 30. Lu was one of the first dragged out, no doubt because his background made him so vulnerable (see below), because Chou was critical of his handling of railway affairs, and because of the seriousness of the situation on the rails. See MacDougall, "Revolution...," p. 6.


87. (continued)
Criticized Since the Chinese Communist 'Great Cultural Revolu-
tion.'") in Fei-ch'ing Yen-chiu (Research in Bandit Affairs)
Vol. 2 #2, February 29, 1968, p. 81; and Lung Fei, "Tang-ch'ien
Chung-kung Wei Kuo-wu-yuan Chuang-k'uang chih Yen-hsi," ("Analy-
sis of Present Situation in Chinese Communist Bogus State Coun-
cil,"') in Chung-kung Yen-chiu, (Research in Chinese Communist

88. See Stuart Schramm, ed., Chairman Mao Talks to the People, NY:
Pantheon, 1974, pp. 346-7, note 4. See also Alan Liu, Communi-
tations and National Integration in Communist China, Berkeley:
University of California, 1971; and Powell, "The Role...," p. 7.

89. Translation to be found in Chinese Law and Government Vol. IV
#3-4 Fall/Winter 1971, p. 325-7.

90. Schramm, Chairman Mao Talks..., pp. 346-7, note 4. See also Year-

91. From Chou's reception of railway representatives on January 27.
See note 80 for sources and Rice, op.cit., p. 324. That this
meeting set up a preparatory committee for a revolutionary
alliance is implied in this speech and also in Chou's later com-
ments contained in "Premier Chou's Speech," K'o-chi Chan-pao
(Scientific and Technological Combat News), June 2, 1967 in
SCMP #4011, p. 3.

92. "Transportation Situation Exceedingly Favorable After Power
Seizure in Harbin Railway Bureau," Hung Ch'1 #5, March, 1967
in (Selections From China Mainland Magazines), #572, April 17,
1967, pp. 11-13. This article does not identify the nature of
these expenditures beyond labelling them "economism." See also,
Editor, CS, pp. 6-7 and "Unprecedentedly Excellent Situation of
Revolution and Production in Harbin Railway Administration," in
SCMP #4074, December 6, 1967, pp. 18-19.

93. MacDougall, "Revolution...," pp. 7-11; "Quarterly Chronicle and

94. E.g. see "Railway Minisqry Lauds Shanghai PLA Garrison," in FBIS
Chicom National Affairs, February 23, 1967, p. CCC9; Powell,
op.cit., pp. 6-7; MacDougall, "Revolution...,"; and Editor, CS,
p. 7.

95. Rice, op.cit., pp. 318-36. See also "Great Alliance is the Key
Factor," and Hongqi Commentator, "On Revolutionary Discipline,
and Revolutionary Authority of the Proletariat," in PR #7, Feb-
to Central Party and Government Meetings in China, 1949-1975,
95. (continued)


100. None of the major sources available to me deals with factional alignments in the Chengchou railway bureau at any length. However, in February 1968, the following report was broadcast on Chengchow Radio:

In our ranks there is a small number of comrades who have been influenced by the anarchistic trend, who do not observe labour discipline and do not obey working orders. They even leave their work posts without permission and passively "go slow" in their work...Chengchow East is one of the biggest railway freight stations in China...In January 1967, when the storm of revolution rolled over the land, the workers launched a struggle to seize power from the bourgeois headquarters. However, the gang of Wen Min-sheng and Chao Wen-fu put up a last-ditch struggle and counter-attacked. Chieftans of the revolutionary rebel workers were either imprisoned or sent away to do labor reform. The workers persisted in their struggle to seize power, and they remained at their production posts, loading freight trains as fast as they could. In July, they seized power, and they set up a revolutionary committee in November. But it was then that anarchism and interference from the Right and extreme Left appeared at this station...A few workers were misled into clamoring about wages and treatment and into describing socialist labour discipline as "old frameworks" and "the same old thing."


105. "News from the Front Line!," Erh-ch'i Chan-pao #2, June 3, 1967 in SCMP #4012, pp. 4-5.

106. "Premier Chou En-lai Issues Two Point Instruction to Medical University Through His Liaison Office;" "Urgent Dispatch from Chengchow: Central Medical Team's Urgent Message to Premier Chou En-lai;" and "Urgent Dispatch from Chengchow," all in Erh-ch'i Chan-pao, loc.cit., p. 6-8.


111. My impression is that with further information we would find that most areas contained elements of all four syndromes. What I have done above is to select an example of each kind, concentrating my investigation on what appears to be a prototypical case for which adequate documentation is available.


114. Lee, op.cit., p. 232. Returned "sent down youth" were also a major disruptive element. Apparently some 30,000 had returned by November 1967 out of a total "sent down" of 46,000. See Bernstein, op.cit., p. 267.

115. Ibid., p. 234. See also Vogel, op.cit., p. 331, and Parris Chang, "Decentralization of Power" POC XXI #4, July-August, 1972, pp. 67-71 on role of PLA in GPCR.


117. Bennett and Montaperto, op.cit., p. 159.


119. Vogel, op.cit., pp. 332-3; Lee, op.cit., p. 238; Bennett and Montaperto, op.cit., pp. 173-6, 191. John and Elsie Collier (op.cit., pp. 147-54) provide the most detailed account of Chou's visit, including purported excerpts from his speeches. See also "Why Military Control is Imposed Now on Canton Railway Sub-Bureau," Ch'un-lei Chan-shih #19, (Spring Thunder Fighter), November 25, 1967 in SCMP #4120, February 16, 1968, pp. 8-10.

120. Lee, op.cit., p. 238-9; Collier & Collier, op.cit., p. 156.

121. Vogel, op.cit., p. 333; see also Bennett and Montaperto, op.cit., pp. 176-89.

122. Quoted in MacDougall, "Revolution...," p. 8.


125. Lee, op.cit., p. 240, also pp. 244-52.


127. See Rice, op.cit., p. 408. Also see "Decision of Railway Mass Organizations Concerning Implementation of '4-Point Agreement on Support-the-Army and Cherish-the-People and Stopping of Violent Struggle'," signed on September 5, 1967 by representatives
of the Canton Railways General Headquarters and the Canton Railways Sub-Bureau Revolutionary Committee, and the September 1 agreement itself, both in SCMP #4036, October 6, 1967, pp. 7-8.


137. MacDougall, "Revolution...," p. 11. See also "Proletarian Revolutionaries of China's Railways Reach Agreements on Great Alliances," in PR #4, January 26, 1968, p. 11.

138. Quote from MacDougall, "Revolution...," p. 11. See further "Transportation Situation Exceedingly Favorable...," and "Unprecedentedly Excellent Situation...," (note 92).


140. MacDougall, "Revolution...," pp. 3-4.


142. Nelsen, op.cit., pp. 457-64 (quote, p. 457). It should be remembered that incidents involving Burma, England and other countries, most notably the USSR, had brought China's international prestige to an all time low. At the same time, the USSR was continuing a build-up of forces along the joint border. The next summer, when the PLA was deeply involved in trying to clear up the violence in Kwangsi and elsewhere, Brezhnev was proclaiming his socialist "right" and "obligation" to intervene in the internal affairs of any bloc state in which socialism was threatened, and was invading Czechoslovakia. The message was not lost on Mao, Chou and Lin.


146. Falkenheim, op.cit., p. 585.

147. "In Various Parts of Kwangsi," Hsi-chiang Nu-t'ao #1, (Angry Waves of West River) June, 1968 in SCMP #4223, July 23, 1968, pp. 16-18 details clashes in Chinghai hsien, Luch'uan hsien, Kuei hsien, Ch'inchou, Pingkuo hsien, Nanning city, Liuchou city, and Wuchow city. In Chinghai hsien, according to this "April 22" faction source, 50 persons were executed; in Luch'uan, 13 more were killed; "several tens" died in April in Ch'inchou etc. Other incidents are related in "Damage Done by
147. (continued)
Thugs of Combined Command to State Property," and "News from Various Parts of Kwangsi," both in Ta-chun-pao #1 (Grand Army Bulletin) as translated in SCMP #4234, August 8, 1968, pp. 9-10 and 11-12.


150. Rice, op.cit., p. 451. Chou En-lai himself referred to the seizure of "weapons, rifles, cannon shells and other aid supplies for Vietnam" in a speech in Canton. He did not specify where they were taken but said that "10 thousand shells" were fired. See "Premier Chou's Talk at a Reception for Revolutionary Masses of XX [Machine Building?] Industrial Systems" Canton Wen-ko Feng yun [Cultural Revolution Storm] #2, February, 1968 in SCMP #4148 March 28, 1968, p. 5.


152. "Blockade of Liuchiang Bridge by Derailment," SCMP #4230, August 1, 1968, p. 12.


159. Falkenheim, op.cit., p. 585.


163. On railway closings during the last half of 1968 see Ch'eng Chih-yuan, "Communist China's Transportation and Communication," Fei-ch'ing Yueh-pao, July 1, 1968 as translated in JPRS #46,645 #30, October 1, 1968, pp. 1-3; and his article of the same title in Fei-ch'ing Yueh-pao, August 1, 1968 in JPRS #47,018 #34, December 5, 1968, pp. 1-3.


165. Dai Hsiao-ai reports being "assigned to live at a dormitory belonging to the First Ministry of Machine Building," and indicates that ministry personnel were responsible in some sense for his group from Canton. Bennett and Montaperto, op.cit., pp. 91, 100.

166. MacDougall, "Revolution...," pp. 3-4.

167. Editor, CS, p. 7.


172. MacDougall, "Off the Rails Again?" p. 306.


177. E.g. see Bridgham, op.cit., pp. 432-3; Van Ginneken, op.cit., pp. 209-13; Domes, China After..., pp. 61-76.


also NCNA "Big Advances in China's Railways, Transportation, and Communications" SCMP #4333, January 8, 1969, pp. 21-2.


186. China News Summary, "'Military Representatives' Still...," p. 14. Pao Yu-ch'eng, identified in January 1971 as vice-chairman and PLA representative of the revolutionary committee of Hangchow Municipal People's Communications Company reports that in January 1970 he was sent to the above named company "to do support-the-left work." This indicates that military representatives may have existed in the communications system at least through 1970. Pao Yu-ch'eng, "No Investigation, No Right to Speak," JMJP January 11, 1971 in SCMP #4825, January 22, 1971, p. 155 passim.

187. Powell, "The Role of the Military...," p. 8; "Peking's Minister of Communications Identified," China News Summary #357, February 18, 1971, p. 8; see also note 181.

188. It is true that both previous ministers of railroads had strong military backgrounds and connections. But it seems that as late as 1972-3 the military was still involved rather deeply in civil aspects of administration. On Lu Cheng-ts'ao's background see note 87. On T'eng Tai-yuan see Who's Who, pp. 619-20; Klein and Clark, op. cit., pp. 828-31. Two former vice-ministers of railroads were also identified as currently holding the same position (see note 181). On Kuo Lu see Who's Who, pp. 349-50; on Su Chieh, see ibid., p. 575. Both had been in railway administration since the earliest days of the PRC.


197. Rice, "The Second Rise...," p. 495. Rice in this article (pp. 494-500) discusses the rationale for Mao's position on Teng. It is consistent with the analysis I have suggested in the chapter on machine-building. Likewise, Teng's appearance at the United Nations at which he delivered a speech on Mao's "three world theory" must have been approved by the Chairman. See Chi Hsin, The Case of the Gang of Four, Hong Kong: Cosmos Books, 1977, p. 148. See also Teng's speech in PR Supplement, April, 1974.


202. See "Proclamation..." and other documents of the First Session, Fourth NPC in PR #4, January 24, 1975, pp. 6-12.


206. Ibid.

207. (continued) Chemicals in which the military was known to have a strong interest was split into separate coal and petrochemicals ministries. Both were placed under long-time bureaucrats from the same field. From January, 1975 until his death in July, 1976, coal was headed by Hsu Chin-ch'iang. Hsu had been vice-minister of petroleum from April, 1963 to October, 1970 and vice-minister of the combined ministry from 1971-75. (Lamb, pp. 44, 96, 103) On his death, Hsiao Han took over. He was former vice-minister and an alternate member of the 11th Central Committee. (Lamb, pp. 44, 8) Minister of petroleum was K'ang Shih-en, long-time energy bureaucrat. (Lamb, pp. 82, 97) If Chou's and Teng's intention was to get the military out of the railroads, they were not very successful, as we shall see in 1977-78.

208. Only one source reports rail trouble through much of 1975. (FEER Yearbook 1976, p. 156) In view of the voluminous accusations against the gang of four for interference in 1974 and 1976, and the almost universal claims of order, or attempts to maintain it, in 1975, I feel the Yearbook report overestimates the problems during this year. There were, apparently, however, sporadic problems as ministry officials and supporters of the "gang" maneuvered for advantage. See "China: Infrastructure," FEER Yearbook 1976, pp. 155-6.


211. Ibid., p. E2.


214. It was apparently only after April that most disruptions occurred. First quarter freight volume was reported to have been up 13.4%. FEER Yearbook 1977, p. 161.


219. "Ministry of Railways Denounces...," p. E5. They also reportedly "flagrantly opposed the party Central Committee's directives on railway work, opposed unified party leadership and sabotaged centralized command in rail transport. They sowed dissension between railway and local organizations and between railway bureaus and subbureaus." See NCNA, "Rail Bureaus Lauded for Increased Transport," FBIS Chi76-221, November 15, 1976, p. E25. They also "vilified the administrative system which centered on the Ministry of Railroads as 'direct and exclusive control of enterprises by the ministry concerned' and as 'dictatorship of capitalist roaders'." JMJP "Be a Good Forerunner," in FBIS Chi78-90, May 9, 1978, p. E7.


The closeness of the relationship of Wan and T'eng has recently again been made clear. At the February 1980 Fifth Plenum of the 11th Central Committee, by all accounts Teng's plenum, the Party reestablished the Secretariat. Wan was elected as a full member. See Beijing Review #10, March 10, 1980. Moreover, unconfirmed reports tout Wan as one of three possible replacements for the aged Teng, Ch' en Yun and Li Hsien-nien. (The other two are Chao Tzu-yang and P' eng Ch'ung). See London Telegraph report in Columbus Dispatch, March 13, 1980, p. 2.

"Military Discipline...," China Record, p. 2.


"PLA Leaders to Head..." p. H2.


"People's Daily Urges Punishment for Railway Sabotage," FBIS Chi77-39, February 28, 1977, pp. E14-15. One wonders if the emphasis on Honan, and the rise of Kuo Wei-cheng, were in any way helped by the fact that Politburo member Chi Teng-k'uei is a former Honan provincial official. He delivered a speech, reportedly on railway security, at the conference, (See "National Conference on Railway Work") and has repeatedly been alleged to be involved in security work. (e.g. see Domes, "The 'Gang of Four' and Hua Kuo-feng..." p. 478). Lampton, however, finds little if any evidence to support his alleged secret police connections. (David M. Lampton, "Chi Teng-k'uei: A Bureaucratic Career," paper prepared for 1978 annual meeting of American Political Science Association.)


239. This was certainly a "high powered" group and its composition is interesting. Yu Ch'iu-li and K'ang Shih-en are closely related to the petroleum industry; Ku Mu particularly pointed to rising oil output as a reason for the need for better rail transport. (p. E2) Wang Chen, first commander of the PLA railway corps, began to take a stronger interest in the railroads again in recent years as will be seen in a moment; in 1978-9 he became both a vice-premier and a Politburo member. For a report on the conference and excerpts from some of the speeches see "Li Hsien-nien, Others Address Closing of Railway Conference," FBIS Ch178-80, April 25, 1978, pp. E1-3. Another meeting was held shortly afterwards; see NCNA, "Wang Chen Attends PLA Railway Engineer Corps Meeting," FBIS Ch178-107, June 2, 1978, pp. E8-9. See also following chapter on petroleum.

241. See NCNA, "PLA Railway Corps Marks Founding Anniversary," FBIS Chi78-134, July 12, 1978, p. E18. Former Minister of Railroads, Wan Li became First Party Secretary of Anhwei, a province beset by repeated and severe railroad troubles. One of the chief military officials in the province was Wang En-mao, nemesis of Sinkiang Red Guards during the Cultural Revolution. See "Anhwei Meeting Introduces New Provincial Leaders," FBIS Chi77-123, June 27, 1977, p. G1 and Earl Wayne, op.cit., pp. 140-2. Railroad disruptions in Anhsei in the spring of 1977 apparently were a major cause for the purge of First Secretary Sung P'ei-chang. Sung achieved this position in 1967 as a Cultural Revolution activist and "vehement critic" of Teng Hsiao-p'ing. (Wayne, p. 141) After the purge of the gang of four, he "claimed that Anhwei had resisted their attempts to infiltrate and took a soft line on the purge." (Wayne, p. 141) Despite the fact that "Anhwei had progressed rapidly in the field of economics," (ibid.) after "Wan's transfer to Anhwei, provincial GVIO fell off sharply for several months, indicating that Wan - a noted disciplinarian - probably ordered local leadership changes, which in turn led to disruptive activities at the lower levels." (Robert M. Field, et al., "Political Conflict and Industrial Growth in China: 1965-77," JEC 1978, p. 249) In fact, there is evidence that executions of railroad saboteurs took place after the fall of the gang of four. In May 1977, two people "accused of having disrupted rail traffic by tearing up railway track" were executed in Shenyang, Liaoning Province. See Political Imprisonment in the People's Republic of China. London: Amnesty International, 1978, p. 66.

242. NCNA, "Railway Union Resumes Activities After 12 Years Suspension," FBIS Chi78-217, November 8, 1978, pp. E15-16. This determination was reflected by the discussions and speeches on the February 1978 Fifth National People's Congress. See PR #26, June 30, 1978. Also see Chi Ti, "Industrial Modernization," PR #26, June 30, 1978, which talks about the national goal of building six new trunk railroads in the next ten years; Hu Ch'iao-mu, "Observe Economic Laws, Speed Up the 4 Modernizations," PR #45, November 10, 1978, pp. 7-12; and Frederick Moritz, "China Rushes to Upgrade its Meager Rail System," Christian Science Monitor, October 4, 1978. I do not know whether the reestablishment of the railroad trade union has led to the resumption of special health, education and welfare service in the sector. However, the railroads reportedly still have their own court system. See Gerd Ruge, "An Interview with Chinese Legal Officials," conducted in 1974, reported in CQ #61, March, 1975, p. 119.

243. Barnett, Uncertain Passage, see pp. 61-4 for a discussion of the extent of change in the State Council staff and structure from 1969-73. See also Harry Harding, The Organizational Issue in...
243. (continued)


244. This creates an interesting parallel with Japanese politics, in which conflict within the Liberal Democratic Party centers around staffing of key Party and government agencies much more than around disagreement over policy. See Taketsugu Tsurutani, Political Change in Japan. NY: David McKay, 1977, pp. 88-92.

245. Mao's absence from the Fourth NPC may have signalled less than total approval of its decisions. Moreover, some of these decisions, like the appointment of Wan Li as Minister of Railroads, may reveal the influence of Teng Hsiao-p'ing as well as that of the Premier.


CHAPTER 4
THE COAL AND PETROCHEMICAL INDUSTRIES IN THE 1970'S

A. Background

The petrochemical industry is of crucial importance to a developing economy. Not only does this industry provide the lion's share of energy resources needed for the expansion of industry and transportation, and for the mechanization of agriculture, but petrochemicals are also the basic raw materials for the manufacture of a variety of items including synthetic fibers for clothing, plastics, many pharmaceuticals, and chemical fertilizers. The position of a country with a great dependence on outside sources of petroleum is only too familiar to Americans in the latter half of the 1970's. However, the situation facing an underdeveloped country with inadequate supplies of petroleum and/or the lack of a capability to process those resources it does possess is even more stark. This was precisely the condition in which China found herself prior to the mid-1960's.

While China had known about oil and natural gas deposits, especially in Szechuan province, for centuries, almost nothing had been done before 1949 to exploit them systematically. China depended on imports for 85-90% of her petroleum needs up until the 1950's. Furthermore, the general consensus of geologists and petroleum experts (especially non-Chinese) up until the mid-1950's was that China
probably possessed no major petroleum resources. One eminent American expert wrote in 1927, "Making every allowance for deficiencies in present knowledge of the economic geology of China, its oil reserves are still probably less than one percent of those of the United States." As a result of this expert consensus, what oil was produced in China during the 1930's and 1940's was largely synthetic oil extracted from shale or coal, and was mainly produced, owned and distributed by foreign (especially Japanese) interests.

Following the establishment of the People's Republic of China in 1949, the small Chinese petroleum industry "underwent a rapid rehabilitation." The facilities at Yumen in Kansu, which had been discovered in 1936, were expanded. During Mao's negotiations in Moscow in late-1949, the Chinese and Soviets agreed to establish a joint stock company in Sinkiang for oil exploration. Well drilling began; from 1949-52, 79,651 meters of oil wells were sunk. Meanwhile, in Manchuria, a joint attempt was being made to reconstruct the petroleum industry destroyed since 1945. Not only had the extension of fighting to Manchuria in the summer of 1945 caused destruction, but the USSR had systematically looted whatever capacity remained standing. One effect of the removal of approximately $2 billion worth of Manchurian industry by the Soviet Red Army had been a 75% reduction in China's output of fuels and lubricants, down from 6,279,000 barrels per year to 1,570,000 bb/yr. However, by 1952, "crude oil production reached 436,000 tons, an increase of 260 percent over 1949 and 36.1 percent over 1943."
The 1949 Organic Law established a Ministry of Fuel Industry to oversee not only the development of the petroleum industry but that of the coal industry as well. Selected to head the ministry was Ch'en Yu, longtime Communist labor leader and activist and, from 1946, a high ranking functionary of the Northeast Administrative Committee with special responsibilities in the fuel industry. At the time, the existence of one ministry to coordinate both industries reflected two facts. First, the oil industry was very small. In 1949, coal provided between 94% and 97% of China's total fuel and energy requirements. In 1952, of a total of 49.39 million metric tons (standard coal equivalent) of Chinese domestic energy output, 47.54 were derived from coal, 0.57 were from petroleum, and 1.28 were from hydroelectricity. Furthermore, in 1949 there were reportedly only 18 petroleum geologists working in China, with eight drilling rigs exploring for oil. As a result, the petroleum-related bureaucracy could not have been very extensive.

The second factor reflected by the existence of a single ministry was the similarity in petroleum and coal technology at the time. While extensive exploration was being conducted in Sinkiang for oil deposits, the primary native source of petroleum resources for China was still shale and coal. During the period of rehabilitation, no major investment of resources was made in the petroleum industry. By contrast, substantial effort was directed toward repairing and expanding existing facilities, and towards developing the manpower and knowledge-base for future development of the fuels industry. Especially in order to assist in the latter task, a Ministry of
Geology was established in August 1952. The new minister was to be Li Szu-kuang (J. S. Lee), an eminent Western-trained geologist and participant in the 1911 Revolution. Li, as long ago as the 1930's, had developed theories based on tectonic movements of the earth's crust by which he predicted a possible abundance of oil in China. Thus, under the First Five-Year Plan (FFYP), substantial resources were allocated to prospecting, and to the exploitation and refinement of petroleum resources. Initially 702 million yuan, or 3% of the total capital investment in industry, went for these projects. The total of FFYP investment in the petroleum industry was to be some ¥1.9 billion, of which more than half was allocated to exploration.

By 1955, over 6,000 geologist workers were employing several hundred drilling machines, and by 1956 the total footage of drilling was 5.5 times that of 1950. Over "300 oil structures and 240 oil seepages were discovered."

As a result of this growth, and the expectation that all of these newly discovered deposits would soon be producing, the Ministry of Fuel Industry was split in July 1955 into a Ministry of Coal and a Ministry of Petroleum. Despite some successes, however, the petroleum industry was unable to attain its FFYP goals. The 1957 output of crude oil reached only 72.5% of its target. As a result, in order to increase production, the petroleum industry became caught up in the mobilizational schemes of the Great Leap Forward. Whereas previous emphasis had been on exploration and prospecting, it was now to be production by the "most accelerated methods available."

Refining capacity was enlarged; theretofore ignored small reserves
were tapped; synthetic oil from shale and coal was emphasized. As with the Great Leap in other spheres, the goal was "low capital-output ratio, quick results, simple technology, native facilities, and proximity to consumer." The "Great Leap" in the oil industry proved to be one of a very few bright spots in an otherwise dismal picture. By 1959 there were 900 oil teams employing 480 drilling rigs in 34 different exploration areas. New resources appeared not only in the West and Northwest, but in the Northeast as well. More important in the short term, however, was the substantial expansion of petroleum output. Crude output rose from 1.458 million tons in 1957 to 2.264 million in 1958 to 3.7 million in 1959 to 5.5 million in 1960, thus fulfilling the Second FYP goal two years early. While these figures are impressive, and contributed to the prestige of those attached to the ministry, it should be remembered that the investments of the early 1950's were just beginning to pay off by 1958-59. The Yumen fields, for example, showed a steady progression in output from 335,000 tons in 1955 to 533,000 tons in 1956 to 755,000 tons in 1957 to 1,050,000 tons in 1958 to 1,550,000 tons in 1959. Karamai was just beginning to produce. In 1957 these fields produced 25,000 tons; in 1958 their output was 250,000 tons and by 1959 670,000 tons. Similarly, Tsaidam was just becoming operational. In 1958 output was 30,000 tons; in 1959 270,000 tons. In addition, the number of products turned out by Chinese refineries increased. Although the petroleum industry could be cited by Mao and his colleagues to make the "Great Leap" look good, the reality was quite different. The mass mobilization
strategy had been relatively quickly abandoned and emphasis shifted once again to major oil fields and big refineries. However, between 1957 and 1963, the oil industry had been transformed from what Premier Chou characterized as one of the "backward branches of our industry" into the mainstay of China's attempt to develop her industry through self-reliance.

The substantial investment of the 1950's in prospecting and developing newly found oil resources began to pay even greater dividends after 1963. Opening in fairly rapid succession were three massive new petroleum complexes: Tach'ing in 1963-4, Shengli in 1963-4, and Takang between 1964-7. The former two fields were first discovered in the mid-1950's, with test drilling occurring during the Great Leap. Takang field was a few years behind in development. As a result of the development of these and other less important oil fields, China was able to absorb the blow of the loss of Soviet aid and technicians in 1960, and the drastic curtailment of exports of petroleum products following the 1962 Sino-Indian clash, with less than catastrophic results. While certain products such as aviation fuel and high-quality lubricants were scarce, China in 1963 declared herself basically self-sufficient in petroleum.

By April 1964, the Tach'ing oil field in particular came to represent a model for all Chinese industry. Because of the later controversy over the Tach'ing oil field as a model, it is necessary to examine briefly why it was singled out for emulation. Cheng Chu-yuan points to three aspects of the Tach'ing experience that made it susceptible to such treatment. First was its role in cushioning the shock
of Russian withdrawal; Tach'ing came into production just in time to avert a disaster. Secondly, Tach'ing represented a spirit of self-reliance, a putative return to the Yenan ethos. The petroleum complex was developed under the harshest of conditions, with minimal equipment and by a construction crew largely transplanted from the Yumen fields. Within a short time they had not only established the oil fields and accompanying infrastructure, but were also engaging in agriculture and land reclamation. This ability to establish a new way of life in which industry and agriculture, urban and rural elements were congruent, was a third aspect of its success as a model.

The fate of Tach'ing as a model, however, would be extremely confusing if only these aspects were considered. Both during the Cultural Revolution and later, during the mid-1970's, Tach'ing came under attack from precisely those elements who are most identified with the ethic of self-sufficiency and with the policy of narrowing the urban-rural gap. As will be discussed below, Tach'ing was attacked for "putting production in command." This paradox is unraveled by recognizing that Tach'ing not only represented the Yenan ethic but also embodied the spirit of modern technology, close-knit organization, labor discipline (as well as worker participation in important affairs), and productivity. These elements, which garnered the support of Chou En-lai and Yu Ch'iu-li, were the aspects represented by more radical politicians. It is my contention, for reasons discussed below, that Chairman Mao was not one of the latter. The political position of the petroleum apparatus and staff in the mid-1970's cannot be clearly understood without an examination of
Mao's call at the Tenth Plenum of the Eighth Central Committee in September 1962 to remember class struggle has been well documented and thoroughly examined, as have the ensuing Socialist Education Movement, and the campaign to learn from the People's Liberation Army. What has been largely overlooked, however, was the fact that Mao personally not only selected Tach'ing as a model for industry but singled out the Ministry of Petroleum as a model of correct governmental administration. In March 1964, in comments at an (unidentified) briefing, the Chairman spoke about the necessity to "learn from the PLA, learn from the Ministry of Petroleum." Mao not only asserted that it would take others some number of years to learn from the revolutionary spirit of the PLA and the Ministry, but he gave his reason why the ministry was singled out for attention:

Class struggle, the struggle for production and scientific experimentation must all be united...Only to carry out class struggle but not the struggle for production and scientific experimentation and to say "support the general line" will give only false results. I say that the Ministry of Petroleum has achieved great results. It has aroused people's revolutionary spirit and also produced XX tens of thousands of tons of oil. Moreover, not only has it produced XX tens of thousands of tons [of oil] but has built an oil refinery of XX thousand tons [capacity]. The quality is very high, of international standards. Only thus can we bring people around.

Tach'ing, of course, was part and parcel of this success. So was the Minister of Petroleum, Yu Ch'iu-li. Both came under strong attack during the Cultural Revolution. Since much of the hostility and divisiveness of the 1970's stemmed from conflict during the
late-1960's, it is useful briefly to examine the nature and source of these attacks, and the defense of the ministry, and minister, of petroleum.

As late as September 1966, the petroleum industry was still the recipient of praise in the Chinese public media. By early, 1967, however, Yu Ch'iu-li, architect of China's petroleum success, was under heavy fire for deceiving the Premier who "time and again" had "given him a chance to turn over a new leaf." Instead, Yu reportedly attempted to undermine rebel organizations in the ministry of petroleum, and created a reign of "white terror." Yu submitted a self-criticism on March 8, but apparently only accepted as valid the "critical comment that I am hot-tempered." His temper had caused him to run afoul of Lin Piao; Yu reportedly refused to accept cadres assigned to the ministry from the PLA as political watchdogs, preferring experts, even if they had tainted political backgrounds. Likewise, he had nothing but disdain for the "know nothing" young "scholars" of the Cultural Revolution Group. Rather, he steadfastly centralized the petroleum industry, placing "all the petroleum plants and mines under the direct control of the Ministry of Petroleum Industry." Similarly, he maintained strong leadership and labor discipline, protecting his subordinates, but demanding loyalty and production from them.

Yu was also accused of personally sponsoring the "Tach'ing black experience." Tach'ing was now obnoxious because it reportedly had favored Liu Shao-ch'i, ignoring Mao and his thought, and had produced an exhibition "trumpeting the revisionist politics of Liu Shao-ch'i."
Moreover, Yu was accused of trying to "stand on equal terms with Chairman Mao" by producing and distributing a booklet titled "Reference Materials on the Development of the Petroleum Industry in the Last Eight Years," which his opponents dubbed "Quotations from Yu Ch'iu-li."

One intra-elite confrontation of this period comes down to us in a rather unique document. In February 1979 a lengthy account of meetings held during February 1967 was released as a means of discrediting the "gang of four." During several meetings held at the Huairen hall in Peking, heated arguments broke out. Present, in addition to vice-chairmen of the military committee, vice-premiers of the State Council and leaders of the Cultural Revolution Group, were Yu Ch'iu-li and Capital Construction Commission Chairman Ku Mu. Amid all of the table-banging and shouting, Premier Chou personally lamented that he had "only a one-armed man left to take charge of production." In other words, only the disable veteran Yu Ch'iu-li remained, and Chou was reaffirming his confidence in him. Nor was that all. Not only had Yu stood atop the T'ien-an Men with Chairman Mao for six of the eight reviews of Red Guard parades in the summer and autumn of 1966, but on "1 May 1967, Comrade Mao Zedong and Comrade Zhou Enlai personally gave their approval" for a number of officials currently under attack once again to stand at the summit and review the parade.

The struggle against Yu intensified after March 1967, and included further attacks against Tach'ing. At the forefront of these attacks were the members of the Cultural Revolution Group who themselves were purged in early 1968 for "excessive" leftism. Kuan
Feng, Wang Li, Lo Feng and Wu Ch'uan-ch'i in particular had their sights on Yu, reportedly as a first step toward bringing down the Premier himself. Several large demonstrations were held to denounce Yu, even to demand his death. With his protege under such severe criticism, Chou characteristically attempted simultaneously to defend Yu, to deflect the attack onto less important targets, and to encourage Yu to "lay low" and not invite further attack. After a period of several months, however, both Premier Chou and (almost certainly) Chairman Mao began to reassert their confidence in their minister of the petroleum industry. Several times in mid-1968 Yu was singled out to attend important functions, and to stand alongside the top leadership. Moreover, in the official reports of these events, the press went out of its way to single out Yu by prefixing only his name with "comrade" while listing all others attending either by title or by name alone.

There was good reason for the Chairman and the Premier to be pleased with Minister Yu. Despite the chaos and lost production caused to most of the economy by the Cultural Revolution, petroleum output in 1968 was substantially higher than in 1966. While output had declined somewhat in 1967, the Chinese had also opened Takang field in that year. When contrasted with the situation in the coal industry at the close of the Cultural Revolution, the petroleum industry was a bright spot indeed.
Because during the 1970 restructuring of the Chinese state bureaucracy the coal, petroleum and chemical industries were all joined under one agency, it is necessary briefly to trace the development of coal and chemicals before discussing the politics of petrochemicals in the 1970's. Western hopes of a Chinese oil bonanza in the 1970's seem to have obscured the fact that China always has relied, and continues to rely, on coal as its primary energy resource. In contrast with the pessimistic assessments of China's oil reserves discussed above, it has long been known that the Middle Kingdom possessed abundant, if unevenly distributed, deposits of coal. Moreover, coal reserves can and have been systematically exploited by relatively primitive means whereas oil requires fairly high technology. As a result, the more readily available coal has provided the vast majority of China's primary energy requirements. One source estimates that coal provided 96% of primary energy in 1952, 93% in 1957, 85% in 1965, 76% in 1970, and 68% in 1974, while oil grew from 4% to a modest 22% over the same period. Another source estimates that from a dependence of 94%-97% in 1949, China had reduced her reliance on coal only to 90% by 1962, and 80% by 1973. Whatever the actual figures, it is clear that Chinese industry, transportation, electricity generation, and household activities are tied closely to the performance of the coal industry.

And yet, the performance of the coal industry has been very uneven. Coal output increased dramatically during the period of rehabilitation (1949-52, annual average increase = 27%), but the rate of increase dropped sharply during the FFYP (average = 14.5%) despite
During this period, as in other economic spheres, controversy developed over the appropriate size and level of technology for the coal industry. Large mines necessitating greater mechanization, higher capital-labor ratios, and more extensive and costly transportation were emphasized. With the advent of the Great Leap, enormous numbers of small mines were opened, and reported output of coal skyrocketed. (Average annual increase, 1957-60 = 48.2%) Despite the fact that some of the coal extracted was of substandard quality and that transportation was lacking for it to be utilized, the increase in coal output was by all accounts impressive. However, the post-leap period of retrenchment hit the coal industry fairly hard. Between 1961 and 1964, according to one source, only 12 new mines were constructed. Output, according to Vaclav Smil, dropped from 300 million tons in 1959, to 280 million in 1960, to 170 million in 1961, and slowly recovered thereafter. Having barely recovered from the "three hard years" of the early 1960's, China's coal industry was beset by a second "three hard years" from mid-1966 to 1969. Output dropped from 240 million tons in 1966 to 190 million in 1967, rebounding only to 200 million as order was restored in 1968. This was primarily due to labor disturbances, factional clashes and transportation disruptions. As a result of trouble both at the mines and on the railroads, industry suffered a severe coal shortage in early 1967.

Emerging from the Cultural Revolution in 1969, "when the economy in general began to recover, the coal industry apparently lagged behind, and in the second half of that year a nationwide mass campaign
to develop the coal industry" was initiated. This campaign prominently involved the opening of small and medium sized mines and pits. "In 1957, the share of coal output produced at small mines was only 6%; this grew to 15% in 1965, 25% in 1970, and 28% in 1974." At the same time the average annual rate of growth dropped from 7.7% for 1958-65 to 6.5% from 1966-70. As a result, the coal industry emerged from the Cultural Revolution in fairly serious condition.

During the 1970 restructuring of the State Council, the coal industry was placed under the control of a newly established Ministry of Fuels and Chemicals. While this in part represented a general streamlining of the bureaucracy in line with Cultural Revolution demands for "Better Troops and Simpler Administration," it also reflected the loss of a sizeable portion of China's economic elite to "thought reform." In fact, of 26 ministers and vice-ministers in the coal, petroleum and chemicals industries, only five were active at the opening of 1971. So violent had been the attacks on the coal ministry that Minister of Coal Chang Lin-chih was beaten to death by rebel opponents. Only one of six vice-ministers of coal in 1966 was active in 1970. Furthermore, the proportion of output supplied by small mines and pits (i.e. those not under central control) had steadily grown to as much as one-fourth of total production, possibly reducing the need for a large central bureaucracy. Finally, with the ministry suffering from a shortage of both morale and administrative talent, it is also possible that the leadership hoped to shore up the coal industry by attaching it to its relatively more successful cousins. In any event, by late 1970 the coal situation appeared to be improving.
China's chemical industry grew from a very small base, primarily that developed by the Japanese in Manchuria along with a few centers in the large eastern coastal cities. Despite comparatively rapid growth during the FFYP (e.g., value of gross output increased at an average annual rate of 28%) the administrative head of the chemical industrial bureaucracy decried the "backward state" of the chemical industry as late as 1956. Under the FFYP, chemicals and non-ferrous metals received a reported 5.6% of capital investment funds. To coordinate this growth and to oversee the investment, a Ministry of Chemical Industry was established in 1956. However, it was not until after the Great Leap that the chemicals industry began to grow impressively. As a result of the combination of the restructuring of developmental priorities to favor agricultural inputs and the upsurge of petroleum output, the "big success story of the period 1961–65 was in the area of chemical fertilizers, pesticides and insecticides." A number of fertilizer plants were imported and by 1965 total production was some six times that of 1961. At the same time, other chemical products were being produced. Whereas in 1961, the vice-minister of light industry revealed that "over seventy percent of the raw materials for use in the light industries came from agricultural products," new petrochemical products were now being manufactured, including polyvinylchloride, polyethylene, and synthetic fibers.

Like the coal industry, the chemicals apparatus underwent substantial disruption in 1967, with a slow recovery in 1968. The minister disappeared along with all but one of the seven vice-ministers. However, like the petroleum ministry, operations were never
entirely suspended, and by 1969 the chemicals industry began to mushroom. The output of chemical products in 1969 reportedly increased between 30% and 50% over the previous year, and by 1970 chemical fertilizer production was said to be up almost 50% over the previous best year. As with the coal industry, however, much of this increased output was from small plants. "In 1965, small plants turned out only 12 percent of the national output of chemical fertilizer. In June 1970, this figure rose to 43 percent." Many of these small plants made use of local resources, whereas new large plants were being constructed adjacent to the major oil fields or were undergoing expansion. The result was that at the same time that administrative staff had been reduced, the number of plants for which the central bureaucracy was responsible was reduced while their size was increased. Coinciding with this process was the renewed "transfer downward" not only of central cadres but of centrally run enterprises, as the provinces began to assume a greater burden for economic administration. Furthermore, the necessity for coordinating supply of oil and natural gas with the demand of the burgeoning petrochemical industry contributed to the merger of the chemicals and petroleum industries under one ministry in late 1970.

In sum, at the close of the 1960's, four factors seem to have led to the merger of the coal, chemicals and petroleum industries under one ministry. First, all three industries had been fairly hard hit by Cultural Revolution denunciations and purges. The resulting shortage of technical and administrative manpower, combined with the substantial loss of lower- and middle-level cadres, necessitated a
bureaucratic streamlining. Second, greater coordination was needed between the petroleum and chemical fertilizer industries. This was due to the import and construction of a number of new plants dependent on natural gas output and adjacent to gas and petroleum fields. Third, decentralization of some economic functions to the provincial level reduced the need for extensive bureaucracy, especially in the coal and chemical industries. Finally, and related to the last point, the petroleum industry remained something of a model. It was experiencing high growth along with political fervor. It had not been subject to major disruptions and factionalism. Some leaders probably hoped that the coal and chemical industries could more easily "learn" from this model by being subject to the same kind of leadership and administration.

B. Fuels and Petrochemicals in the 1970's

As was the case with the railroad system, 1970 saw the reestablishment of an appearance of normality in the coal, petroleum and chemical industries. However, this appearance masked a reality that was quite different and varied. The petroleum and chemical industries emerged from the Cultural Revolution not too much the worse for the experience; the coal industry was somewhat less fortunate. Objective economic conditions, themselves the results of earlier political and economic decisions, were soon to force a reevaluation of China's policies toward the fuels and chemicals industries. How to interpret these conditions and what to do about them became one element in the political struggle between two central factions, each with its own
view of China's future and the appropriate means for achieving it. 101

As one analyst has pointed out, in a sense "the establishment of a Ministry of Fuels and Chemicals Industry represents a retrogression of 16 years."102 (See Figure 7) In 1975 the first step was taken to cancel this retrogression when the coal industry was removed from the control of this composite agency and a separate Ministry of Coal was reestablished. The process continued in 1978 when a Ministry of Chemicals Industry was also created. Finally, in 1979 rumors circulated of the impending creation of an Energy Commission. In order to understand these changes it is necessary not only to examine the economic legacy of previous decisions for the 1970's, but the political legacy of the Cultural Revolution and the controversies surrounding policy and program, investment and priority, and the authority to wield power and make decisions.

Despite dramatic declines in output of coal and the decimation of the ministry's central leadership in 1967, the coal industry immediately after the Cultural Revolution did not look to be particularly troubled. Output in 1970 and 1971 showed steady, if pedestrian, increases.103 The rate of increase, however, was declining. From 1958-65 the average annual increase had been 7.7%. Between 1966-70 it was 6.5%, and by 1974 coal output was growing at the meager rate of 2.9%.104 Investment in new machinery was insufficient either to replace modern equipment in the major coal mines or to mechanize and modernize the newly re-emphasized small and medium mines. Meanwhile, the contribution of small mines to total output steadily increased:
Ministry of Fuels Industry  Ministry of Heavy Industry
Bureau of Hydro-electrical  Bureau of Chemicals Industry
Engineering and others
Bureau of Electricity
Bureau of Petroleum
Bureau of Coal Mines

Ministry of Fuels Industry  Ministry of Heavy Industry
Bureau of Electricity  Bureau of Chemicals Industry
Bureau of Petroleum and others
Bureau of Coal Mines

Ministry of Coal  Ministry of Petroleum  Ministry of Heavy Industry
Ministry of Chemicals and others

Ministry of Coal  Ministry of Petroleum  Ministry of Chemicals

1975  Ministry of Fuels and Chemicals

Ministry of Coal  Ministry of Petroleum  Ministry of Chemicals

1980  (Energy Coordinating Body?)
Ministry of Coal  Ministry of Petroleum  Ministry of Chemicals


Figure 7
Changing Structure of Coal, Fuel and Chemical Apparatus 1949-1980
As Thomas Rawski has pointed out, the "correlation between capital intensity and rapidity of growth is striking." As a result of low investment in the coal industry, the growth rate of output of coal was substantially below the average growth rate for all industry. Since the recoverable resources of small mines are quickly exhausted without increased mechanization, and the calorific content and quality of such coal is generally lower, supply was falling behind demand.

Add to this the fact that portions of the country remained coal-deficient while the transportation system was still suffering dislocation, and the fact that extraction and processing machinery, coal preparation facilities and mine timber were all inadequate to meet demand, and by 1973 China's coal situation was becoming serious. "In 1973 it was conceded that demand for anthracite and coking coal could no longer be met. Nearly half of China's small nitrogenous fertilizer plants were switched over to use lower quality, locally produced coal as supplies of coal from state-operated mines tightened." Moreover, in order to assure a supply of coal for industrial consumers, supplies for household use were cut back. But as Christopher Howe has pointed out, the "domestic share of coal is now only 25 per cent of output, and it seems unlikely that it can be squeezed further without causing acute hardship." After 1973, Teng Hsiao-p'ing began vigorously to push for increased emphasis on the coal industry. His program for modernizing this sector entailed utilizing foreign capital and technology in exchange for a portion of output. This flew in the face of a long-standing tradition of
maintaining rigid independence from foreign loans or barter arrangements. Moreover, Teng's emphasis was to be on high-technology, modern mines to be operated by the central ministry; this was incompatible with his opponents' emphasis on local self-reliance and control. Between 1973 and 1976 this controversy would become increasingly bitter.

At the same time that China faced a worsening coal situation, the petroleum future looked bright indeed. In contrast with coal, the oil industry enjoyed one of the highest capital-labor ratios, and hence one of the highest annual growth rates, in all of China's industry. New fields that had been discovered and/or begun production in the 1960's were now producing in quantity, creating an average annual growth rate of output between 20% and 30%. By 1973, China was beginning to export oil, and with Tach'ing in full production, Shengli and Takang improving their levels of output, and with potentially massive off-shore reserves under examination, the future of China's petroleum industry was encouraging.

Teng Hsiao-p'ing (and probably Chou En-lai) saw this as an opportunity to implement the "four modernizations" of the Premier. Teng's method, described below, would be to export large quantities of petroleum in order to purchase foreign plant and technology. He was willing to entertain "unorthodox" ideas like long-term foreign loans, the use of foreign experts, joint projects and barter agreements. In order to modernize rapidly, Teng believed central control of important enterprises was necessary. Experts should be put in charge, and at the enterprise level centralized management, clear delineation of responsibility, labor discipline, and material incentives should be employed.
in order to maximize production. On all of these issues he was opposed by the Cultural Revolution Group holdovers on the Politburo.

These policies began to appear in the petrochemical industry beginning in 1972, even before Teng's reelevation. As early as 1971, the Chinese government had already decided on a policy of importing foreign plant and technology. During 1972 the Chinese floated inquiries in West Germany, France, and Japan, and contracted for $58 million worth of plant.\(^{116}\) In late 1972, China contracted for "13 of the world's largest ammonia-urea complexes from United States, Netherlands, French, and Japanese firms."\(^{117}\) The increases in crude oil output encouraged the Chinese to believe that they could become independent in chemical fertilizer and synthetic fiber, and toward that end between 1972 and 1974 China imported a number of whole factories in these fields.\(^{118}\)

At the same time that the petrochemical industry was burgeoning around the oil fields, the period 1970-75 saw a growing divergence of technologies between the coal industry on the one hand and the petroleum and chemical industries on the other. First, although the shale-oil refineries at Fushun and Maoming had remained significant up through the 1960's,\(^{119}\) the increased production of Tach'ing, Shengli and Takang meant that oil extraction technology less and less resembled coal exploitation; shale-oil production became less important. Technological divergence would be further reinforced by the high-technology demands of off-shore oil drilling. Secondly, while the coal industry was more and more relying on low-capital, low-technology small mines and pits, both the chemical and petroleum industries were building
massive new complexes replete with foreign equipment. Even the method of transportation was diverging as the oil industry shifted from rail to pipeline and tanker transport. 120

With the reelevation of Teng to power in 1973, controversy in the coal and petrochemical spheres intensified. The major protagonists were Teng and the State Council bureaucrats on the one hand, and the Cultural Revolution Group holdovers and their followers on the other. As best as can be reconstructed from documents at the time and accusations during the movements to criticize Teng (early 1976), and later, his fallen opponents (late 1976-78), the dispute with respect to fuels and chemicals centered around six general issues:

1. Relative emphasis on production vs. ideology,
2. The state of Chinese industry,
3. Export of natural resources,
4. Import of foreign technology,
5. The role of foreign loans, experts, and joint projects,
6. Management, control, and incentive policy.

Teng Hsiao-p'ing was an outspoken advocate of the importance of production. Echoing Mao's comments of 1964, in 1975 Teng wrote:

Lenin once said, "The results of political education can be measured only by the improvement of the economic situation." Chairman Mao also said, "The quality and magnitude of the effect of the policies and practices of all political parties in China manifested among the Chinese people is determined, in the final analysis, by whether or not, and how much, they help the productive forces of the Chinese people, and by whether they tie up or liberate the productive forces"...

It is purely nonsense to say that a certain place or work unit is carrying out revolution very well when production is fouled up. The view that once revolution is grasped, production will increase naturally and without spending any effort is believed only by those who indulge in fairy tales...
We take class struggle as the key link in order to develop the struggle for production and scientific experimentation... We must know our work as well as politics.\footnote{121}

If Teng was guilty of reordering Mao's emphasis, he also did not hesitate to throw a barb at his opponents:

While we are criticizing Liu Shao-ch'i's theory of productive forces, we should also sharply criticize Lin Piao's theory of politics being able to combat everything.\footnote{122}

Teng's opponents saw him as reverting to exactly that "theory of productive forces" that had been condemned during the Cultural Revolution. He was accused of aiming "to induce people to give up the factories and enterprises as battlefields of class struggle and relinquish the proletarian dictatorship over the bourgeoisie so that he could restore capitalism with ease."\footnote{123} His policies would nullify the "gains" of the Cultural Revolution and strangle the "new-born things" it had spawned.

Part of the reason for this disagreement was a difference of opinion about the state of the Chinese economy in the early 1970's. Teng painted a gloomy picture of the situation on the industrial and transport front since the Great Cultural Revolution began, alleging that there were "many problems." In short, everything to him was in "chaos" and this called for "serious attention"; hence the need of "relentless efforts" and "courage to carry out rectification" so as to effect a "change."\footnote{124}

By contrast, his opponents were less concerned with the state of the economy than with the implementation of class struggle, the consolidation of proletarian control over the enterprise, and vigilance against bourgeois restoration.\footnote{125} If the latter tasks were taken care of the economy would in their eyes be in good shape.
Applying these general principles to concrete action, Teng was one of the strongest advocates of the dual policy of exporting Chinese raw materials, especially oil, in order to purchase foreign technology for import. Typical of his views were these comments in 1975 on "Some Problems in Accelerating Industrial Development:"

The most serious problem in industry now is that the raw materials, fuel, and power industries are lagging behind the manufacturing industries, particularly the steel industry. Within the steel industry and the entire materials industry, the weakest link is in the mining industry...

To increase the importation of advanced foreign technologies, exports must be increased...

We should export in exchange for the most advanced and modern foreign equipment...First, we must fully develop the oil industry and export as much as possible, it is our most reliable export. Don't just stick to Japan, seek outlets in Western Europe...Petro-chemical products should be considered for export...There's also coal...Consider bringing in foreign technology for coal-mining.

In 1973 the government followed such a policy. Exports of oil to Japan began rather slowly: 20,000 barrels per day were to be exported, yielding only $4.5 million in 1973. But this beginning held out the promise of greatly increased sales in the years ahead. At the same time, contracts for delivery of complete plants to China jumped from $56 million in 1971 to $471 million in 1972, to an all-time high of $1,235 million in 1973. Most of these plants were in the petro-chemical and metallurgical industries.

In 1974 too the Chinese government avidly pursued the export of oil in exchange for imported technology. Although the campaign to criticize Confucius and Lin Piao resulted in labor problems, especially in the coal and railroad industries, petroleum output and exports
continued to climb. In fact, China's 1974 total foreign trade exceeded $13 billion, or 40% above the 1973 figure. Exports were up about 30% and imports up about 50%. However, in the last half of 1974 the bubble burst. In the wake of the Arab oil embargo, China's trading partners began to suffer simultaneous inflation and recession, causing demand for China's products to drop and prices of Chinese imports to rise. Thus despite the fact that oil exports to Japan increased in 1974 to 80,000 bpd, and despite a big jump in the price of Chinese crude oil, China experienced a whopping one billion dollar trade deficit in that year.

China now found herself faced with a classic economic "scissors crisis." In 1965 Lin Piao had detailed the Chinese view of the Third World (including China) as the countryside surrounding the urban-industrialized world. Now with great irony, and in the best traditions of early post-revolutionary Russia, China (the "countryside") found both demand and prices being offered for her raw materials declining while the cost to the PRC of needed ("urban") imports skyrocketed. The immediate economic reaction to the world-wide crisis of late 1973 was a jump in the price of Chinese oil from $3.75 a barrel in 1973 to $14.80 in early 1974. By late in that year the price declined to $12.80 and fell further in 1975 to $12.10. In addition, demand fell off. The Chinese were reduced to asking for a postponement of delivery of some commodities, and contracts for new plant were drastically pared down. ($831 million in 1974, $371 million in 1975.) In the face of this serious economic situation, the Chinese attempted to convince Japanese oil companies "to sign a five-year
contract for importing more crude oil each year to reach a 1980 target of 1 million b/d.\textsuperscript{137} Caught in a recession, the Japanese refused. Demand (and price) for Chinese oil continued to worsen in relation to needed imports. One result was that despite increases in domestic production of chemical fertilizer in 1973 and 1974, the total supply available to Chinese agriculture declined by 7\% in the latter year as imports were cut by 33\%.\textsuperscript{138} Teng, the architect of this fiasco, was still under the protective aura of the Premier; when death removed this protection in January 1976, Teng was vehemently denounced as responsible for all of these problems. Before dealing with the criticisms of Teng, however, there were two more sets of policies over which disagreement occurred.

Self-reliance has long been the watchword for the development of the Communist Chinese economy. While Mao himself never understood this to mean isolation or economic autarky, certain common international practices were clearly out of the question. Among these customs were the use of foreign loans, foreign concession agreements for the exploitation of resources, and (since the Soviet withdrawal in 1960) the large-scale employment of foreign experts in China. Chou En-lai and Teng Hsiao-p'ing were beginning to reassess these policies during the 1972-75 period. In August 1972, the Premier floated the idea of China accepting the use of deferred payments (i.e. short-term loans) for imports.\textsuperscript{139} Publicly he maintained the position that joint exploration and exploitation of China's off-shore reserves was unacceptable,\textsuperscript{140} but in early 1973 he invited a number of American and Japanese firms to discuss just such arrangements. Whether "the Chinese
just wanted to see what the U.S. oil establishment had to offer," or whether the idea incurred heavy domestic opposition, it was quietly shelved later in the year.\textsuperscript{141}

However, by 1975 Teng was actively pursuing the idea of long-term credit arrangements. He put forth the "major policy" of signing long-term contracts wherein a portion of output would serve as payment for equipment, technology and expert help. In Teng's own words:

To speed up the development of coal and oil in our country, we may consider the adoption of certain practices in international transactions, like long-term credits and contracts...

In certain areas of production, we may import from foreign countries entire sets of modern facilities, to be paid back by our production of oil and coal...Consider bringing in foreign technology for coal-mining, in long-term contracts we can use coal as payment. This is not a case of having a foreign debt.\textsuperscript{142}

In order to assure sufficient control over production for payment of these contracts, Teng set out systematically to recentralize these segments of the economy. He "reimposed the practice of 'direct and exclusive control of enterprises by the ministry concerned' and enforced 'the rules and regulations of the Magnitogorsk Iron and Steel Combine of the Soviet Union.'"\textsuperscript{143} This was a two pronged approach. First, enterprises were to be brought more closely under central control. As his critics were later to assert, "This means a few top persons in the central ministries concerned could directly issue orders to enterprises in all parts of the country and exercise leadership over them."

On the pretext of exercising "centralized and unified" leadership, he wanted to "turn over to the higher authorities" what he called "key enterprises which serve the whole nation and require organized coordination on a national scale." If this policy had been followed, most
of the big enterprises and the lesser ones working in coordination with them in all parts of the country would have been "turned over."144

The other half of this policy was to emphasize the rules of the Magnitogorsk Combine, as opposed to Mao's model Charter of the Anshan Steel Company. Stated simply, this meant a return to centralized leadership within the enterprise. Teng himself put it this way:

The key to any system of rules and regulations is to have a system of personal responsibility. The problem we now face is one of a lack of responsibility.145

Reinforcing the effect of expert management, labor discipline and responsibility would be a program of worker welfare benefits and material incentives.146

Teng justified centralization as necessary for coordination and production; his opponents accused him of attempting to deprive "both the Party Central Committee and the local Party committees of economic power and brushing aside the centralized leadership of Party committees at various levels," and undermining "the initiative of the localities and the broad masses of the people" in order to assure that control would be monopolized by "capitalist roaders and unreformed bourgeois technical experts. 147 The reality is somewhat more complex.

Teng certainly favored greater centralization both within the enterprise and within the industry because it contributed to increased production and hence accelerated modernization. However, he also was attempting to by-pass those political cadres in enterprises and Party committees from the work place to the Central Committee who supported his opponents. One way to do this was to encourage "revisionist poli-cies such as management of factories by experts" and the use of material
incentives to workers and managers. And what better method to do this then to resurrect the movement to "Learn From Tach'ing," which had the image of a "leftist" policy and the imprimatur of the Chairman himself. Moreover, the logic of high-technology (in this case by way of imports) seems to demand greater centralization. Imported technology is a highly valued resource to be watched over carefully. The economic leadership has a desire to assure that it is used correctly, that any experience derived from new equipment that may be of use to current operations should be disseminated quickly and efficiently, and that supply of raw materials and transport of finished products should be carried out optimally. Thus the more technologically advanced an industry becomes in a "command economy" the more specialization is needed to oversee it. Moreover, with the import of large numbers of new plants, the responsibility of the administrative personnel will increase. All of this demands a larger, more "expert" central bureaucracy. (See Figures 8 and 9.)

By 1975, both the economic factors and the political factors converged in an expansion of the apparatus dealing with coal and petrochemicals. During the general enlargement of the State Council at the First Session of the Fourth National People's Congress in January 1975, the old ministry was split into a Ministry of Coal and a Ministry of Fuels and Chemicals. As stated in the previous chapter, the Fourth NPC in some respects represented the temporary ascendance of Chou and Teng over attacks during the anti-Lin anti-Confucius campaign; it represented the entrenchment of Chou's "bureaucrats" in the State Council apparatus. Former minister of petroleum and close
Political Department

Personnel Department

Department of Production Planning
Department of Basic Construction
Department of Geological Survey
Department of Production
Department of Oil Refining
Department of Material Supply
Department of Finance
Department of Education
Department of Exterior Affairs
Department of Marketing
Department of Oil Prospecting
Executive Control Department

Minister and Vice-Ministers

Sinkiang Petroleum Prospecting Administration
Yumen Petroleum Prospecting Administration
Tsinghai Petroleum Prospecting Administration
Szechuan Petroleum Prospecting Administration
Huatung Petroleum Prospecting Administration
Sinkiang Petroleum Administration
Tsinghai Petroleum Administration
Yumen Petroleum Administration
Szechuan Petroleum Administration
Northeast Petroleum Administration

Communist Party Committee

Power Plant
Water Supply Plant
Pipe and Tube Plant
Lumber Plant
Heavy Stone Plant
Well Drilling Department
Oil Field Department

Director and
Vice-Directors
Oil Prospecting Department
Drilling and Prospecting Department
Socialistic Department
Department of Transportation
Department of Geology
Petroleum Research Bureau
Petroleum Technical School
Various Petroleum Mining Offices
Various Oil Plants
Political Department


Figure 9
Sample Organization of a Petroleum Administration
associate of the Premier, Yu Ch'iu-li, was elevated to vice-premier and minister-in-charge of the State Planning Commission, reflecting the importance of oil for economic construction. Yu's former right-hand man and vice-minister, K'ang Shih-en, took his place in the Ministry of Fuels and Chemicals. Hsu Chin-ch'iang, a long-time petrochemical bureaucrat and former vice-minister of the petroleum industry was selected to head the Ministry of Coal.  

The first public criticisms of the Chou-Teng policies on oil, technology imports and foreign trade occurred shortly after the National People's Congress. On March 7, 1975 People's Daily carried an article which attacked Liu Shao-ch'i and Lin Piao "for having ostensibly hampered the chemical fertilizer industry because of 'blind faith in foreign equipment and the worship of foreign dogma.'" The allusion to the current government leadership was unmistakable. With the Premier increasingly incapacitated by illness, and Teng "in charge of the work of the state council," the vice-premier's opponents "wildly attacked and made false accusations against him." They further took a number of concrete actions in an attempt to undermine his position and sabotage his policies. And the record of 1974-5 certainly gave them plenty of ammunition.

Organizationally, during 1975, Teng's opponents (the "gang of four") used the same tactics in the coal, petroleum and chemicals industries that they had been using on the railroads. First, they attempted either to infiltrate supporters into key agencies or to win over cadres in important positions. Gaining some leverage, for
example, in a certain foreign trade organization, they "formed a factional group, did as they liked and behaved quite arbitrarily. They openly refused to carry out directives from the Party Central Committee; they forced their views on higher levels and fraternal organizations." Furthermore, they used supporters in the Ministry of Foreign Trade "and a number of local foreign trade departments and the export commodities fair at Kwangchow to gather classified state information" in order to bolster their case and interrupt the proceedings of a number of national and local conferences. For example:

In 1975, under the solicitude of Chairman Mao and the Party Central Committee and with the approval of the State Council, national conferences on nitrogenous fertilizer and phosphate fertilizer were held one after another...The "gang of four" deliberately sabotaged these conferences of great significance to the development of the chemical fertilizer industry...Due to the sabotage of the "gang of four," the spirit of these conferences could no longer be implemented, and...both revolution and production suffered serious losses.

Early in 1976, with the death of Premier Chou, Teng's opponents began to convene a series of meetings of their own. On March 2, Chiang Ch'ing called a conference at which she,

alleged China's petroleum "is all being taken off to other countries" and "is being bartered away to big capitalist countries." She went so far as to say that "China has agents of foreign capital" and "a comprador bourgeoisie." Moreover, the Politburo "radicals" undertook a number of other activities in an attempt to disrupt the implementation of Teng's foreign trade and petrochemical policies. In the chemical fertilizer industry they stirred up factional trouble in various plants by reactivating the divisions of the previous decade. For example,
The Chuchou chemical works is the biggest chemical fertilizer plant in Chekiang Province. Wang Hung-wen and his Chekiang hatchman, Weng Sen-ho, stirred up bourgeois factionalism in the factory, created splits in the ranks of the workers and sabotaged revolution and production. As a result, the factory failed to fulfill the state production targets for three consecutive years.\textsuperscript{160}

Nor was this plant alone in suffering production disruption. Some of the smaller plants had to shut down completely,\textsuperscript{161} while generally "anarchism spread unchecked, and some of the chemical fertilizer plants were reduced to a state of not following rules or having no rules to follow." Equipment went unrepaired, consumption of raw materials increased, labor productivity declined, and services in many areas was temporarily suspended.\textsuperscript{162} Nor were the radicals content to disrupt production in existing fertilizer plants. In at least two cases they reportedly attempted to halt or delay construction of new enterprises using foreign technology. An example of how they "'resisted, put off, held back and toppled' the major construction projects of the state" occurred in Shanghai:

The state arranged the designing, building and installation of equipment for the large-scale production of synthetic ammonia in Shanghai. Under the situation that various conditions were still not available, [sic.] the remnant followers of the "gang of four" in Shanghai single-handedly directed the sinister trick of "kindling the fire" for this important project ahead of schedule. They frenziedly yelled that this was "a fire for opposing restoration and regression," thus seriously undermining the normal progress of this project.\textsuperscript{163}

Likewise, they reportedly attempted to sabotage the construction of the Wolitun Chemical Fertilizer Plant at Tach'ing by picking faults with it on the pretext of its import of part of the installations. Chiang Ching once alleged that the imported equipment was a disgrace to Taching and arbitrarily demanded that it be "dismanteled" and "removed from Taching."\textsuperscript{164}
Similarly, in the coal industry in 1975-6, the "gang of four" has been accused of employing tactics of infiltration and factionalism. The coal mines were already in turmoil from the anti-Lin anti-Confucius campaign, and from the transport disruptions of 1974. In 1975, a national conference of coal extractors was convened, inspired by the call to "Learn from Tach'ing and Tachai." One of its main emphases was labor discipline:

The "gang of four" not only disrupted the national conference of extraction team leaders but also made a vain attempt long ago to bring down K'ailuan - a bright red banner on the coal production front in learning from Tach'ing. Moreover, following the T'angshan earthquake, while others (notably Hua Kuo-feng) were rendering sympathy and assistance, the "gang of four" availed themselves of the plight of the people of Tangshan to rabidly sabotage the anti-quake relief work and to attack and vilify the Party Central Committee...for "not grasping class struggle.""167

On the petroleum front, the radicals had limited success. Compared to the railroad, coal and chemical industries, the petroleum network is composed of fewer enterprises, hence fewer places in which to engage in disruptive activities. Moreover, all indications are that in the oil industry supervision is closer and worker morale is higher. In addition, there is probably a greater concentration of "experts" attached to the petroleum fields than in other industries, which would contribute to resistance to radical policies. In any event, it was later disclosed that in 1975-6, "when the 'four pests' ran wild, none of the petroleum enterprises were disrupted or paralyzed." The "gang" was, however, successful in disrupting shipments of petroleum and in diverting it from foreign trade to other
uses. For example,

In 1976 alone, that sworn follower of the "gang of four" in Liaoning [Mao Yuan-hsin] had willfully increased the number of oil consuming units by more than a hundred. Shanghai's crude oil consumption for 1976 exceeded the plan by 1 million tons...Under the pretext of "protecting Shanghai," it [the "gang of four"] forced the central departments concerned to give its [sic.] approval to intercept crude oil at Shanghai harbor destined for fraternal provinces and municipalities. In 1976 it intercepted 13 tankers at Wusungkou bound for Maoming in Kwangtung, Nanking in Kiangsu, Changling in Hunan and other localities and seized a total of 200,000 tons of crude oil...

Some enterprises in other provinces and municipalities were compelled to halt work and stop production...some oil refineries "had no rice for the cooker" and...even the countryside was plunged into difficulties in many localities. In some localities the irrigation and drainage machines stopped running right at the crucial flood prevention time. 169

Nor was it simply domestic activity that was compromised. Oil "exports were also affected. This harmed our country's international credibility and had negative effects both politically and economically." 170

With the downfall of Teng on April 7, 1976, the "gang of four" mobilized a massive media campaign to denounce the "crimes" of China's "comprador bourgeois," unrepentant capitalist roader. 171 Teng's decisions in light of the international economic situation in 1974-5 played right into their hands. In view of the policies adopted from 1977 to 1979 it is instructive briefly to look at these accusations. First, Teng was denounced for espousing the "theory of productive forces" to the detriment of class struggle, and for exaggerating the poor condition of the Chinese economy. Moreover, his policies on centralization, management, and incentives also drew severe criticism.
He was accused of having gone "around visiting 'those who had fallen into obscurity'" and clamoring "for installing in office those unrepentant capitalist-roaders...who were 'not afraid of being overthrown for the second time,'" in an effort to circumvent Party leadership of industry. His effort to centralize control of key enterprises likewise was seen as an attempt to evade political control and set up "multi-centers" which would result in "capitalist relations of competition." Nor was Teng's attempt to invoke the spirit of Tach'ing to escape criticism. In addition to denouncing Tach'ing's use of foreign equipment in the new Wolitun fertilizer plant, the radicals, attacked Tach'ing's basic experience of applying Chairman Mao's articles "On Contradiction" and "On Practice" as a guidance in building the oilfield. Chiang Ching ranted that it was not true that Tach'ing applied the two articles as guidance. Chang Ch'un-ch'iao insolently said: "What two-article guidance!" They made use of the press under their control to criticize Tach'ing's rational rules and regulations for "binding the hands of the masses to protect the interests of the revisionist high officials." They also attacked Tach'ing's strict and meticulous style of work as "exercising the dictatorship of the bourgeoisie over the working class." In April 1976 Chang Ch'un-ch'iao began criticizing Tach'ing for being purely a production unit practicing the bourgeois system of controlling, restricting and repressing. Chiang Ching instructed "counterrevolutionary trumpeter" Yao Wen-yuan: "Don't publish articles concerning Tach'ing or Tachai. If, considering our tactics, we have to publish some, don't place them in important positions."

Reminiscent of Cultural Revolution attacks on Tach'ing's exhibition of 1965, the "gang of four" also attempted to suppress the movie "The Pioneers," "who's theme is the heroic exploits of the workers in opening up the Tach'ing oilfield."
However, the most vociferous and cutting criticisms were saved for Teng's policy of "national betrayal"\textsuperscript{176} in opposing the Chairman's program of "maintaining independence, keeping the initiative in our own hands and relying on our own efforts"\textsuperscript{177} by exporting oil and importing technology. Given the economic conditions China faced in 1974-5 many of these criticisms hit close to the mark. Teng's policies were said to mean that,

> the foreign monopoly capitalists would contribute money and equipment while China would supply the necessary labor power, thus the doors would be thrown open for the imperialists to plunder China's natural resources and bleed its people...China would be reduced step by step to a raw materials supply base for imperialism and social-imperialism, a market for their commodities and an outlet for their investments.\textsuperscript{178}

Moreover at a series of three meetings between March and June 1976, Chiang Ch'ing complained that pricing oil for export according to prevailing world prices amounted to "giving money away to capitalists" and that "by exporting petroleum China is shifting the international energy crisis on to the Chinese people," in the process saving the First and Second Worlds.\textsuperscript{179} Furthermore, Teng's opponents asserted that "goods needed on the domestic market were being exported, and goods able to be produced by our own country were being imported," thereby "seriously doing damage to the country's industrial and agricultural production."\textsuperscript{180}

Almost overnight, the Chinese spread a new line that China was switching priority from exports to domestic requirements and that the export target five years hence was unimportant...Evidently oil had been placed behind iron and steel, non-ferrous metal, and coal in priority in the new five-year plan...As of mid-1976 the trend appeared strong to return to the traditional approach of self-reliance in developing the oil industry and orientation toward servicing domestic demand.\textsuperscript{181}
Exports of oil to Japan having grown from 80,000 barrels per day in 1974 to 162,000 bpd in 1975 dropped to 122,000 bpd in 1976, and recovered only to an estimated 132,000 bpd in 1977. At the same time, China reduced her import contracts for new plant to $200 million, some one-sixth of the 1973 level.

That there was an element of truth in the charges made against Teng and his policies made them sting all the more. Nevertheless, even at the height of the movement to criticize Teng he and his policies were not without supporters. Two People's Daily articles in April 1976, for example, seem uninspired with enthusiasm and vague in their accusation. Not surprisingly, one is about (and possibly by elements of) Tach'ing, and the other seems to have been authored by cadres of the Ministry of Petroleum. Even within the criticisms themselves there is some disagreement about what China's policy should be concerning exporting resources and importing technology. While "Chin Feng" asserts that, "It is also necessary to import some equipment and technology from other countries," Kao Lu and Ch'ang Ko only concede that it "may be" necessary to do so. Finally, even in the midst of the anti-Teng campaign, two authors came out with oblique condemnation of his opponents and praise for Teng's foreign trade policy. Writing in the English language PRC journal China's Foreign Trade, Hua Ching-yuan summons up an incident from the past to criticize present leaders:

The declining reactionary class and political forces in old China's dynasties preached the doctrines of Confucius and Mencius...Some reactionaries even went as far as to kill inventors engaged in scientific work. Consequently, numerous works of science and technology were cast away and many of them were lost.
To any of the "experts" who had suffered at the hands of the Red Guards and their central supporters, the message was only too clear. The managing director of the China National Chemicals Import and Export Corporation, the agency responsible for China's petroleum exports, went even further. Chao Mao-chun announced that the "export-import trade of petroleum and chemicals had enhanced the friendship and mutual understanding between the peoples of China and the rest of the world." He defiantly added that, "We welcome our friends in the trade circles throughout the world to contact us for import and export business."\(^{190}\)

Just as Premier Chou's death was quickly succeeded by the fall of his protege, the passing of Chairman Mao was followed swiftly by the purge of his former Cultural Revolution Group associates. They were immediately dubbed the "gang of four." Their demise was accompanied by an outpouring of denunciation that in both quantity and vitriol exceeded the vilifications of any movement in China since the Cultural Revolution. Articles and speeches appeared purporting to demonstrate that the "gang of four" wanted a "closed door" policy and opposed the import of foreign technology even when it had been approved by Chairman Mao himself.\(^{191}\) Moreover, in an attempt thoroughly to discredit the four, it was asserted that it was actually they who "revered and courted things foreign, maintained illicit foreign relations and engaged in capitulationism and national betrayal."\(^{192}\)

With the opponents of economic modernization and of the policy of trading oil for technology purged and discredited, supporters of Teng Hsiao-p'ing began quietly to agitate for his return to power.\(^{193}\) Meanwhile, attempts were made to reestablish normality in the economy.
On November 25, 1976, a massive rally of 10,000 persons, sponsored by the Ministry of Fuels and Chemicals was attended by the vice-premiers Wang Chen and Yu Ch'iu-li. Wang, it will be remembered, was instrumental in reestablishing order on the railroads, while Yu had a twenty year record as the strong force for "law and order" in the oil industry.

Wang and Yu were also to preside (along with fellow vice-premiers Ku Mu and Sun Chien) over a December meeting that was to lay the groundwork for a national conference of learning from Tach'ing. On December 25, Chairman Hua made public the Central Committee's decision to hold this meeting before May 1, 1977. In January it was announced that the coal industry had exceeded its production target by 6.3% and that oil production in 1976 had increased by 13%. These figures were intended to look impressive. But it is likely that in the wake of the T'angshan earthquake the coal targets had been lowered. Furthermore, a 13% increase in oil production was substantially below the 20% and 30% growth of previous years. The regime also applauded the fact that 8% more funds had been turned over to the state by petrochemical enterprises in 1976 than in the previous year. With production up 13% an increase of funds delivered to the state of only 8% must have represented either more money being retained by enterprises (economism? local investment?) or a decrease in enterprise efficiency. In fact, despite these "increases" in energy output, China found herself in early 1977 in the midst of an "energy crisis." People's Daily exhorted Chinese to:
Put every ounce of coal, every watt of electricity, and every drop of oil into the place where revolution and production need them most.200

Peking's usually poorly heated homes were reportedly even colder, and many people were seen along railroad lines scouring the ground for stray lumps of coal.201

In order to remedy this situation, throughout the first quarter of 1977, People's Daily ran articles and editorials espousing the system of personal responsibility and emphasizing the importance of labor discipline and authority in the work place.202 Even as preparations for the Conference on Learning from Tach'ing were underway, people were urged to follow Tach'ing's example.203 On April 20 the conference opened at Tach'ing; on April 27 it moved to Peking where it continued until May 13. The tone was set on the eve of the opening by a People's Daily editorial that emphasized the need for both readiness and expertise, and for the introduction of foreign technology and equipment.204 The need for proper leadership was a key element in the speeches of both Premier Hua and Vice-Premier Yeh Chien-ying,205 but the clearest statement of the new direction for the Chinese economy was the speech by Yu Ch'iu-li. In detail and at length, he cataloged the "crimes" of the "gang of four," and seemingly by way of appeal to their supporters to cease resistance and cooperate in economic construction, he quoted Mao as saying, "People must adapt their thinking to the changed conditions."206

Yu called for an intensification of geological prospecting and the accelerated development of the iron, steel, fuels and chemicals industries. He urged cadres to "deal firm blows at sabotage activities"
while emphasizing "mobilizing the masses to work out ways and means
to reverse the trend of running enterprises at a loss." While he
agreed that the "administrative structure of enterprises should be
simplified and superfluous office functionaries sent to grass-roots
units," and that "cadres must take part in collective productive
labor," he also made it clear that responsibility "for the daily work
in production, construction and management in an enterprise rests
with the chairman of the revolutionary committee. We should oppose
the phenomenon of having no one accept the responsibility." Finally,
said Yu,

Enterprises should create the conditions for workers and
staff members to become both red and expert...All enter­
prises should show concern for the material and cultural
well-being of the workers and staff.

Thus by May 13, 1977 the "new" policy was becoming clear. Pro­
duction was once again in command. Management and labor discipline
were to be enforced, sweetened by material welfare and incentives.
Oddly, however, very little was being said about foreign trade and
the role of oil. Even in the major documents of the Conference
on Learning from Tach'ing this was largely omitted. Presumably the
leadership was concerned with getting their own house in order before
reentering the world market in a big way. Whether the silence about
resuming high-intensity trade with Japan involved a dispute between
Hua and Teng is unclear. What is clear is that with oil output
growing more slowly than it had in previous years, and with the pros­
pect of even slower growth occurring in the future, the Chinese
were becoming concerned. This concern was reflected in the convoca­
tion of a national geological conference for learning from Tach'ing.
Presided over by Wang Chen, Yu Ch'iu-li, and director of the State Geological Bureau, Sun Ta-kuang, some 2,600 workers and staff heard the call to develop the iron and steel industry at high speed, to open up some 10 more large oilfields like Taching... and to expand the non-ferrous metal industry, power industry, chemical industry and building material industry.211

In any event, with most of his policies again in vogue, it was only fitting that Teng Hsiao-p'ing should be returned to his Party posts when the Third Plenum of the 10th Central Committee convened between July 16-21.212 On August 12, Chairman Hua called into session the 11th Party Congress to "mark the triumphant conclusion of our first Great Proletarian Cultural Revolution" and to "bring about great order across the land."213

That all was not going well with China's oil industry was admitted in October by Yu Ch'iu-li at the Fourth Session of the Standing Committee of the Fourth National People's Congress. He bluntly admitted that "the development of the fuel, power and raw material industries is not keeping pace with the growth of the national economy as a whole." He urged his fellow Chinese to "redouble our efforts and advance at a faster speed," especially by putting "stress on the development of the power, fuel and raw materials industries." Hinting that high-level policy debate was still occurring, Yu said,

On the technical policy, we must study and solve the questions of encouraging inventions and adopting new techniques, technological processes, materials and products and the question of introducing necessary advanced technical equipment and patented techniques from abroad more economically and effectively while maintaining independence and keeping the initiative in our own hands and relying on our own efforts.214
Yu also said that industrial production during the first nine months of 1977 had increased by 12% over that of the corresponding period in 1976, "which means that even by the autumn of 1977, the 1975 levels had not fully been reached."215

If there had been a debate within the leadership in 1977 over economic and foreign trade policy, it seemed to have been largely worked out by the end of the year. On December 27 Fang Yi, Politburo member and vice-president of the Chinese Academy of Sciences, spoke before the Seventh Session of the Standing Committee of the Chinese People's Political Consultative Congress. He revealed that "sabotage by the 'gang of four' wrought havoc with China's science and education" which are "lagging so far behind that they are seriously hindering the realization of the modernization of agriculture, industry, national defense and science and technology."216 In order to correct the situation, "virtually everything needs to be done." This included the by-now familiar themes of emphasis on personal responsibility and expertise, but Fang also affirmed that "we should strive to learn advanced science and technology from foreign countries, actively enhance international academic exchanges and master as soon as possible what is the best in the world's science and technology."

One of Fang's accusations against the "gang of four" was that they "raised the clamour that 'oil will spurt up even if scientific research is dropped for three years.'" In January, Vice-Premier Yu Ch'iu-li made public one reason why increasing oil output would become even more important in the next three years. Delivering the keynote address at the Third National Conference on Agricultural
Mechanization, Yu revealed that,

by 1980, 70 percent of the major agricultural, forestry, animal husbandry, sideline production and fishery operations should be mechanized; large and medium-sized tractors increased by 70 percent over the present figure; machine-drawn farm implements by 110 percent; hand-guided tractors by 36 percent; drainage and irrigation machines by 32 percent; and yearly output of chemical fertilizer by 58 percent.217

All of these undertakings necessitated increases in petroleum and/or natural gas.218 The need for rapid development of the fuels industry was dramatically demonstrated in February. On the third of the month China signed a five-year trade agreement with the European Economic Community promising a stepped-up exchange of technology for raw materials.219 This was rapidly followed by an eight year $20 billion agreement with Japan.220 While the Chinese would purchase $7-8 billion in plant and technology and $2-3 billion in construction materials and equipment between 1978-82, they would export to Japan 5.1 to 5.3 million tons of coking coal and from 3.3 to 3.9 million tons of steam-ing coal, and 47.1 million tons of crude oil over the same period.

On the heels of these two agreements, the minister of the coal industry announced his program for the rapid modernization of that industry.221 Hsiao Han made it clear that the "key to speedy development of the coal industry lies in mechanization." Likewise, Minister of Fuels and Chemicals K'ang Shih-en conducted briefings and discussions by petrochemical experts who had recently returned from an examination of foreign oil fields and refineries. The minister, vice-ministers and leading members of various enterprises, "listened attentively" and "studied humbly."222
The whole program of the new leadership was brought into focus between February 26 and March 5 when the nation held its Fifth National People's Congress. Chairman Hua's address on the work of the government detailed a ten-year plan of economic construction that in many ways was the Chinese equivalent of "a chicken in every pot and a car in every garage." Every sector of the economy was promised increased investment and high priority. Agriculture was to grow at a rate of 4.3% per year, "a formidable task since China's agriculture has not been able to sustain a comparable growth rate for any prolonged period in the past." In industry, China was to establish 14 major centers, construct 120 new large-scale enterprises, among which were to be 10 iron and steel complexes, 10 oil and gas fields, and 6 new trunk railroads. At the same time enormous investment was to be allocated to building up China's science and technology and her national defense.

The new organizational and personnel composition of the State Council very clearly reflected this ambitious program. A Scientific and Technological Commission would spearhead modernization of this crucial sphere, while a new Ministry of Civil Affairs would assist the public security ministry in overseeing social control and discipline. Recognizing the importance of light industry in earning foreign exchange for modernization, the NPC revived the Ministry of Textiles. The most noticeable change, however, was the entrenchment of the petrochemical apparatus and leadership. The State Economic Commission was reestablished with former minister of Fuels and Chemicals K'ang Shih-en in charge. This put both the State Planning Commission (Yu Ch'iu-lí) and the State Economic Commission under the control of
"no nonsense" former petroleum officials. Hsiao Han remained as minister of coal, but the ministry of fuels and chemicals was split into two agencies. The new Ministry of Petroleum was to be under Sung Chen-ming, former vice-minister of the combined ministry and former chief administrator at the Tach'ing oil field. The Ministry of Chemicals Industry was under the leadership of Sung Ching-wen, also a former vice-minister of the joint agency. In addition, former vice-minister of fuels and chemicals T'ang K'o remained minister of the metallurgical industry, and another former vice-minister of the combined petrochemical ministry, Chang Chen, became minister of the Fifth Ministry of Machine-Building. Thus, on the eve of a massive developmental undertaking, agencies were being rearranged and personnel were being placed in positions of responsibility to reflect an understanding of the political and economic conditions necessary for its success.

The new Long March to modernization was not to be without its hazards and setbacks. In April and May 1978 relations with Japan became seriously strained over claims to ownership of off-shore islands potentially rich in undersea oil deposits, over the rights to and the location of the continental shelf, and over the state of Japanese-Soviet relations. These problems seem to have been largely ironed out by July, and on August 12 China and Japan signed the long-awaited treaty formally ending World War II. Trade and friendliness were the order of the day, symbolized by Teng Hsiao-p'ing's trip to Japan to sign the final draft of the treaty in October.
Nor was Japan the only country being wooed by China. The People's Republic was making every effort to gain an economic foothold in Britain, France, West Germany and the United States, and a political foothold in Eastern Europe.

If the international situation was shaping up favorably, there were signs of domestic opposition to some of the policies of the new regime. A new spate of denunciations of the "gang of four" appeared, centering on their opposition to modernization. Wall posters denouncing some of the current leadership appeared, and there were rumors that some of them were under a cloud for the same crime. In particular, it was admitted that the "petroleum system is still affected, so it can be imagined what the situation is in other departments." At least in the oil industry, these problems were apparently brought under control rather quickly. The ministry was reinforced by the appointment of four new expert-technocrats as vice-ministers in September, and by November was again being touted as a model for dealing with the "pernicious influence" of the "gang" and their ilk. In December, the Third Plenum of the 11th Central Committee catapulted the old economic "conservative" Ch'en Yun from disgrace to fourth vice-chairman of the Central Committee, member of the Politburo's Standing Committee, and First Secretary of the Central Committee for Inspecting Discipline. In addition, a number of other prominent "rightist" victims of the Cultural Revolution were brought into the Politburo including Hu Ch'iao-mu, Wang Jen-ch'iang, Ch'en Tsai-tao and Han Kuang.
By March and April of 1979, "reality shock" was beginning to cool Chinese enthusiasm for doing everything at once and as fast as possible. Beginning February 17 and lasting into March, China had engaged in a very costly and frustrating "punitive" war in Vietnam. How much this effort disrupted China's modernization plans is not known, but it can only have aggrevated a basically unstable economic situation. In March, Vice-Chairman of the State Capital Construction Commission Han Kuang revealed that 1978 investments in basic construction had been 121.5% above those in 1977, an all-time high. More than 1,000 major projects of all kinds had been started in 1978. Of 51 of the largest of these undertakings at least 28 were in the spheres of power and petrochemicals. It was becoming clear that the government had overextended itself. At a national capital construction conference in Peking it was announced that "the present scale of construction must be cut down to a level which corresponds to available material and finances." Minister of Chemicals Industry Sung Ching-wen called for "proportional development" and guarding against "blind orders" being imposed on his industry. The power industries were to remain a high priority, but a national petroleum conference hinted that some oil workers were feeling overworked and underpaid when it emphasized that, "We cannot replace ideological and political work with material rewards. Our country is still poor and backward."

Sober reassessment continued in May and June. An article in Peking Review, for example, recalled that in
the late 1950's Comrade Chen Yun proposed that the economic plan should be arranged according to the conditions and resources of our country...and a comprehensive balance should be achieved.

In an obvious reference to the disruptive effects of the Great Leap and the Cultural Revolution, the authors opined that, "All this has been proved correct by nearly 30 years of practice." Thus, it is not at all surprising that in June at the Second Session of the Fifth National People's Congress Ch'en Yun was reelevated to the position of vice-premier. He was joined by fellow "conservative" and Cultural Revolution victims Po I-po and Yao I-lin.

At the NPC, Premier Hua revealed that coal output for the two years 1977-8 was up 28% and crude oil output was up only 19.5%. Among others, these two sectors were singled out as having "still lagged behind what was required." Reflecting the changes in thinking (or perhaps the balance of power) among the leadership was a renewed emphasis on taking into account "the regulating role played by the market."

We must change the system of unified purchasing and marketing of products and integrate adjustment of plan with regulation of the market.

In the fuels industry this was to mean taking "effective measures to increase production and practice economy." According to Vice-Premier Yu Ch-ju-li, industrial enterprises that "turn out low-quality, high-cost, unwanted goods and show a deficit" should "cease operations," amalgamate with other units, or change products. Since output of petroleum in 1979 was expected to increase by a mere 1.9% and coal to show only a "slight increase," drastic measures like industrial cutbacks were needed to ease the "tension in the supply of fuel and power." Moreover, Yu called for drafting "an energy law at an early
date which stipulates the criteria for the rational exploitation, comprehensive utilization and the saving of energy, as well as a corresponding system of reward and penalties."\(^{250}\)

In 1978 and early 1979, China had tried to modernize her fuels industry primarily through the purchase of foreign equipment to be used by Chinese technicians.\(^{251}\) In 1978, Chinese oil enterprises had purchased some $200 million worth of oil-related equipment, with another $100 million in January and February of 1979.\(^{252}\) However, the leadership now began actively to look for foreign help in developing the fuels industry. Symbolized by the "Law of the People's Republic of China on Joint Ventures Using Chinese and Foreign Investment,\(^{253}\) the Chinese desire for foreign development assistance was made clear by Vice-Premier Ku Mu: "We are ready to accept loans from all countries provided that they will not affect our sovereign rights and the terms are appropriate."\(^{254}\) In line with this policy China began cautiously to bring foreign enterprises in to help with off-shore exploration and drilling.\(^{255}\)

Partly in order to regulate and control foreign investment and assistance in the oil industry, the 10th meeting of the Standing Committee of the Fifth NPC established two new State Council commissions: one "is to regulate foreign investments; the second is to supervise imports and exports, in order to strengthen the management of imports and exports, keep foreign exchange in balance and introduce the most up-to-date foreign technologies. Vice-Premier Gu Mu is in charge of the two commissions."\(^{256}\)
Nevertheless, in late 1979 problems continued to plague the fuels industries. November was declared "energy saving month." A spokesman for the State Economic Commission (bailiwick of former minister of fuels and chemicals K'ang Shih-en) decried prevalent poor energy management and revealed that,

During the period of readjustment of the national economy, there would not be much increase in energy production. Energy needed for economic development, therefore, would depend mainly on how much energy was saved.

He also announced that "strict control would be imposed on the burning of crude oil by switching it to coal for fuelling industrial boilers."

To coordinate all of this, a "national energy control body" would be established.

C. Conclusions

As we saw in the last chapter, the Chinese political system of the 1960's had been fundamentally transformed by Mao's continued widening of the arena of political conflict. During the 1970's the forces mobilized during the Cultural Revolution again played an important part in the struggle between alternative leadership groups with different visions of the lessons of the past and of the proper direction for the future. Those leaders responsible for administration of China's economy (and to a lesser extent, her politics) again coalesced to fight against the disruption of regularized processes of modernization and administration. Their opponents on the Politburo were rather more successful in encouraging the resumption of articulation of grievances by dissident railroad workers, coal miners and chemical
workers than they were in bringing about disruptions in the oil fields. Part of their success was due to historical factors: the railroads have long been a center of radical activity in China. Partly too their success (and failure) is the result of structural characteristics. Railroads, coal mines and chemical enterprises are all composed of numerous, small, rather discrete loci; this makes them easier to "infiltrate" and disrupt." The oil fields, by contrast, are centrally controlled, large enterprises. In addition, the petroleum administration has been subject to strict discipline under leaders with "good work style." Finally, the ministry of petroleum, Tach'ing oil field and Yu Ch'iu-li all had the confidence and support of Chairman Mao and Premier Chou. All of these factors made it more difficult to disrupt the functioning of the petroleum industry.

The mobilization of dissatisfied social elements by some members of the Politburo took a somewhat different and more muted form in the mid-1970's than it had at the height of the Cultural Revolution. In 1973-74 the contest between opposing groups within the leadership was conducted at a lower level of violence and in a semi-covert, semi-public form. Historical allegories and analogies in the mass media took the place of direct public and open confrontation. However, when Chou En-lai, the pillar of the "moderate" or "bureaucratic" group, died in January 1976, the "radical" group mobilized its supporters in a public and open campaign to denounce Teng Hsiao-p'ing and to discredit his vision of the future. Just as rapidly, however, with the death in September 1976 of their protector, Mao Tse-tung, the radicals themselves were purged, denounced and vilified. With
the four key "radicals" out of power, the remaining leadership by and
large appears to have agreed that the decade of "mobilizational war­
fare" within the leadership must end. The measures taken by Hua,
Teng et al. to stifle uncontrolled mass political activism seem to
be coming to their logical conclusion in early 1980 with talk of
repealing the "four freedoms." 259

One by-product of the type of leadership conflict occurring dur­
ing the 1970's was the increased visibility of the importance of "fac­
tional" ties. In the last chapter we saw that the link between Minis­
ter of Railroads Wan Li and Vice-Premier Teng Hsiao-p'ing played an
important role in Wan's removal and subsequent reëlevation. In the
fuel sector the importance of personal ties in the 1970's is even
more evident. By 1978 we witness the proliferation of an "oil clique,"
a large number of government ministers with present or former ties to
Yu Ch'iu-li and the petrochemical apparatus. 260

In addition to the purely "political" aspects of organizational
change in the fuels and chemicals apparatus, at least two "economic"
factors have played an important part as well. First, increasing
technological sophistication in the coal, petroleum and chemicals
industries have necessitated more centralized and more expert control
over these industries. This, in turn, has led to increases in bureau­
cratic size. Problems of bureau manageability and "span of control"
alone might have made necessary a splitting of the Fuels and Chemicals
Ministry in the mid-1970's. However another economic factor was also
at work. The technologies of the three industries were diverging.
First, the emphasis on small, local, semi-mechanized coal fields and
mines created a contradiction with the burgeoning petrochemical industries built around large, high-technology, centrally operated gas and oil fields. Moreover, the techniques for extracting, processing and transporting coal and petrochemicals were becoming more and more different. Furthermore, between 1976 and 1979 China began a large-scale program to take advantage of her off-shore oil resources. This, and the increasing percentage of chemical fertilizer production coming from small, locally operated plants, led to the split between the petroleum and chemicals ministries in 1978. By 1979, however, the Chinese seemed to be searching for an efficient way to coordinate the complex fuels sector (see Figure 10) without recombining the ministries.

Finally, we see a changing relationship over the years between the "economic" and the "political" factors involved in organizational change. While I am aware that a political-economic dichotomy drastically oversimplifies reality, and that economic factors in China are the result of previous political decisions, these decisions, once made, take on a life of their own and create objective resources and constraints for the next decision. In the 1950's, with basic agreement about the direction of society and on the "rules of the game" of political conflict, reorganization in the machine-building sphere were predominantly dependent on economic factors, with political factors playing an important but subordinate role. By the late-1950's, however, political factors were becoming increasingly important. By contrast, organizational change in the Cultural Revolution was almost entirely the effect of political factors. With the return of a modicum of order and stability in the 1970's, one might expect that economic
National People's Congress

State Council
Premier (Hua)
Vice-Premiers
(Esp. Yu Ch’iu-li, K'ang Shih-en?)

(General Offices) State Planning Commission State Economic Commission State Capital Construction Commission

MINISTRY OF PETROLEUM

Minister
Vice-Ministers

(Related Agencies)

Chinese Academy of Sciences
State Scientific and Technological Commission

Foreign Experts Affairs Bureau
Labor Bureau

Ministry of Coal
Ministry of Chemicals
First Ministry of Machine-Building

Ministry of Foreign Trade
China National Chemicals
Import/Export Corp.
China National Machinery
Import/Export Corp.
China National Technology Import Corp.

Export-Import Commission
Foreign Investments Commission

Environmental Protection Agency
Survey and Cartography Bureau
Seismology Bureau
Oceanography Bureau
Geology Bureau
China National Committee on Geodesy & Geophysics
China National Mining Committee

People's Liberation Army

(Province)

Provides research, technical assistance
Allocates labor and expert labor
Coordinates cross-agency affairs, e.g. shale-oil, petrochemicals, machinery acquisition
Coordinates import-export trade in raw materials and technology
Regulates environmental quality
Provides expert assistance and coordination in technical fields
Provides assistance through connections with bureaus like Surveying, Oceanography and Geology; coordinates production of military fuels; coordinates transport of military fuels; may provide labor; provides protection for facilities in sensitive areas

Figure 10
Petroleum Complex of Chinese Government
1. Both former Ministers of Petroleum.


4. For structure see Figure 8.


factors would again play the predominant role. In fact, the changes in political dynamics at the leadership level meant that political and economic factors became completely intertwined. With elements of the Politburo in disagreement not only about specific policies but about the general direction and "line" for the future, economic decisions could not be unravelled from their political implications. It was not until 1977-79 that a more "united" leadership in basic agreement about the direction of modernization emerged. Again, this oversimplifies a situation of coalition between diverse leadership elements, but Teng Hsiao-p'ing's recent entrenchment of his supporters in various government posts, and his willingness to reassign certain responsibilities, and to suggest that he and other first generation leaders step down, reveals a growing confidence on Teng's part that he has set in motion a self-perpetuating modernization effort. Recent organizational proliferation seems more to reflect "economic" rather than "political" factors. 262
NOTES


18. See account of the 17th meeting of the Central People's Government Council (August 7, 1952) in Current Background (CB) #206, September 1, 1952, esp. p. 15.


20. (continued)
Szu-kuang T'ung-chih Shih-shih," ("Comrade Li Szu-kuang Passes Away"). See also NCNA summary of Red Flag article, "Intellec-
tuals to Learn From Geologist's Example," FBIS Chi77-226, Nov-
ember 23, 1977, pp. E6-8 and Uwe Krauter and Patricia Wilson,
"On Location for 'Li Siguang'" in China Reconstructs Vol. XXVIII
#9, September, 1979, pp. 35-7 about the movie on Li's life then
in production.

21. Cheng, op.cit., p. 3; David M. Lampton, "Yu Ch'iu-li" The 'One-
Armed Man in Charge of Production" Paper for private distribu-
tion, p. 19.

22. Chi-hua Ching-chi (Planned Economy) #12, 1957 cited in Williams,
op.cit., p. 231.


24. A Ministry of Electric Power was also established. See "Direc-
tory of Top National Positions in the Government and Armed Forces
Summary #353, January 14, 1971, apparently in error, reports
the date as June 22, 1955. This may have been the date the NPC
Standing Committee proposed the change; it was ratified in July
by the full NPC. (Second Session First NPC met July 5-30, 1955.
See Kenneth Lieberthal, A Research Guide to Central Party and
Government Meetings in China, 1949-1975. White Plains: Inter-
national Arts and Sciences Press, 1976, pp. 71-2)

25. E.g. see Chou En-lai, Report on the Proposals for the Second
Five-Year Plan for Development of the National Economy, Peking:
Foreign Languages Press, 1956, p. 44; Williams, op.cit., pp. 231-2.

26. Cheng, op.cit., p. 4. An official Chinese source admitted and
decreed the "weak foundation" of China's petroleum industry.
See Chang Hsuan-wen, "Do a Good Job of the Oils Supply for 1957,"
Shang-yeh Kung-tso (Commerce), February 14, 1957 in Extracts
From China Mainland Magazines (ECMM) #79, April 23, 1957.

27. Cheng, op.cit., p. 6; Williams, op.cit., pp. 231-2. On the Minis-
try of Petroleum in the Great Leap Forward see Lampton, "Yu

28. Despite this emphasis the percentage share of shale-oil in total
production dropped from 56% in 1955 to 49% in 1956 to 41% in
1957 to 35% in 1958 to 28% in 1959. It rose only to 31% in
1960 then began to drop again. Kambara, op.cit., p. 704. Nev-
evertheless, absolute levels of output of shale-oil continued to
rise.

29. Cheng, op.cit., p. 8; See also Lampton, op.cit., pp. 21-5.

31. One such "find" was the sinking of the first successful well at Tach'ing on September 10, 1959. See Cheng, op.cit., p. 10.


35. E.g. Chu Chi-lin, "China's Skyrocketing Oil Output" PR #23, August 5, 1958 as reproduced in Ling, op.cit., pp. 139-44. See also Lampton, op.cit., p. 33.

36. Williams, op.cit., p. 232. Lampton (op.cit., p. 33) emphasizes Yu's "political sleight of hand" in "using the production increase achieved rather conventionally to justify the mobilization" of the Great Leap.


40. See Editor's Note, "Recent Developments in the Petroleum Industry," URS Vol 35 #5, April 17, 1964, p. 1 which quotes the London Financial Times as stating that the USSR stopped supplying China with petroleum during this incident. UPI reported also that 1962 Chinese oil imports were 1,860,000 tons, down over one-third from the 1961 level. Also Harry Gelman indicated that between 1960 and the advent of Chinese self-sufficiency, gas rationing, substitute fuels and crash stock-piling were necessary. "Outlook for Sino-Soviet Relations" in Problems of Communism (POC) Vol. XXVIII #5-6, September-December, 1979, pp. 50-66, esp., p. 61. See also Woodard, op.cit., pp. 116-17, 575.

42. Cheng, op.cit., pp. 11-12.

43. Yu Ch'iu-li personally "participated in and organized the efforts to open up" Tach'ing field. See Beijing Review (BR) #10, March 10, 1980, p. 16. See also Lampton, op.cit., p. 36. On Tach'ing as model, see Woodard, op.cit., pp. 236-69. On Tach'ing as representing both mobilizational and productive elements see Lampton, op.cit., p. 40. Similarly, China's agricultural model, Tachai is widely seen as a mobilizational system of moral incentives. It also, however, is a system of "giving people material incentives for putting politics in command over economics." Martin K. Whyte cited in Peter R. Moody, Jr., The Politics of the Eighth Central Committee of the Communist Party of China. Hamden, Connecticut: Shoe String Press, 1973, p. 174.


50. "The Numerous Crimes...," p. 355. He reportedly said, "If I have any problem, I'll never approach the Central Cultural Revolution Group. These people are only scholars who can't know our feelings of a soldier." (sic.) His vice-minister (now vice-premier) K'ang Shih-en said they "know nothing."


52. When one of his underlings was criticized by a Party provincial committee member, Yu fumed, "He is a cadre of my Ministry of Petroleum Industry. Who has the nerve to touch him?" "The Numerous Crimes...," p. 355. See also, ibid., pp. 362-3 and Lampton, op.cit., pp. 46-8, 54, 60-1. It is interesting to note in this context that in 1966 the Peking Petrochemical Institute was moved to Tach'ing. Woodard believes this was done to light an ideological fire and to give the students contact with the "masses." It is also possible that this was an attempt to bring one of the more radical sources of students in Peking under the discipline of Tach'ing's management and to remove them from radical opportunities in the capital. (See Woodard, op.cit., pp. 241-2. See also Hong Yung Lee, The Politics of the Chinese Cultural Revolution. Berkeley: University of California, 1978, pp. 204-229 on factional alignments of Red Guard groups.)

53. "How Yu...Engineers...," p. 7.


55. "How Yu...Engineers...," p. 7. Lampton also discusses Yu's blunt and outspoken personal style (e.g., op.cit., pp. 27-31, 37-8, 73), a style shared by P'eng Teh-huai, for whom it proved to be his downfall.


60. "A Great Struggle," p. E15 quotes a number of names but not Yu, who was included under the category "and other comrades." Editor's Note (see note 59, p. 352) identifies Yu as present. It is all but inconceivable that he was present against the wishes of Mao and/or Chou. Moreover, Chou En-lai told a group of Yu's opponents that Chairman Mao had instructed him "several times" to protect Yu. See Lampton, op.cit., p. 52.


62. Lampton, op.cit., p. 54; "Chop Off the Claws of Liu Shao-ch'i Extending Intro Tach'ing" in Ch'ang Cheng (Long March) #15, April 19, 1967, p. 1. I am grateful to Mr. John Dolfin of the Universities Service Center, Hong Kong, for providing these and other issues of Red Guard materials.


67. E.g. see Wu, op.cit., pp. 32-3; Bain, op.cit., pp. 41-3; Smil, op.cit., p. 8; and Robert Carin, Power Industry in Communist China. Hong Kong: URI, 1969, pp. 21-31.


70. For instance at the end of the FFYP, "about 69 percent of the electricity generated in Communist China was provided by coal-burning plants." (Wu, op.cit., p. 32) Likewise, until the 1970's almost all railroad engines were coal-fired; most still
Moreover, the railroads account for some 2% to 2.5% of China's coal production. See Pierre Perrolle, Politics and the Construction of Chinese Railways, 1950-1974. Unpublished Ph.D. Dissertation, Brown University, 1975, p. 25. Interestingly, however, coal consumption by sector has shown a dramatic reversal:

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry &amp; Communications</th>
<th>Agriculture</th>
<th>Transportation</th>
<th>Residential &amp; Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>26</td>
<td>Neg.</td>
<td>12</td>
<td>62</td>
</tr>
<tr>
<td>1957</td>
<td>37</td>
<td>1</td>
<td>9</td>
<td>53</td>
</tr>
<tr>
<td>1965</td>
<td>48</td>
<td>3</td>
<td>8</td>
<td>41</td>
</tr>
<tr>
<td>1970</td>
<td>57</td>
<td>4</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>1974</td>
<td>62</td>
<td>6</td>
<td>5</td>
<td>27</td>
</tr>
</tbody>
</table>

(Source: USCIA "Energy Balance...," p. 7.)

Note: Industry and Residential consumption have virtually reversed places in share of consumption.

71. Figures on average coal output increases are from Wu, op.cit., p. 43. Investment in coal industry in the FFYP was ¥ 2.97 billion or 11.9% of the entire planned investment in all industry. Ibid., p. 48. See also Carin, op.cit., pp. 32-3; Woodard, op.cit., pp. 395, 401, 462.

72. Ikonnikov, op.cit., pp. 3-4; Wu, op.cit., pp. 48-52. On mechanization of mines see Table on p. 53 of Wu, op.cit.

73. Ikonnikov, op.cit., p. 6. This contrasts with 215 during 1953-7, and 16 in 1965.

74. Smil, op.cit., p. 18.


77. Ikonnikov, op.cit., p. 7. Over 500 small and medium-sized mines were under construction in 1969-70, and 16,034 pits were set up and/or operating.

78. USCIA, "Energy Balance...," p. 5.
79. A Chinese report that from January to August 1970, "coal targets set by the state were overfulfilled every month and output achieved a 24 per cent increase over that of the corresponding period last year" masked the fact that 1970 output only slightly exceeded 1966 output (250,000 tons 1970; 240,000 tons 1966). See "China's Coal Industry Develops Rapidly," PR #46, November 13, 1970, p. 19 and Smil, op.cit., p. 18.


82. See Richard K. Diao, "The Impact of the Cultural Revolution on China's Economic Elite," in CQ #42, April-June, 1970, pp. 65-87. Chou En-lai reported on October 7 that "the number of cadres in organs under the central government numbered only 10,000 compared with 60,000 before the Cultural Revolution." Audrey Donnithorne, "China's Cellular Economy," CQ #52, October-December, 1972, p. 605.

83. CNS #353, p. 2.


85. (continued)


86. Output was up from 250 million metric tons in 1969 to 300mmt in 1970 (Smil, op.cit., p. 18). As will become evident in the 1970's, much of this improvement is from small mines who's contribution is necessarily limited.

87. Chang Chen "Let Us Fulfill Ahead of Schedule the Chemical Industry's Five Year Plan and Overcome Its Backward State," Chung-kung-yeh T'ung-hsun (Heavy Industry Bulletin) #3, January 21, 1956 in ECMM #35, Mary 14, 1956, pp. 26-31. "The output of chemical products rose from 3.2 percent of the gross value of industrial products in 1953 to 6.6 percent in 1957" (Prybyla, op.cit., p. 140). It might be noted here that aside from a few studies of the chemical fertilizer industry, there is a dismal lack of secondary work on the chemicals industry.


89. E.g. see "Ministry of Fuels and Chemicals Set Up in Peking," CNS #353, p. 2.


91. USCIA, "People's Republic of China: Chemical Fertilizer Supplies, 1949-74." A(ER)75-70, August, 1975, p. 4. 1960 was the previous high year with 2.52 million metric tons. Output dropped to 1.85-mmt in 1961, then rose to 2.78mmt in 1962, 3.86mmt in 1963, 5.78mmt in 1964, and 7.60mmt in 1965. 1966 output jumped to 9.60mmt.


100. As Cheng Chu-yuan points out (Petroleum..., pp. 162-3), many of the chemical plants were contiguous to the major oil fields. For example, petrochemical complexes near Shanyang, at Lanchou, Hsuchow, and Nanch'ung take advantage respectively of oil from Tach'ing, Fushun, the Sinkiang fields, Shengli, and the natural gas fields of Szechuan. The major exception is the newer Peking General Petrochemical Plant which opened in 1969. Presumably it was supplied by Takang and by overland transport from other fields before 1975 when the new pipeline from Tach'ing began to supply it. See "Visit to an Oil City," China's Foreign Trade #3, 1976, pp. 5-7 and People's Daily, March 28, 1972; "Composing a Song of Triumph by Fighting in Unity - Story of Peking Petrochemical General Plant Which is Under Construction," SCMP #5112, April 13, 1972, pp. 155-64.

101. Thomas Rawski (Economic Growth and Employment in China. Cambridge: Oxford, 1979, pp. 16-17) goes so far as to assert that economic, not political factors are the chief determinant of the direction of the economy. I believe the following analysis will show this view to be oversimplified. Also: the identification of two central groups in the economic dispute should not be taken as adherence to a "two line" argument. In fact, several
identifiable groups were contending for power during this period. With respect to central economic decision making, however, two of these groups were of primary importance.

102. CNS #353, p. 1.


104. USCIA, "Energy Balance...," p. 5. Howe (op.cit., p. 105) gives an average annual growth rate for coal from 1960-75 of 2.85% and says that the slow growth of energy (especially coal) was largely responsible for the decline of the industrial growth rate. For 1952-60 he gives a coal growth rate of 19.69% (p. 106).


106. Rawski, op.cit., p. 46.

107. Rawski (op.cit., p. 47) cites an index of 11.6 (1952=1) from 1952-72 for all industry, but only 5.8 for coal. He attributes this to the low capital-intensity. Average production fixed costs per production worker for all industry was ¥ 5,656, but for coal only ¥ 5,029. His correlation is not exceptionally high, revealing the fact that there were other factors present.


111. Ibid., p. 3.

112. Howe, op.cit., p. 109. See also Table in note 70 above.

113. Rawski, (op.cit., p. 47) gives a figure of ¥ 24,945 per worker, and a growth index of 76.4 (1952=1), by far the highest in all industry. Howe (op.cit., p. 100) gives an average annual increase of oil output 1952-60=37.28%, 1960-75=18.9%, 1960-65=14.41% 1965-70=21.6%, 1970-75=21.45%.

114. E.g. see USCIA, "Oil Production...," p. 9; Smil, op.cit., p. 34; Ling, op.cit., p. 15; Cheng, op.cit., pp. 23, 26; Bartke, op.cit., p. 28; USCIA, "Energy Balance...," p. 29.

115. E.g. see Harrison, op.cit., pp. 57-88; Woodard, op.cit.; Hardy, China's Oil Future, pp. 19-25; Hardy, "Chinese Oil...," pp. 15-18;


119. USCIA, "Oil Production...," p. 9. In 1970 the Chinese were still talking about the importance of Maoming Shale Oil Company. See "China's Petroleum Industry Develops with Greater, Faster, Better and More Economical Results," PR #41, October 9, 1970, pp. 30-7. The percentage share of shale-oil in total output dropped to 20% by 1968, but 1968 shale-oil production was still over twice what it had been in 1959. (Kambara, op.cit., p. 704) Moreover, Maoming is located in Kwangtung Province, an oil-poor area far from China's major reserves.


122. Ibid., p. 223.


124. Ibid., p. 11.

125. E.g. his opponents were later accused of discouraging workers from upgrading their vocational skills. See "Petroleum Ministry Attacks Gang of Four's Line," FBIS Chi77-196, October 11, 1977,
125. (continued)
p. E22. This statement is also supported by the fact that during the period of their greatest economic influence (1966-69) Gross National Product grew by an estimated annual average rate of 2.5%, industry grew at 4.7%, agriculture "grew" by 0.0%, in contrast with long-term trends of 5.1%, 9.3% and 1.8% respectively. See Robert Dernberger, "Prospects for the Chinese Economy," POC Vol. XXVIII #5-6, September-December, 1979, pp. 1-15.


127. Dernberger notes that foreign trade was the one sphere of the economy in which "right wing" (Teng's) policies prevailed in 1974-5. This made it doubly embarrassing when these policies backfired. Dernberger, op.cit., p. 5.


129. Bruce Reynolds, "Two Models of Agricultural Development: A Context for Current Chinese Policy," CQ #76, December, 1978, pp. 842-72, see pp. 862-3. Between 1972 and 1974 "Peking purchased or was close to the purchase of $300 million in electric power plants, $130 million of petroleum exploration and extraction units, and more than $900 million worth of petroleum refineries and petrochemical plants." Woodard, op.cit., p. 124.

130. USCIA, "Energy Balance...", p. 12 and Chapter Three above on railroads.


133. USCIA, "Oil Production...", p. 23.

134. K. P. Wang, op.cit., p. 89; Whiting, op.cit., p. 60 estimates $900 million. See also Dernberger, op.cit., p. 5.


136. Reynolds, op.cit., p. 862. While the balance of trade was remedied in China's favor (a surplus of $1 billion in 1976), this was primarily due to the massive cutback of imports. Dernberger, op.cit., p. 5.
137. USCIA, "Oil Production...," p. 23.

138. USCIA, Fertilizer, pp. 3-4, 7; K. P. Wang, op.cit., p. 81-4.


147. The three quotes are from, respectively, Kao Lu and Ch'ang Ko in Red Flag, p. 29; Kao and Ch'ang, PR article, p. 7; and Kao and Ch'ang, Red Flag, p. 30.

148. Kao and Ch'ang, Red Flag, p. 30. As Robert Dernberger points out, revolutionary committees, worker participation, slack fiscal management, slack labor discipline and lack of enterprise specialization were still the prevalent pattern. (op.cit., p. 4) See also Yu Ch'iu-li's comments about "large and comprehensive" and "small and comprehensive" plants and their inefficiency.
148. (continued)
Harry Harding, op.cit., p. 395 predicted that the excessively decentralized conditions of 1970-2 would lead to great centralization.

149. For some examples between 1970 and 1974, see


151. Robert Dernberger might take exception to this statement. He seems to be of the opinion that the "rightists" (Chou and Teng) were by and large unsuccessful in establishing a modification of the "basic thrust and purpose of the economic policies adopted during or as a result of the Cultural Revolution." (op.cit., p. 4)
151. (continued)
He cites as evidence Teng's failure to achieve acceptance of his "three poisonous weeds" or to accomplish a "widespread rehabilitation and restoration to power of other leading right-wing figures purged during the Cultural Revolution." (p. 4) I believe Dernberger's acceptance of a dichotomous ("right" and "left" wing) mode of political analysis obscures a rather more complicated scene. There are substantial differences of policy preference between Teng, Ch'en Yun, Po I-po and others - all "rightist" for Dernberger. Cf. Lampton, op.cit., p. 64.

152. On Hsu see Who's Who, p. 264.


156. NCNA, "Foreign Trade Workers Denounce Crimes of 'Gang of Four'," SPRCP #6265, January 24, 1977, pp. 21-6, and version of same article in FBIS Chi77-10, January 14, 1977, pp. E1-8.


158. "Foreign Trade Workers Denounce...," p. 22.

159. They are reported to have denounced the small plants as "air raid shelters" and "fortified villages" for small-scale capitalist readers in county Party and civil administration, and instigated the dismissal of veteran workers who opposed them. "It is Imperative...," p. 142. People's Daily, "The Crimes of the Gang of Four in Sabotaging the Chemical Fertilizer Industry Must be Criticized," FBIS Chi77-67, April 7, 1977, p. E3. Why they would have attacked small plants is obscure, and raises the general issue of the reliability of post-hoc denunciations such as
159. (continued)

those of the Cultural Revolution and of the campaign against the "gang of four." It is impossible to verify the details of such accusations. It is possible, however, to cross check them with reports of visitors, accounts of emigres, and estimates at the time by independent analysts and journalists. While the particulars of any denunciation are problematic, the tenor of the campaign to vilify the "radicals" conforms fairly well to those other sources. Moreover, insofar as reports from various units and areas agree about the activities of the "gang of four," we can be more certain that they approximate reality. (This, of course, assumes that these reports were independently generated. Since they assuredly were not entirely independent, our confidence in this sort of test for reliability is correspondingly diminished.)


161. E.g. Honan's Fukou Chemical Fertilizer Plant, reported in ibid.

162. "It is Imperative...," p. 144.

163. Ibid., p. 144.


167. "The 'Gang of Four' Are the Major..." note 172.


170. (continued)


173. Kao and Ch'ang, Red Flag, p. 29; Kao and Ch'ang, PR, p. 7.


176. E.g. see Kao and Ch'ang, PR, p. 9. The "gang of four" even dubbed the Ministry of Foreign Trade the Ministry of National Betrayal for implementing these policies. See "Settle Accounts...," p. 2 (note 155), and version in SPRCP #6258, p. 184; "A Grave Step...," p. E2.


181. USCIA, "Oil Production...," p. 23.

182. Hardy, China's Oil Future, p. 2. Total exports also dropped: 109,000 bpd in 1974; 232,000 bpd in 1975; 205,000 bpd in 1976;
182. (continued)
189,000 bpd in 1977, reflecting both a resurgence of worldwide economic problems and internal Chinese disturbances.

183. Reynolds, op.cit., p. 862. Whiting, (op.cit.) lists only 11 plants contracted for. Of these 6 were signed from January-April. All 11 plants totalled $185 million, indicating that a few others may have been contracted for (probably after August when Whiting's list ends).

184. E.g. see the exchange between Neil Burton and Charles Bettleheim in China Since Mao. NY: Monthly Review Press, 1978, While I do not agree with many of Bettleheim's arguments, this is the most compelling and sophisticated Western analysis of the post-Mao regime's "betrayal" of Mao's legacy. The very fact that the post-Mao leadership saw fit to rebut the charges against Teng at such length indicates that many in China may have found them persuasive.


188. Kao and Ch'ang, Red Flag, p. 32.


191. "Sabotage of Foreign Trade..." p. E7-8; "Settle Accounts..." p. 187; and Lo Yuan-cheng, op.cit., p. 12. It was even said they opposed the import of equipment when they "themselves had signed their names to these reports and the locations of some of the plants had even been selected by them." "A Grave Step..." p. E3.

192. (continued)
It was alleged that they evaded customs controls and the Ministry of Foreign Trade in order to import large quantities of luxury goods:

In 1975 the total value of such things imported with their approval under various pretexts reached as high as $1 million. The amount for the period from January to September 1976 rose to more than $10 million. ("A Grave Step...", p. E8.)

Among these imports were "lipstick, hair-dyes, artificial eyelashes, swimming suits" and pornographic films. ("Sabotage of Foreign Trade...", p. E9) Among their "illicit relations with foreigners" was Chiang Ch'ing's series of interviews with American scholar Roxane Witke; Mme. Mao was accused of "selling out" Party and state secrets to foreigners (implicitly Ms. Witke; "Hail the Successful Convocation...", p. E2). The evidence of Chiang Ch'ing's lifestyle presented in Witke's Comrade Chiang Ch'ing (Boston: Little Brown, 1977) lends credence to charges of the "gang of four's" decadent bourgeois appetites. Moreover, Chiang's passion for foreign films makes more credible the accusation that Chang Ch'un-ch'iao "approved the importing of 350 films made in the West and 200 from Hong Kong, at a total cost of 15 million yuan." ("Sabotage of Foreign Trade," p. E9.

193. Rumors began to circulate concerning his immanent return. E.g. see Hong Kong, AFP, "Teng Should Make a Comeback 'Soon'," FBIS Chi77-10, January 14, 1977, p. E1.


195. Moreover, Wang and Yu, both advocates of hard work, both semi-educated, both war heroes and leaders of national model units (Nanniwan and Taching) had been subordinates of Marshal Ho Lung during the war and had known each other since the 1930's. Lampton, "Yu Ch'iu-li...," p. 4.


201. Ibid.

202. See CQ #70, pp. 457-8.

203. E.g. see Chi Lun, "Hen P'i 'Sze-jen-pang'. Keng-kao ti Chiu-ch'i Kung-yeh Hsueh Ta-ch'ing ti Hung-ch'i" ("Severely Criticize the 'Gang of Four.' Raise Higher the Red Flag of Learning from Tach'ing in Industry") Red Flag #2, 1977, pp. 50-53; "Wei P'u-chi Ta-ch'ing shih Ch'i-yeh Erh Fen-tou" ("Struggle to Popularize Tach'ing-type Enterprises") Red Flag #4, 1977, pp. 5-8; and Tach'ing CCP Committee, "Fa-yang Ch'uang-yen Ch'ing-shen; To-ch'u Keng Ta Sheng-li" ("Foster the Spirit for Establishing Industry; Seize Even Greater Victories") Red Flag #4, 1977, pp. 9-14.

204. See text of April 19 editorial and other documents on the opening of the conference in PR #18, April 29, 1977. On the conference see also CQ #71, pp. 650-54.


206. Yu, "Mobilize the Whole Party and the Nation's Working Class and Strive to Build Taching-type Enterprises Throughout the Country," in PR #22, May 27, 1977, pp. 5-23. Five pages were devoted to denouncing the "gang of four."

207. This, of course, reflected Yu's work style to a large degree. See Lampton, "Yu Ch'iu-li...," pp. 20-1, 26-7, 34. In the months ahead the Ministry of Fuels and Chemicals was to be singled out as "the most outstanding of all the 29 ministries and commissions" largely due to its efforts in implementing proper supervision and leadership. Among other things this involved K'ang Shih-en leading "500 cadre at various levels to new oilfields and some chemical works" to investigate conditions. See NCNA, "Chinese Ministries Learn from Ministry of Petroleum and Chemicals," SPRCP #6394, August 3, 1977, pp. 128-30; and People's Daily, August 14, 1977, "Government Offices Should Be Active...," FBIS Chi77-158, August 16, 1977, pp. E1-3 (and version of same in SPRCP #6414, September 1, 1977, pp. 130-6). The latter, more complete version, singles out Yu Ch'iu-li's style of work and leadership as exemplary, (pp. 134-5) as does People's Daily, September 7, 1977, "Chairman Mao's Revolutionary Line Guides the Development of Petroleum and Chemical Industries at High Speed," SPRCP #6426, September 20, 1977, pp. 88-95, see p. 91.
208. As Dernberger points out, "there was a call for increased exports,
but no acknowledgement of the role of imports in meeting invest­
ment and other goals of the program," op.cit., p. 8.


210. With most accessible fields already in production for 5 to 10 years, the reserve-output ratio declining in fields under production, the expense and international problems attached to off-shore exploitation, and the serious need for funds in other key areas like steel and coal, the prospects for continued rapid growth were sobering. See USCIA, "Oil Production...," p. 1; Vaclav Smil, "China Now Ranks No. 7 in World Power Generation," FEER October 5, 1979, pp. 81-2; Smil, China's Energy, p. 41; Hardy, "Chinese Oil" and China's Oil Future. On the international issues see Harrison, op.cit.; Victor Li, "China and Off-Shore Oil: The Tiao-yu Tai Dispute," in Bryant Garth, ed., China's Changing Role in the World Economy. NY: Praeger, 1975, pp. 143-62; Nayan Chanda, "China Calls in the Foreign Rigs," FEER September 28, 1979, p. 21; and George Lauriat, "Maritime Disputes: Another Coming Conflict of Comrades Ahead?" FEER October 5, 1979, pp. 58-9; Woodard, op.cit. See also "Xisha and Nansha Islands Belong to China," PR #21, May 25, 1979, pp. 23-6.


213. (continued)
"Closing Address" all in PR #36, September 2, 1977, pp. 16-22, 23-37, 38-40.


218. The dimensions of the problem are highlighted by the situation of "severe oil product shortages in farming" revealed in Hunan Province. Between 1966-77 the number of tractors there increased 7-fold, diesel engines by 130 times, walking tractors by 436 times, while diesel oil supply was up by a factor of only 6.4 times, and lubricating oils by 2.75 times. See Smil, FEER, p. 82 (note 210).


224. Kenneth Lieberthal, "Chinese Politics in 1978: Modernization and the Ghost of Mao" distributed by the China Council of the
Asia Society, NY, November, 1978, p. 2. Reflecting both the emphasis on agriculture and on proper leadership and work style was the elevation of Wang Chen (vice-premier and former minister of state farms and land reclamation) to the Politburo at the 3rd Plenum in December 1978. See "Communique" in PR #52, December 29, 1978, pp. 6-16.

The former ambition was to be realized through the formation of a State Scientific and Technological Commission (defunct since 1966) to be headed by Fang Yi. See "Proclamations" of NPC in PR #10, March 10, 1978, pp. 41-2 and David Bonavia, "Old Faces in the New Team," FEER March 17, 1978, pp. 20-1. Following up on this effort would become a major priority in 1978-9. On March 18, a National Science Conference convened. Teng Hsiao-p'ing delivered the opening address, exhorting the Chinese people to modernize their level of science and technology. (See Teng's speech in PR #12, March 24, 1978, pp. 9-18). Less than a week later Chairman Hua also spoke to the delegates ("Raise the Scientific and Cultural Level of the Entire Nation," PR #13, March 31, 1978, pp. 6-14). See also Fang Yi's "Outline National Plan for the Development of Science and Technology, Relevant Policies and Measures," in PR #14, April 7, 1978, pp. 6-17 and Kuo Mo-jo, "Springtime for Science," in ibid., pp. 15-17.

Bonavia, "Old Faces...",(note 225.)


379

230. (continued)


238. It is interesting to note that in May 1967 Han Kuang (then vice-chairman of the Scientific and Technological Commission) and Chang Ching-fu (now minister of finance, then vice-president of the Chinese Academy of Sciences) were both denounced by Premier Chou as "power-holders taking the capitalist road" whose activities had forced him to take over "the work of the Academy of Sciences and the State Scientific and Technological Commission." See "Premier Chou's Speech," K'o-chi Chan-pao (Science and Technology Combat News) June 2, 1967 in SCMP #4011, August 29, 1967, pp. 1-6.


242. 1 geothermal power station, 5 hydroelectric stations, 4 petroleum projects, 6 coal-related projects, and 11 chemical and fertilizer projects. "Key Projects...," p. 14 (note 241).


245. "National Petroleum Forum Stresses Ideological, Political Work," FBIS Chi79-069, April 9, 1979, pp. L13-14. Shortly thereafter the ministry revealed that disruptions and anarchism were still problems and that "leading cadres have noted that the majority of cadres and people demand stability and unity." See "Petroleum Ministry Circular Stresses 'Four Upholds'," FBIS Chi79-082, April 26, 1979, pp. L8-9. See also "What About Energy in China?" *China Reconstructs* Vol. XXVIII #4, April, 1979, pp. 6-10 and "Power Industry - A Top Priority," BR #15, April 13, 1979, p. 5.


249. This, of course, was Ch'en Yun's policy of the 1950's. Quote from Shi Zhengwen, "Readjusting the National Economy: Why and How," BR #26, June 29, 1979, pp. 13-23. See also Liu Guogang and Zhao Renwei, "Socialist Economic Planning and the Market," BR #31, August 3, 1979, pp. 8-12. Whether the reduction of "non-productive" personnel in administration, the emphasis on market mechanisms and the questioning of the wisdom of the government's "practice of controlling the collection and allocation of all revenues at the center" will lead to a shrinking of the central government bureaucracy is questionable. While there is no Chinese precedent for a Yugoslav-type market socialism, my feeling, based on the past experience of the PRC, is that the bureaucracy will continue to grow, with periodic attempts to prune it or institute temporary productive labor in a hsia-fang system. See D. M. Lampton, "New 'Revolution' in China's Social Policy," POC Vol. XXVIII #5-6, September-December, 1979, pp. 16-33 (quote on p. 22) and Dernberger in ibid.

250. Yu Qiuli, "Arrangements for the 1979 National Economic Plan," BR #29, July 20, 1979, pp. 7-16 (text also in FBIS Chi79-128, July 2, 1979, pp. L13-28). See also report on Yu's speech, "China's National Economy (1978-79)," BR #26, June 29, 1979, pp. 8-12. Another element of this program of retrenchment was the cutback of superfluous personnel. See "Chemical Bureau Directors Suggest Trimming Unproductive Units," FBIS Chi79-082, April 26, 1979, p. L10. In 1976 it was reported that "there are some 3,000,000 staff and workers in China's coal industry." BR #49, 1976 cited in Rawski, op.cit., p. 172. Tach'ing oilfield alone reportedly has over 100,000 workers and staff. See Woodard, op.cit., p. 252.

251. This was certainly the strategy for the coal industry. In 1975, about one-third of coal output came from "small mines" (presumably with a fairly low level of mechanization and moderate labor productivity - Rawski, op.cit., pp. 172-3) After the fall of the "gang of four," in an attempt to improve output and
251. (continued)


253. Of July 1, 1979; text in BR #29 1979, pp. 24-6.


255. E.g. see Ron Scherer, "China Opens Offshore Oil Bidding - Within Limits," CSM June 7, 1979; and UPI, "West Germany Joins Oil Search in China," Columbus Dispatch, November 21, 1979. As an example, it was announced in December 1979 that Japan and China would jointly construct six projects — at least five of which are connected to the fuel and power industries. See "Japan and China Jointly Build Six Projects," BR #3, January 21, 1980, p. 8.

256. BR #32, August 10, 1979, p. 2.

257. See "China's Energy Policy," PR #50, December 14, 1979, pp. 5-6. As of April 1, 1980, nothing more has been heard of the proposed agency. On the emphasis on domestic use of coal to free petroleum for export see Paul Van Slambrouck, "China's Plan: Burn Its Coal, Export More Oil," CSM February 27, 1980. In 1979 more than 80 coal mining projects were begun, 22 new shafts were completed, and 10 more enlarged. See BR #9, March 3, 1980, pp. 5-6.

258. E.g. see Kenneth Lieberthal, "The Foreign Policy Debate in Peking as Seen Through Allegorical Articles, 1973-76" CQ #71, September, 1977, pp. 528-54.


260. Moreover the reappearance of many old Teng protégés and supporters (Hu Yao-pang, Chao Tzu-yang, Wang Jen-chung, Sung Jen-ch' iung, etc.) also reflects the importance of "factional" ties.

261. The leadership is, of course, not "united" in all respects. The February 1980 removal from the Politburo of four members makes this very clear. The military may well be dissatisfied with the share of resources it is receiving. Similarly, heavy industry (as mentioned in the Introduction) has recently experienced cuts
261. (continued) in allocation. However, the lack of vilification of the four Politburo members purged in February 1980, the quiet way in which the economic reevaluation of 1979 took place, and the attempts to rehabilitate proponents of "regularization" (Ch'en Yun, Po I-po, Hu Yao-pang, even Liu Shao-ch'i) lead one to believe that the leadership has been temporarily successful in reestablishing at least a minimal agreement about the rules of leadership conflict which does not include mass mobilization for support against one's opponents.

262. I have in mind such agencies as the Import/Export Commission, the commission to regulate foreign exchange and investment, the Agricultural Commission, and the Machine-Building Industry Commission, all created in 1978-80.
CONCLUSIONS

This dissertation has examined changes in the government administrative apparatus of the People's Republic of China in three spheres of key economic and political importance. As we have seen organization is an important element of Chinese economic and political life; government organizations play a central role in vital decision-making processes. Chinese government agencies are created to administer policy. Inherent in the process of implementation is discretion. In the early 1960's under Ch'en Cheng-jen, for example, the emphasis of the Ministry of Agricultural Machinery shifted from coordinating the local manufacture of semi-mechanized farm implements to the production of modern agricultural equipment in urban, centrally-run factories. Similarly, Yu Ch'iu-li's personality and work-style were reflected in the resistance of the Ministry of Petroleum to the inroads of the Cultural Revolution. The attention paid to Chinese government organs by political leaders attests to their importance as well. These organs not only control scarce and valued resources, including knowledge, expertise, personnel, money, technology and organization itself, but also serve as centers of personal power and networks for factionalistic relationships among China's political leaders. Consequently, as we have seen, bureaucratic reorganization has been, and remains, a highly volatile political issue. Changing
the structure of the government means shifting the pattern of control over resources, altering the relationship of political leaders to each other and to segments of society, and changing the process of policy formulation, legitimation and implementation. These changes create winners and losers, and generate conflict.

Changes in the structure of government, then, are costly in terms of time, money, morale and efficiency. Why have the Chinese been willing repeatedly to incur these costs? The answer to this question may be found by viewing organizational change as the output of a policy process in which a policy action (in this case, organizational redesign) is set into motion by political actors who perceive a "problem" in the "environment." As we have seen, it is useful to distinguish three environments. The "general external" environment consists of historical and cultural traditions; social, economic and political patterns; social resources; and random events. The "general internal" environment is composed of a polity's governing structures and processes, and the resources available to the leadership. The "specific" environment is comprised of previous policies, statements and actions, specific social and political traditions, relevant political structures and processes, and resources germane to the issue area or decision. The actions taken by political actors are both shaped by these environments, and contribute to reshaping them. Thus, in order to explain an instance of organizational change we must determine who the relevant political actors are, what their perceptions, interests and goals are, and what actions they take in the policy process. Shaping the perceptions of political actors within a common historical
and cultural tradition are differences in background, personality and experience, and in social, bureaucratic and political role.

A. Administration and Organization

We have seen in the previous case studies that the administrative responsibilities of leaders (who in many other respects disagreed over policy, position and goals) tended to unify those same leaders against other actors who's political roles did not include similar administrative chores. Thus, after 1959 Ch'en Cheng-jen was "co-opted" by his responsibilities as minister of agricultural mechanization; Chang Ch'un-ch'iao's outlook was radically altered when his role changed from "ideologue" to "administrator" of Shanghai in early 1967. Central leaders with administrative positions attempted to minimize the disruption of their agencies caused by attacks on regularized, bureaucratic processes. However, Liu Shao-ch'i apparently supported the Great Leap Forward in its early stages because he perceived that it would weaken the government apparatus but strengthen the role of the Party, for which he was responsible. Provincial leaders supported decentralization in 1957 because it promised to transfer power, authority and resources into their hands; some government leaders opposed decentralization because it would transfer those same resources away from them. In the same way, Chou En-lai, Yu Ch'iu-li and others attempted to shield their organizations and staff from Cultural Revolution attacks.

As a result of the different responsibilities and different perceptions of various leaders, organizational change can reflect the
political conflict between groups or leaders seeking to enhance (or preserve) their power or attempting to advance some policy, program or goal. However, western theorists of political development and organizational behavior have also described a series of "objective" causes of organizational change based on the process of modernization. This dynamic of development helps us explain the similar perceptions about organizations on the part of leaders who disagree along a variety of other dimensions. Modernization is said to be subject to the dictates of a number of technological and industrial imperatives of organization. Chief among these is the Weberian ideal of "rational authority" routinized within bureaucracies and characterized by specialization of functions; recruitment based on achievement; the use of universalistic criteria for placement, transfer and promotion; professionalism; and hierarchical organization. Organizational theorist Frederick Mosher, for example, argues that bureaucratic reorganizations arise "from a failure or partial failure of the organization to respond to the dynamics of new times in one or more of six dimensions." Political actors presiding over functional agencies tasked with administrative responsibilities all tend more and more to perceive their environment as necessitating this mode of development.

Organizational theorist Frederick Mosher, for example, argues that bureaucratic reorganizations arise "from a failure or partial failure of the organization to respond to the dynamics of new times in one or more of six dimensions." The first dimension he identifies is growth in size, workload or scope of agency. We have seen, particularly in the 1950's, that the growth in output of machinery led to the creation of a growing number of machine-building ministries, including ministries for electric power equipment and agricultural machinery. Moreover, the enlarged scope of machinery production and
the drive for military modernization in the late 1950's, led to a proliferation of military equipment ministries during the decade 1956-1965. Similarly, in the petrochemical sector, one reason for the organizational expansion of the 1970's appears to have been growth in workload and output.

The notion that growth leads to reorganization gives rise to an hypothesis suggested by the evidence in the foregoing case studies. If political considerations are momentarily "held constant," increased investment in a sector seems to result in an expansion of the bureaucracy dealing with that sector. This no doubt has to do with issues of divergence in technology and expertise (to be discussed below), but it is also a result of the problems inherent in inefficient over-expansion of the "span of control." While I have not systematically examined the sub-ministerial level of the Chinese bureaucratic structure, this hypothesis seems to hold up fairly well even at the gross level of the ministry.6

Growth, however, is arguably a response to other more important causative factors, one of which is Mosher's second dimension. Bureaucracies are reorganized as a response to "shifting problems and needs in the area of activity in which the agency is operating," or, put differently, to changes in the salience of various issue areas. Certainly the growth of the machinery sector in the 1950's was a response to the need for equipment for industrialization; increased priorities in the realms of electric power and agricultural machinery seems to have occasioned the creation of agencies overseeing these sectors. Likewise, the discovery of oil coincided with the breakdown of
Sino-Soviet cooperation. The clear need for energy sufficiency in the 1960's led to the establishment of a petroleum apparatus. In the same way, the need for foreign exchange in the 1970's (along with other factors) appears to have led to the recreation of a petroleum ministry. Two even clearer examples of reorganization as a response to changing needs and problems lie outside our case-studies. In late 1978 and 1979, after a decade of mediocre agricultural performance, the Fifth National People's Congress decided to increase agricultural output by an average annual rate of 4.3%. In order to facilitate this task, ministries for state farms and agricultural machinery were recreated. Moreover, a top-level coordinating agency, the State Agricultural Commission, was also established. In the same way, the upsurge in Chinese interest in foreign trade and foreign investment in China in 1978-80 led to the creation of three commissions: one to coordinate and regulate foreign investments, one to oversee the import-export trade, and one to administer customs.

Changes in the salience of issue areas during periods of concentration on economic growth appear, ceteris paribus, to occasion organizational proliferation. New agencies are formed to perform the newly-emphasized functions, but older obsolete agencies tend to hang on as well. Occasionally, these organizations are reduced to a lower level on the bureaucratic hierarchy, but they seldom disappear altogether. Even with the drastic cuts in the number of State Council organs and of the size of staff after the Cultural Revolution, the evidence seems to indicate "significant continuity and stability at the bureau level."
If sectoral growth and changing sectoral salience help to explain reorganization, so too do changes in the role of the government or changes in the distribution of power among levels or branches of government. Thus, despite the fact that governmental control over the economy in the 1950's was in some respects increasing, the role of the central government contracted in 1958 with the decentralization of many functions to lower levels. As a result, we observed a shrinking of the central apparatus administering the machinery sector. By contrast, in the late 1960's, the relationship between branches of "government" changed; the scope of Party and state organs was reduced while the domestic involvement of the military increased. Simultaneously, provincial levels again assumed a greater burden with respect to administration. In the railroad sphere this meant the virtual disappearance of the ministry; in the fuels sector it meant the merger of three ministries into one.

A fourth dimension of reorganization is the effect of the development of new technology, new kinds of equipment and new knowledge. Two obvious examples of this stand out in our case studies. In the 1950's the development of a military-industrial capability (particularly in the nuclear realm) was the result of the acquisition of new technology, equipment and expertise. Development of this capability was no longer compatible with the techniques of mass-mobilization, small-scale production and reconversion of civilian machinery factories. The need for organizational separation, arising out of technological divergence, was exacerbated by industrial growth and changing needs and problems, including the breakdown of Sino-Soviet cooperation
and the budgetary problems of 1956 and 1960-62. Perhaps a more clear-cut case of reorganization subsequent to technological divergence is in the fuels sector. The development and acquisition of new techniques of exploitation and transport in the coal and petroleum industries made their control by a single agency less and less appropriate.

A fifth, and related, cause of reorganization is the changing qualifications of personnel. The establishment of a ministry to oversee the development of nuclear weapons at least in part represents the increase in trained scientists, engineers and technicians returning from socialist bloc schools and from the joint research institute at Dubna. Similarly, the creation of a ministry of geology in 1952 represented the increase in resources (human, technical and financial) directed to a politically determined priority.

The evidence from the above-detailed case studies with respect to technology and expertise suggests two related hypotheses. First, all other things being equal, the acquisition of advanced technology, whether generated through import or through domestic development, generally seems to lead to organizational proliferation. Higher technology necessitates greater specialization, more education, and greater coordination for effective application. As a result, in order to maximize its benefits, there is a tendency for the political leadership to centralize control over economic sectors which are technology-intensive. Thus, high technology plants were specifically exempted from the decentralization of 1957-8; scientific and military research programs were intended to be insulated against the effects of the Cultural Revolution. Furthermore, increases in the level of technological
sophistication lead to greater technological divergence between related economic activities like the manufacture of fuels. The result has been organizational proliferation through the creation of new agencies or the splitting of old ones. This same process can be expected to continue as China raises her level of technology.

In a sense, the five reasons for reorganization given so far are all subsumed in the Chinese case under Mosher's sixth dimension:

Finally, organizational obsolescence may arise from actions taken by higher echelons of a department or government or by higher levels of government. These may take the form of basic policy and program changes or of reorganizations, initiated and sometimes enforced from above, which make the current structure obsolescent in terms of the total organizational context.10

The kinds of organizational changes examined in this dissertation were all imposed by "higher echelons." They were all, however, the centers of political controversy between leaders who differed in their perceptions of the environment, of the "problems" generated within that environment, and of the solutions appropriate to solving those problems. Moreover, differences in background, bureaucratic affiliations and responsibilities meant that these leaders differed to a greater or lesser degree with respect to their interests and goals in governmental reorganization.

B. Mao and Organization

Mao, and a succession of coalitional colleagues who possessed no administrative responsibilities, were less sensitive to bureaucratic dynamics than were those leaders with organizational tasks and functions to perform. Mao has elsewhere been characterized as
I disagree with this analysis. Mao was instrumental in building the Communist Party in China, an archetype of organization. He played a central role in establishing an elaborate governmental structure in the People's Republic of China. Moreover, he ultimately came to a showdown with his chosen successor, Lin Piao, at least partly over the issue of rebuilding the Party organization he himself had destroyed during the Cultural Revolution. Mao was not "anti-institutional" or "anti-organizational"; in fact, I would argue that Mao was not opposed to bureaucracy per se. What Mao rejected was the aberrations of "bureaucratism" and "commandism." He struggled to assure that necessary organizations, and their personnel, avoided such "evils." Rejecting the idea that modernization was an impersonal historic force, Mao was more comfortable with the notion that modernization is a "conscious project or consciously entertained goal" of men. In other words, the dynamics of development could be influenced, even determined, by the actions and will of man.

Within this cognitive framework, Mao recognized that the Weberian pattern of political and organizational development contributed to "economic rationality" and to economic growth and productivity. However, he argued that development solely along these lines entailed unacceptable social and political costs:

Maoists recognize that material abundance is made possible by large-scale technology and a sweeping division of labor. But they argue that if industry is allowed to follow its own logic - if technological expansion and economic growth become exclusive objectives to which others are sacrificed, and if politics is kept from interfering with the inner imperatives and "self-evident success" of industrial
development, then men will find themselves deprived of effective freedom...Men must, therefore, be freed not only from the necessity of eking out a living and finding the means of subsistence, but also from the imperatives of technology.13

For Mao, "economic rationality" had no meaning without a concomitant social and political "rationality."14

The tenor of Mao's major pronouncements on the subject of bureaucracy is that organizations are necessary, but rigorous efforts are needed to see that they do not become swollen with a "new class" of privileged cadres divorced from the masses, "conceited, complacent...subjective and one-sided," who proliferate more and bigger offices which exist at the expense of the workers and peasants.15 Consequently, Mao periodically called for a trimming of bureaucratic personnel and for a reduction in the number of ministries.16 He expected the remaining bureaucrats to engage in the "mass-line" style of leadership, to participate in physical labor in order to "remain close to the masses," to remain selfless, and to be responsive both to initiatives from below and to expectations from above.17

Nevertheless, Mao recognized that different levels of organization have different tasks and needs, and consequently operate under somewhat different circumstances.18 During the 1960's, and again in the 1970's, the Chairman singled out both the Ta-ch'ing oil field and the Ministry of Petroleum as models for others to follow. However, the elements of the models were somewhat different. Ta-ch'ing, as the appropriate model for "local peripheral" activity is characterized by hard work; self-sufficiency; independence; labor discipline coupled with worker participation in innovation, planning and management; and
the optimal use of the best technology available to the unit.

In all of these ways, Taching is used as an industrial model to illustrate the organization of production in the local periphery. The style of organization...differs substantially from the style of organization which is appropriate at the level of government planning in the energy industry.19

For Mao, the appropriate model for central bureaucracies involved "high aggregate capabilities" of organizational infrastructure and an "organizational style of tight central planning"20 combined with a "down to earth" leadership work-style composed of frequent on-sight investigation and personal inspection.21

C. Politics and Organization in China

If Mao cannot be characterized as unconditionally anti-institutional, neither can his leadership colleagues be seen as unified in their views, interests or goals. Mao's administrative opponents varied from advocates of a more market-like economic system such as Ch'en Yun and Teng Tzu-hui, to strong believers in central control like Po I-po, to proponents of regional or provincial "autonomy" such as P'eng Chen and Kao Kang. Some of these leaders had primarily Party responsibilities (Liu Shao-ch'i; in the early 1950's, Teng Hsiao-p'ing), while some held government office (Chou En-lai, Ch'en Yun, Po I-po, Li Fu-ch'un). Some had regional affiliations like T'ao Chu, and some, like Lin Piao, P'eng Te-huai and Yeh Chien-ying held military positions. Moreover, all came from different backgrounds and belonged to different networks of personal alliance. As a result, each leader had a different perception of the "general external" environment, a different role in the "general internal"
environment, and somewhat different interests in the specifics of any organizational change.

Thus, in 1955 we see that Mao's perceptions of China's agricultural problem diverged from the perceptions of economic planners like Ch'en Yun and Po I-po, and of agricultural administrators like Teng Tzu-hui and Liao Lu-yen. Mao envisioned the solution to sluggish growth of agricultural output in terms of a transformation of the socio-political patterns in China's countryside through collectivization. The administrators looked for a solution to the same problem in the realm of economic changes. Those responsible for agricultural production (Teng Tzu-hui, Liao Lu-yen) wanted to see a smooth process of agricultural mechanization without social upheaval. Liu Shao-ch'i, responsible for political control through the Party, also wished to see social disruption in the countryside kept to a minimum. Similarly, Po I-po, in charge of the administration of heavy industry, wished to minimize investment in agriculture and to preserve rural social order, allowing the villages to "muddle through" while China industrialized. Ch'en Yun, an economic planner interested in maximizing revenue for investment, was more concerned with the increased ability of the state to extract agricultural surplus, and thus supported rapid collectivization. That most of Mao's colleagues with administrative responsibilities perceived and defined China's problems differently than did the Chairman is most clearly shown by the transformation of two of Mao's supporters. Teng Hsiao-p'ing had served as one of Mao's most vocal supporters at the 1956 Eighth Party Congress. However, having assumed a greater and greater administrative burden for the day to day operations
of the Party through his position as general-secretary, he more and more diverged from Mao in perception and policy. Similarly, Ch'en Cheng-jen had "represented" Mao on the Party Central Committee's Rural Works Department as an ideological "watch dog." When he assumed the responsibility for administering the agricultural mechanization program in 1959 he began to move away from Mao's position and into the camp of the "bureaucrats." As a result, between 1955 and 1958 Mao was forced to seek support from politicians outside of the central leadership. In 1955 he appealed to provincial Party and government leaders; in 1957-8 he sought support among district commune and brigade-level cadres.

By 1959-60 all segments of the leadership agreed that elements of the Great Leap Forward strategy had failed. Moreover, Mao and many of his central colleagues agreed that one source of agricultural failure was the lack of farm equipment and machinery. However, they disagreed about what kinds of equipment were needed and how to provide them. Mao's concern with mobilization and participation led him to emphasize rural small-scale industry and semi-mechanization. To coordinate these, he insisted on the creation of a ministry of agricultural machinery. Considerations of "economic rationality," however, resulted in the conversion of the ministry by its administrators into an agency for the large-scale, centralized manufacture of modern farm equipment.

The economic and financial stringency of the "three hard years" from 1960 to 1962 led to greater centralization of economic control. Economic and political administrators viewed regularized, specialized processes of bureaucratic administration as the rational method of
solving China's problems. Mao, on the other hand, emphasized the social and political consequences of "bureaucratism" and "commandism." Once the immediate danger of economic collapse had passed, he began to push for policies to alleviate those consequences. By 1962-65, however, he was facing a Politburo almost united in its opposition to disruption of smooth administration. Moreover, the provincial and commune-level cadres on whom he had previously relied for support were disillusioned by the effects of the Great Leap Forward and by their subsequent treatment in the Socialist Education Movement. Having failed to solve China's social problems by steady pressure and incremental means, the only way Mao could circumvent his growing and solidifying opposition was to broaden the arena of conflict by mobilizing wider and wider segments of the population. Each instance of including new elements into the articulation process fundamentally altered the political patterns of the "general external" environment. The mobilization of non-Party, non-elite social segments in the Cultural Revolution, like we saw in the railroad and coals sectors, meant that leadership struggles in the 1970's were again, if in somewhat muted form, fought in the trenches of the public press, the factory and the farm. The attempts of the Politburo's "radical" wing to disrupt foreign trade and to create chaos on the rails show the effects of the introduction of the "masses" into meaningful political articulation. The rapidity with which those "radical" elements were purged following Mao's death exemplifies the unity with which China's Party, state and military administrators favor regularization. Nevertheless, widespread reports of imprisonments and executions of followers of
the "gang of four" after 1976 bear evidence to the fact that disgruntled elements of society continue to harbor, and to articulate, political and economic grievances. Peasants holding "sit-down strikes" in front of the Chung-nan-hai homes of Politburo leaders, and dissidents displaying posters on "democracy wall" would have been most unlikely without Mao's injunction a decade before to "Bombard the Headquarters." For years the Chinese bon mot has had it that the Cultural Revolution mei yu wen-hua, mei yu ko-ming (has neither culture nor revolution). One author has proposed that the mobilization of new segments of society to meaningful political activity, activity that helps shape the choices of the leadership and that fundamentally transforms the dynamics of politics, constitutes revolution. While the Cultural Revolution mei yu wen-hua, in an important sense it was a revolution.

D. Organization and Politics in the Post-Mao Era

If the continuing conflict in China between the need for specific, autonomous organizational structures to perform needed functions, and Mao's pursuit of the goals of equality, participation and social justice fundamentally transformed elements of the "general external" and "general internal" environments, how do we explain the almost diametrical turn-around of the post-Mao leadership?

Beginning within weeks of the death of Mao, codified by the decisions of the Fifth National People's Congress, and finalized by the Fifth Plenum of the Chinese Communist Party's Eleventh Central Committee in February 1980, the post-Mao leadership has firmly settled on the priority of economic development over Maoist concerns despite
apparent social costs and public unrest. One way this can be understood is through examining the nature of politics in the transition from pre-industrial to post-industrial society, and the relationship between "Marxism-Leninism-Mao Tse-tung Thought" and economic administration.

It is well known that Marx expected and predicted the emergence of socialism, and later communism, in societies that had attained high levels of aggregate capability, high productivity, and abundance by means of industrialization. It is equally well known that, impatient for revolution within their own pre-industrial societies, Lenin and Mao modified Marx's theories to fit the conditions of their revolutionary ambition. While the particular circumstances of post-revolutionary Russia make it impossible to be certain how Lenin would have rectified this discrepancy, Mao sought throughout his life to effect the creation of socialism, and even communism, in the absence of the necessary objective economic conditions set down by Marx. Although based on questionable assumptions about the nature of man and the dynamics of economics, Marx's thinking provided a trenchant criticism of the capitalist system of his day, and a prescient view of some elements of post-industrial (and post-capitalist) society. According to Taketsugu Tsurutani, "In industrial society, whatever its political arrangement and ideological configuration may be, the primary object of general public concern and political struggle is the benefits (income and wealth and what they afford), and not the costs of economic advance and industrial growth."26 Issues like distribution of costs and benefits of growth are over shadowed by the goal of expanding the sum total
of goods and services. Industrialism "is growth-oriented, and growth is equated with progress, and progress is universally regarded as desirable for man and society." Mao, shaped by his background and experiences, and by his lack of administrative responsibilities, however, perceived his environment differently. By maintaining a strong commitment to the realization of his ideological, revolutionary social goals, he artificially forced a system of post-industrial concerns on a society still in the phase of transition from pre-industrialism to industrialism. As a result, as China more and more closely approximated the stage of industrialism, this contradiction became more and more acute. It is no accident, then, that Chinese officials responsible for various aspects of economic, political and military administration more clearly recognized this dilemma than did leaders with diffuse responsibilities in the fields of ideology and propaganda.

The shift to the politics of industrial society also explains the general nature of social cleavage in China:

The division...characteristic of industrial society is in terms of common interests peculiar to economic and occupational differences. On the surface, the most visible...division of society is one between haves and have-notes, between the rich and the poor, between the bourgeoisie and the proletariat...This apparent division in industrial society, however, conceals the more important fact of segmentation especially within the proletariat. The proposition or fact that workers are variously exploited by their socioeconomic superiors does not lead to the conclusion that they are united or unitable. In fact, they are not. The main reason for this is that workers, grouped in terms of income and occupational differences, are engaged in competition among themselves as much as in struggle against their common "enemies," i.e. the haves.

If the politics of post-industrial society is characterized by "politicization of the costs of modern industrialism," the striving
on the part of socially and economically marginal groups for equality and status, the intensification of political action for the sake of expression, and the widening of the arena of issues subject to political action, then Mao, in an important respect, was ahead of his time. His successors have clearly and consciously, if perhaps only temporarily, opted for the political and economic concerns of an industrial society. Economic growth, not redistribution; productivity, not participation; "equity," not "equality" are the policies of the current leadership. These policies create winners and losers. Industrialization provides immediate benefits to some groups, immediate costs to others. There is abundant evidence that many of China's citizens are beginning to ask why the last thirty years of "socialism" have brought neither abundance nor equality. Thus, it remains to be seen if the effects of Mao's political actions in changing the Chinese environment can be shunted aside as easily as has been the record of his legacy and ideals.
NOTES


2. Harry Harding argues convincingly that central proponents of a "professional" form of administration supported decentralization because it would detract from the power of "bureaucrats," while adding to the power of "experts." The Organizational Issue in Chinese Politics, 1959-72. Unpublished Ph.D. Dissertation, Stanford University, 1974. See also Chapter Two above.


6. It is, however, possible that when a ministry is abolished its personnel retain their jobs in a sub-ministerial unit of some other bureaucracy, or are transferred to other bureaucratic jobs. Evidence on the "sending down" of cadres from the First Ministry of Machine-Building in 1958 provided in Chapter Two indicates that this is not always the case. Similarly, in 1970 Chou En-lai reported that the number of central government cadres was down to 10,000 from a pre-Cultural Revolution high of 60,000 (cited in Audrey Donnithorne, "China's Cellular Economy," in China Quarterly #52, October-December, 1972, p. 605). This makes it unlikely that organizational reduction in the early 1970's was not accompanied by staff reduction in most agencies as well. On the "span of control" issue see Downs, op.cit., pp. 132-57; Harding, op.cit., p. 68; and Peter Blau and W. R. Scott, Formal Organizations. San Francisco: Chandler Publishing Company, pp. 167-72.
7. Similarly, the former joint ministry of agriculture and forestry was split into separate ministries of agriculture and forestry; the former ministry of water conservancy and electric power was split into ministries of water conservancy and electric power. The reestablishment of the ministry of state farms came in June 1979. See *Beijing Review* (hereafter BR) #24, June 15, 1979, p. 3. The other changes had occurred at the sixth meeting of the Standing Committee of the Fifth National People's Congress (NPCSC) in February 1979. See BR #9, February 23, 1979.

8. At 10th session of NPCSC in July 1979. See BR #32, August 10, 1979, p. 2. On the customs agency (actually a "General Administration") see BR #9, March 3, 1980, pp. 7-8. In the same way, the 13th session of the NPCSC in February 1980 established a Machine-Building Industry Commission, with Po I-po in charge, in order "to strengthen unified leadership" over the sector. BR #8, February 25, 1980, p. 5. For an example of the problems in that sector that led to the establishment of this commission see "First Ministry of Machine Building to be Reorganized," *Foreign Broadcast Information Service* Chi78-129, July 5, 1979, pp. E14-15.


10. Mosher, "Some Notes...," pp. 136-7. Mosher is addressing both reorganizations within a single agency and within the governmental context as a whole, hence some confusion between his purposes and mine.


18. The following argument draws heavily from Kim Woodard's intriguing article, "People's China and the World Energy Crisis: The Chinese Attitude Toward Global Resource," in Bryant Garth, ed., China's Changing Role in the World Economy. NY: Praeger, 1975, as well as my earlier discussion of the Ta-ch'ing model. See also Woodard,
18. (continued)
   The International Energy Policies of the People's Republic of
   China. Unpublished Ph.D. Dissertation, Stanford University,


20. Ibid., p. 132.

21. As with Yu Ch'iu-li discussed in Chapter Four. It is interesting
   to note also, when viewing Mao as "anti-institutional," that many
   of his complaints against "bureaucratic and commandist" styles
   of leadership and "aberrations" of bureaucratic life not only
   reflect the thinking of many Western organizational theorists,
   but the critique of American citizens and politicians as well.
   See, for example, Blau and Scott, op.cit., p. 148; Bardach's dis­
   cussion of incentives and deterrence in bureaucracy in Chapter Five
   of Bardach, op.cit., pp. 114-24; and Mosher, "Participation and
   Reorganization," in Mosher, ed., op.cit.

22. See Richard Baum and Frederick Teiwes, Ssu-ch'ing. Berkeley:
   University of California, 1968; C. S. Chen and C. P. Ridley, eds.,
   Rural People's Communes in Lien-chiang. Stanford: Hoover Insti­
   ceived a "different reality" than his colleagues is well summed
   up by Harding (op.cit., p. 161) when he says that by 1964-5, in
   the implementation of the Socialist Education Movement, for "Mao,
   the masses represented the solution; to the Party, they were part
   of the problem."

23. E.g. hsia fang, "squatting at a point," management participation
   in labor, etc. See Rensselaer Lee, "The Hsia Fang System: Marx­
   ism and Modernization," China Quarterly #28, October-December,
   1966; Andors, op.cit.; Harding, op.cit., pp. 113-62. See also
   Mao's January 29, 1965 "Instruction on Comrade Ch'en Cheng-jen's
   Report on Squatting at One Point," in Mao Tse-tung Ssu-hsiang

24. E.g. see Reuters, "Political Strife Reported in China," Christian
   Science Monitor (hereafter CSM), November 2, 1977; Linda Matthews,
   "China's Peasants Don't Always Walk the Party Line," Bergen Even­
   ning Record (N.J.), June 4, 1978; "China: Torture in 'Virtue For­
   est'," Newsweek, May 21, 1979; Political Imprisonment in the
   lications, 1978; and the documents and reports on the 11th Central
   Committee's Fifth Plenum, which debated and decided to abolish
   the right to display "big character posters," in BR #10, March 10,
   1980.


27. Tsurutani, op.cit., p. 49.


29. Tsurutani, op.cit., p. 35.

30. Ibid., pp. 47-57.


APPENDIX

State Council, 1949-79

1949

Premier: Chou En-lai
Vice Premiers: Tung Pi-wu, Ch'en Yun, Kuo Mo-jo, Huang Yen-p'ei

General Offices:
Political/Legal Affairs: Tung Pi-wu
Finance/Economics: Ch'en Yun
Culture/Education: Kuo Mo-jo
People's Supervision: T'an P'ing-shan

Ministries:

1. Agriculture: Li Shu-ch'eng
2. Communications: Chang Po-chun
3. Culture: Shen Yen-p'ing
4. Education: Ma Hsu-lun
5. Finance: Po I-po
6. Food: Yang Li-san
7. Foreign Affairs: Chou En-lai
8. Forestry and Land Reclamation: Liang Hsi
9. Fuels: Ch'en Yu
10. Heavy Industry: Ch'en Yun
11. Interior: Hsieh Chueh-tsai
12. Justice: Shih Liang
13. Labor: Li Li-san
14. Light Industry: Huang Yen-p'ei
15. Posts and Telecommunications: Chu Hsueh-fan
16. Public Health: Li Te-ch'uan
17. Public Security: Lo Jui-ch'ing
18. Railroads: T'eng Tai-yuan
19. Textiles: Tseng Shan
20. Trade: Yeh Chi-chuang
21. Water Conservancy: Fu Tso-i

Commissions:

1. Legal Codification: Ch'en Shao-yu
2. Nationalities Affairs: Li Wei-han
3. Overseas Chinese Affairs: Ho Hsiang-ning
1950

Same as 1949 except:
1. Ministry of Food Industry (abolished)
2. Ministry of Personnel: An Tzu-wen (added)
3. Li Fu-ch'un appointed Minister of Heavy Industry

1951

Same as 1950 except for:
1. Ministry of Forestry and Land Reclamation renamed Ministry of Forestry.
2. Hsu Te-heng identified as acting Chairman of Legal Codification Commission.
1952

Premier: Chou En-lai   Vice Premiers: Tung Pi-wu, Ch'en Yun, Kuo Mo-jo, Huang Yen-p'ei, Teng Hsiao-p'ing

General Offices:
   Political/Legal Affairs: Tung Pi-wu
   Finance/Economics: Ch'en Yun
   Culture/Education: Kuo Mo-jo
   People's Supervision: T'an Ping-shan

Ministries:
1. Agriculture: Li Shu-ch'eng
2. Building Construction: Ch'en Cheng-jen
3. Commerce: Tseng Shan
4. Communications: Chang Po-chun
5. Culture: Shen Yen-p'ing
6. Education: Chang Hsi-jo
7. Finance: Po I-po
8. Food: Chang Nai-ch'i
9. Foreign Affairs: Chou En-lai
10. Foreign Trade: Yeh Chi-chuang
11. Forestry: Liang Hsi
12. Fuels: Ch'en Yu
13. Geology: Li Szu-kuang
14. Heavy Industry: Wang Ho-shou
15. Higher Education: Ma Hsu-lun
16. Interior: Hsieh Chueh-tsai
17. Justice: Shih Liang
18. Labor: Li Li-san
19. Light Industry: Huang Yen-p'ei
20. First Machine Building: Huang Ching
22. Personnel: An Tzu-wen
23. Posts and Telecommunications: Chu Hsueh-fan
24. Public Health: Li Te-ch'uan
25. Public Security: Lo Jui-ch'ing
26. Railroads: T'eng Tai-yuan
27. Textiles: Chiang Kuang-nai
28. Water Conservancy: Fu Tso-i

Commissions:
1. Legal Codification: Hsu Te-heng (act.)
2. Nationalities Affairs: Li Wei-han
3. Overseas Chinese Affairs: Ho Hsiang-ning
4. Commission to Eliminate Illiteracy: Ch'u T'u-nan
5. Physical Culture and Sport: Ho Lung

1953

Same as 1952.
1954

Premier: Chou En-lai  Vice Premiers: Ch'en Yun, Lin Piao, P'eng Te-huai, Teng Hsiao-p'ing, Teng Tzu-hui, Ho Lung, Ch'en Yi, Ulanfu, Li Fu-ch'un, Li Hsien-nien.

General Offices:
#1 (Public Security, Internal Affairs, Justice, Supervision):
   Lo Jui-ch'ing
#2 (Culture, Education, Science, Higher Education):
   Lin Feng
#3 (Heavy Industry, Construction, Machines, Fuels, Geology):
   Po I-po
#4 (Light Industry, Textiles, Local Industry, Handicrafts):
   Chia T'o-fu
#5 (Finance, Trade, Food):
   Li Hsien-nien
#6 (Transportation, Communications):
   Wang Shou-tao
#7 (Agriculture, Forestry, Water Conservation):
   Teng Tzu-hui
#8 (United Front Affairs):
   Li Wei-han

Ministries:
1. Agriculture: Liao Lu-yan
2. Building Construction: Liu Hsiu-feng
3. Commerce: Tseng Shan
4. Communications: Chang Po-chun
5. Culture: Shen Yen-p'ing
6. Education: Chang Hsi-jo
7. Higher Education: Yang Hsiu-feng
8. Finance: Teng Hsiao-p'ing/ Li Hsien-nien
9. Food: Chang Nai-ch'i
10. Foreign Affairs: Chou En-lai
11. Forestry: Liang Hsi
12. Fuels: Ch'en Yu
13. Geology: Li Szu-kuang
14. Heavy Industry: Wang Ho-shou
15. Interior: Hsieh Chueh-tsai
16. Justice: Shih Liang
17. Labor: Li Li-san/Ma Wen-ju
18. Light Industry: Huang Yen-p'ei/ Chia T'o-fu
19. Local Industry: Sha Ch'ien-li
20. First Machine Building: Huang Ching
22. National Defense: P'eng Te-huai
23. Post and Telecommunication: Chu Hsueh-fan
24. Public Health: Li Te-ch'uan
25. Public Security: Lo Jui-ch'ing
26. Railroads: T'eng Tai-yuan
27. Supervision: Ch'ien Ying
28. Textiles: Chiang Kuang-nai
29. Foreign Trade: Yeh Chi-chuang
30. Water Conservancy: Fu Tso-i

Commissions:
1. State Planning: Li Fu-ch'un
2. State Construction: Po I-po
3. Physical Culture and Sports: Ho Lung
4. Nationalities Affairs: Ulanfu
5. Overseas Chinese Affairs: Ho Hsiang-ning
1955

Premier: Chou En-lai  Vice Premiers: Ch'en Yun, Lin Piao,
P'eng Te-huai, Teng Hsiao-p'ing,
Teng Tzu-hui, Ho Lung, Ch'en Yi,
Ulanfu, Li Fu-ch'un, Li Hsien-nien

General Offices: (Same as 1954)

Ministries:

1. Agriculture: Liao Lu-yen
2. Purchase of Agricultural Supplies: Yang Yi-ch'en
4. Coal: Ch'en Yu
5. Commerce: Tseng Shan
6. Communications: Chang Po-chun
7. Culture: Shen Yen-p'ing
8. Education: Chang Hsi-jo
9. Higher Education: Yang Hsiu-feng
10. Electric Power: Liu Lan-po
11. Finance: Li Hsien-nien
12. Food: Chang Nai-ch'i
13. Foreign Affairs: Chou En-lai
14. Forestry: Liang Hsi
15. Geology: Li Szu-kuang
16. Heavy Industry: Wang Ho-shou
17. Interior: Hsieh Chueh-tsai
18. Justice: Shih Liang
19. Labor: Ma Wen-jui
20. Light Industry: Chia T'o-fu
21. Local Industry: Sha Ch'ien-li
22. First Machine Building: Huang Ching
23. Second Machine Building: Chao Erh-lu
24. Third Machine Building: Chang Lin-chih
26. Petroleum: Li Chu-k'uei
27. Post and Telecommunication: Chu Hsueh-fan
28. Public Health: Li Te-chuan
29. Public Security: Lo Jui-ch'ing
30. Railroads: T'eng Tai-yuan
31. Supervision: Ch'ien Ying
32. Textiles: Chiang Kuang-nai
33. Foreign Trade: Yeh Chi-chuang
34. Water Conservancy: Fu Tso-i

Commissions: (Same as 1954)
1956

Premier: Chou En-lai         Vice Premiers: (Same as 1955)

General Offices: (Same as 1954 and 1955)

Ministries:

1. Agriculture: Liao Lu-yen
2. Aquatic Products: Hsu Te-heng
4. Building Materials: Lai Chi-fa
5. Chemicals: P'eng T'ao
6. Coal: Ch'en Yu
7. Commerce: Tseng Shan/Ch'en Yun
8. Communications: Chang Po-chun
9. Culture: Shen Yen-ping
10. Education: Chang Hsi-jo
11. Higher Education: Yang Hsiu-feng
12. Electric Power: Liu Lan-po
13. Finance: Li Hsien-nien
14. Food: Chang Nai-ch'i
15. Food Industry: Li Chu-ch'en
16. Foreign Affairs: Chou En-lai
17. Forestry: Liang Hsi
18. Geology: Li Szu-kuang
19. Interior: Hsieh Chueh-tsai
20. Justice: Shih Liang
21. Labor: Ma Wen-jui
22. Light Industry: Sha Ch'ien-li
23. First Machine Building: Huang Ching
25. (New) Third Machine Building: Sung Jen-ch'iung
26. Metallurgy: Wang Ho-shou
27. National Defense: P'eng Te-huai
28. Petroleum: Li Chu-k'uei
29. Post and Telecommunication: Chu Hsueh-fan
30. Power Equipment: Chang Lin-chih
31. Public Health: Li Te-ch'uan
32. Public Security: Lo Jui-ch'ing
33. Railroads: T'eng Tai-yuan
34. State Farms and Land Reclamation: Wang Chen
35. Supervision: Ch'ien Ying
36. Textiles: Chiang Kuang-nai
37. Timber Industry: Lo Lung-chi
38. Foreign Trade: Yeh Chi-chuang
39. Urban Construction: Wan Li
40. Urban Services: (?)
41. Water Conservancy: Fu Tso-i

Commissions:

1. State Planning: Li Fu-ch'un
2. State Construction: Wang Ho-shou
3. State Economic: Po I-po
4. National Technological: Huang Ching
5. Scientific Planning: Ch'en Yi
6. Physical Culture and Sports: Ho Lung
7. Nationalities Affairs: Ulanfu
8. Overseas Chinese Affairs: Ho Hsiang-ning
1957

Same as 1956 except:
1. Minister of Coal: Chang Lin-chih (9/57)
2. Chairman, Scientific Planning Committee: Nieh Jung-chen (5/57)
3. Added: National Price Commission (7/57)
1958

Premier: Chou En-lai  
Vice Premiers: (Same as 1957)

General Offices:

#1 (Public Security, etc.): Lo Jui-ch'ing
#2 (Culture, Education, etc.): Lin Feng
#3 (Heavy Industry): Po I-po
#4 (Light Industry): Chia T'o-fu

Ministries:

1. Agriculture: Liao Lu-yen
2. Aquatic Products: Hsu Te-heng
4. Chemicals: P'eng T'ao
5. Coal: Chang Lin-chih
6. Commerce #1: Cheng Tzu-hua
7. Commerce #2: Yang I-ch’en
8. Communications: Wang Shou-tao
9. Culture: Shen Yen-ping
10. Education: Yang Hsiu-feng
11. Finance: Li Hsien-nien
12. Food: Sha Ch'ien-li
13. Foreign Affairs: Ch'en Yi
14. Forestry: (vacant)
15. Geology: Li Szu-kuang
16. Internal Affairs: Haieh Chueh-tsai
17. Justice: Shih Liang
18. Labor: Ma Wen-jui
19. Light Industry: Li Chu-ch'en
20. First Machine Building: Chao Erh-lu
22. Metallurgy: Wang Ho-shou
24. Petroleum: Yu Ch'iu-1i
25. Post and Telecommunication: Chu Hsueh-fan
26. Public Health: Li Te-ch'uan
27. Public Security: Lo Jui-ch'ing
28. Railroads: T'eng Tai-yuan
29. State Farms and Land Reclamation: Wang Chen
30. Supervision: Ch'en Ying
31. Textiles: Chiang Kuang-nai
32. Foreign Trade: Yeh Chi-chuang
33. Water Conservancy and Electric Power: Fu Tso-i

Commissions:

1. Planning: Li Fu-ch'un
2. Economic: Po I-po
3. Physical Culture: Ho Lung
4. Nationalities: Ulanfu
5. Overseas Chinese: Ho Hsiang-ning
6. Cultural Relations with Foreign Countries: Chang Hsi-jo
7. State Capital Construction: Ch'en Yun
8. Scientific and Technological: Nieh Jung-chen
1959

Premier: Chou En-lai

Vice Premiers: Ch'en Yun, Lin Piao, P'eng Te-huai, Teng Hsiao-ping, Teng Tzu-hui, Ho Lung, Ch'en Yi, Ulanfu, Li Fu-ch'un, Li Hsien-nien, Nieh Jung-chen, Po I-po, T'an Chen-lin, Lu Ting-yi, Lo Jui-ch'ing, Hsi Chung-hsun.

General Offices: (9/16/59 the offices were reorganized and renamed)
Political and Legal Affairs: Hsieh Fu-chih
Culture and Education: Chang Chi-ch'un
Industry and Communications: Li Fu-ch'un
Finance and Trade: Li Hsien-nien
Agriculture and Forestry: Teng Tzu-hui
Foreign Affairs: Ch'en Yi

Ministries: (Ministerial reorganization took place 4/28; a number of appointments were made in 9/59)

<table>
<thead>
<tr>
<th>1. Agriculture:</th>
<th>Liao Lu-yen</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Agricultural Machinery:</td>
<td>(8/59) Ch'en Cheng-jen</td>
</tr>
<tr>
<td>3. Aquatic Products:</td>
<td>Hsu Te-heng</td>
</tr>
<tr>
<td>5. Chemicals:</td>
<td>P'eng T'ao</td>
</tr>
<tr>
<td>6. Coal:</td>
<td>Chang Lin-chih</td>
</tr>
<tr>
<td>7. Commerce:</td>
<td>Cheng Tzu-hua</td>
</tr>
<tr>
<td>8. Communications:</td>
<td>Wang Shou-tao</td>
</tr>
<tr>
<td>9. Culture:</td>
<td>Shen Yen-ping</td>
</tr>
<tr>
<td>10. Education:</td>
<td>Yang Hsiau-feng</td>
</tr>
<tr>
<td>11. Finance:</td>
<td>Li Hsien-nien</td>
</tr>
<tr>
<td>12. Food:</td>
<td>Sha Ch'ien-li</td>
</tr>
<tr>
<td>13. Foreign Affairs:</td>
<td>Ch'en Yi</td>
</tr>
<tr>
<td>15. Geology:</td>
<td>Li Szu-kuang</td>
</tr>
<tr>
<td>16. Interior:</td>
<td>Ch'ien Yung</td>
</tr>
<tr>
<td>17. Labor:</td>
<td>Ma Wen-jui</td>
</tr>
<tr>
<td>18. Light Industry:</td>
<td>Li Chu-ch'en</td>
</tr>
<tr>
<td>19. First Machine Building:</td>
<td>Chao Erh-lu</td>
</tr>
<tr>
<td>23. Petroleum:</td>
<td>Yu Ch'iu-li</td>
</tr>
<tr>
<td>24. Post and Telecommunication:</td>
<td>Chu Hsueh-fan</td>
</tr>
<tr>
<td>25. Public Health:</td>
<td>Li Te-ch'uan</td>
</tr>
<tr>
<td>27. Railroads:</td>
<td>T'eng Tai-yuan</td>
</tr>
<tr>
<td>28. State Farms and Land Reclamation:</td>
<td>Wang Chen</td>
</tr>
<tr>
<td>29. Textiles:</td>
<td>Chiang Kuang-nai</td>
</tr>
<tr>
<td>30. Foreign Trade:</td>
<td>Yeh Chi-chuang</td>
</tr>
<tr>
<td>31. Water Conservation and Electric Power:</td>
<td>Fu Tso-i</td>
</tr>
</tbody>
</table>

Commissions:

| 1. State Planning: | Li Fu-ch'un |
| 2. State Economic: | Po I-po |
| 3. State Capital Construction: | Ch'en Yun |
| 4. Scientific and Technological: | Nieh Jung-chen |
| 5. Physical Culture: | Ho Lung |
| 6. Nationalities Aff.: | Ulanfu |
| 7. Overseas Chinese: | Liao Ch'eng-chih |
| 8. Foreign Cultural Relations: | Chang Hsi-jo |
1960

Same as 1959 except:
1. Added: Third Ministry of Machine Building: (9/60) Chang Lien-k'uei
2. Minister Commerce: (2/60) Yao I-lin; Minister of Interior: (11/60) Tseng Shan; Minister First Machine Building: (9/60) Tuan Chun-yi; Minister Second Machine Building: (9/60) Liu Chieh

1961

Same as 1960 except:
2. Minister, Third Ministry of Machine Building: Sun Chih-yuan (161)
3. Minister of Chemicals: (11/61-7/62 vacant)

1962

Same as 1961 except:
1. General Office of Political and Legal Affairs: presumably abolished
2. Chairman, General Office of Agriculture and Forestry: (10/62) T'an Chen-lin
3. Minister of Chemicals: (7/62) Kao Yang

1963

Same as 1962 except: Added:
3. Fifth Ministry of Machine Building: (9/63) Ch'iu Ch'uang-ch'eng
4. Sixth Ministry of Machine Building: (9/63) Fang Ch'iang
7. State Personnel Commission: (9/63) Chou Jung-hsin

1964

Same as 1963 except:
1. Added: Ministry for Allocation of Materials: (11/64) Yuan Pao-hua
2. Added: Ministry of Higher Education: (6/64) Yang Hsiu-feng (7/64)
3. Added: Commission for Foreign Economic Relations: (6/64) Fang Yi
4. Minister of Building Construction: (11/64) Li Jen-chun
5. Minister of Communications: (7/64) Sun Ta-kuang
6. Minister of Education: (7/64) Ho Wei
7. Minister of Metallurgy: (7/64) Lu Ting
1965

Premier: Chou En-lai
Secretary General: (1/65) Chou Jung-hsain

Vice Premiers: Lin Piao, Ch'en Yun, Teng Hsiao-p'ing, Ho Lung,
Ch'en Yi, K'o Ch'ing-shih, Ulanfu, Li Fu-ch'un, Li Hsien-nien,
T'an Chen-lin, Nieh Jung-ch'en, Po I-po, Lu Ting-yi, Lo Jui-ch'ing,
T'ao Chu, Hsieh Fu-chih

General Offices:
Internal Affairs: Hsieh Fu-chih
Culture and Education: Chang Chi-ch'un
Industry and Communications: Po I-po
Finance and Trade: Li Hsien-nien
Agriculture and Forestry: T'an Chen-lin
Foreign Affairs: Ch'en Yi

Ministries:
1. Agriculture: Liao Lu-yen
3. Aquatic Products: Hsu Te-heng
4. Building Construction: Liu Yu-min
5. Building Materials: Lai Chi-fa
6. Chemicals: Kao Yang
7. Coal: Chang Lin-chih
8. Commerce: Yao I-lin
9. Communications: Sun Ta-kuang
10. Culture: (1/65) Lu Ting-yi
11. Education: Ho Wei
12. Higher Education: (1/65) Chiang Nan-hsiang
13. Finance: Li Hsien-nien
14. Food: Sha Ch'ien-li
15. Foreign Affairs: Ch'en Yi
16. Foreign Trade: (2/65) Lin Hai-yun (acting)
17. Forestry: Liu Wen-hui
18. Geology: Li Szu-kuang
19. Interior: Tseng Shan
20. Labor: Ma Wen-jui

21. First Ministry of Light Industry: (2/65) Li Chu-ch'en
22. Second Ministry of Light Industry: (2/65) Hsu Yun-p'ei
23. First Machine Building: Tuan Chun-yi
25. Third Machine Building: Sun Chih-yuan
27. Fifth Machine Building: Ch'iu Ch'uang-ch'eng
28. Sixth Machine Building: Fang Ch'iang
29. Seventh Machine Building: (1/65) Wang Ping-chang
30. Eighth Machine Building: Ch'en Cheng-jen
31. Metallurgy: Lu Ting
33. Petroleum: Yu Ch'iu-li
34. Post and Telecommunication: Chu Hsueh-fan
35. Public Health: (1/65) Ch'ien Hsin-chung
36. Public Security: Hsieh Fu-chih
37. Railroads: Lu Cheng-ts'ao
38. State Farms and Land Reclamation: Wang Chen
39. Textiles: Chiang Kuang-nai
40. Water Conservancy and Electric Power: Fu Tso-yi
1965 (continued)

Commissions:

1. Planning: Li Fu-ch'un
2. Economic: Po I-po
3. Capital Construction: (3/65) Ku Mu
4. Science and Technology: Nieh Jung-chen
5. Physical Culture: Ho Lung
6. Nationalities Affairs: Ulanfu
7. Overseas Chinese Affairs: Liao Ch'eng-chih
8. Foreign Cultural Relations: Chang Hsi-jo
9. Foreign Economic Relations: Fang Yi
10. Price: Hsueh Mu-ch'iao
11. Codification: Chou Jung-hsin
12. Personnel: Chou Jung-hsin

1966

Same as 1965 except K'o Ch'ing-shih (Vice-Premier) died in 1965.

1967-69

Situation Uncertain: Formally the same agencies existed as in 1966. The personnel situation was highly fluid and uncertain.
1970 (December)

Premier: Chou En-lai
Vice Premiers: Lin Piao, Li Fu-ch'un, Li Hsien-nien, Nieh Jung-chen, (Ch'en Yi?), (Hsieh Fu-chih?)

General Offices: One (National Defense?)

Ministries:

1. Agriculture and Forestry: Sha Feng
2. Building Construction
3. Building Materials
4. Commerce
5. Communications
6. Finance: (Li Hsien-nien?)
7. Foreign Affairs
8. Foreign Trade: Pai Hsiang-kuo
9. Fuels and Chemicals
10. Internal Affairs
11. Light Industry
12. First Machine-Building
13. Second Machine-Building
14. Third Machine-Building
15. Fourth Machine-Building
16. Fifth Machine-Building
17. Sixth Machine-Building
18. Seventh Machine-Building
19. Metallurgy
21. Public Health
22. Public Security: (Hsieh Fu-chih?)
23. Water Conservancy and Electric Power
24. (Labor)
25. (Food)
26. (Post and Telecommunications)
27. (Allocation of Materials)

Commissions:

1. Planning
2. Capital Construction
3. Economic Relations with Foreign Countries
4. (Nationalities Affairs)
5. (Overseas Chinese Affairs)
6. (Physical Culture and Sports)
7. (Science and Technology)

---

1. Harry Harding, The Organizational Issue in Chinese Politics, 1959-72, p. 400, says these were joined under one ministry; D. P. Whitaker and R. S. Shinn, Area Handbook for the People's Republic of China, p. 242, list separately. The latter is apparently incorrect. See China Topics YB5/75, 4/72, p. 5.

2. Harding, op.cit., p. 401, says they were joined; Whitaker and Shinn say they were separate. Apparently they were joined. See China Topics, loc.cit., p. 10.

3. Listed by Whitaker and Shinn, apparently in error.

4. Presumed to exist.
1971

Premier: Chou En-lai  Vice Premiers: Lin Piao, Li Fu-ch'un, Li Hsien-nien, Nieh Jung-chen, (Ch'en Yi?), (Hsieh Fu-chih?)

General Offices: One (National Defense?) Director: Ting Chiang

Ministries:

1. Agriculture and Forestry: Sha Feng
2. Building Construction
3. Building Materials
4. Commerce: Sha Ch'ien-li
5. Communications
6. Economic Relations with Foreign Countries: Fang Yi
7. Finance: (Li Hsien-nien?)
8. Foreign Affairs
9. Foreign Trade: Pai Hsiang-kuo
10. Fuels and Chemicals
11. Internal Affairs
12. Light Industry
13. First Machine-Building: Li Shui-ch'ing
14. Second Machine-Building
15. Third Machine-Building
16. Fourth Machine-Building
17. Fifth Machine-Building
18. Sixth Machine-Building
19. Seventh Machine-Building
20. Metallurgy: Ch'en Shao-k'un
22. Public Health
23. Public Security: (Hsieh Fu-chih?)
24. Water Conservancy and Electric Power

Commissions:

1. Planning
2. Capital Construction
3. Physical Culture and Sport: Wang Meng

State Council Groups:

1. Culture: Wu Te
2. Science and Education: Li Szu-kuang
1972

Premier: Chou En-lai  
Vice Premiers: Li Hsien-nien, Li Fu-ch'un, Nieh Jung-chen

General Office: Ting Chiang

Ministries:

1. Agriculture and Forestry: Sha Feng
2. Building Construction
3. Building Materials: Lai Chi-fa
4. Commerce: Fan Tzu-yu
5. Communications: Yang Chieh
6. Economic Relations with Foreign Countries: Fang Yi
7. Finance: (Li Hsien-nien?)
8. Foreign Affairs: Chi P'eng-fei
9. Foreign Trade: Pai Hsiang-kuo
10. Fuels and Chemicals
11. (Internal Affairs?)
12. Light Industry: Ch'ien Chih-kuang
13. First Machine-Building: Li Shui-ch'ing
14. Second Machine-Building
15. Third Machine-Building
16. Fourth Machine-Building
17. Fifth Machine-Building
18. Sixth Machine-Building
19. Seventh Machine-Building
20. Metallurgy: Ch'en Shao-k'un
22. Public Health
23. Public Security: Li Chen
24. Water Conservancy and Electric Power: Chang Wen-pi

Commissions:

1. Capital Construction: (Ku Mu?)
2. Planning: Yu Ch'iu-li
3. Physical Culture and Sports: Wang Meng

State Council Groups:

1. Culture: Wu Te
2. Science and Education: Liu Hsi-yao
1973

Premier: Chou En-lai
Vice Premiers: Li Hsien-nien, Li Fu-ch'un, Nieh Jung-chen,
(Ch'en Yun?)

General Office: Ting Chiang

Ministries:

1. Agriculture and Forestry: Sha Feng
2. Building: Lai Chi-fa
3. Commerce: Fan Tzu-yu
4. Communications: Yang Chieh
5. Economic Relations with Foreign Countries: Fang Yi
6. Finance: (Li Hsien-nien?)
7. Foreign Affairs: Chi P'eng-fei
8. Foreign Trade: Pai Hsiang-kuo/Li Ch'iang
9. Fuels and Chemicals
10. Light Industry: Ch'ien Chih-kuang
11. First Machine-Building: Li Shui-ch'ing
12. Second Machine-Building
13. Third Machine-Building
14. Fourth Machine-Building
15. Fifth Machine-Building
16. Sixth Machine-Building
17. Seventh Machine-Building
18. Metallurgy: Ch'en Shao-k'un
20. Posts and Telecommunications: Chung Fu-hsiang
21. Public Health: Liu Hsiang-p'ing
22. Public Security: Li Chen
23. Water Conservancy and Electric Power: Chang Wen-pi

Commissions:

1. Capital Construction: Ku Mu
2. Planning: Yu Ch'iu-li
3. Physical Culture and Sports: Wang Meng

State Council Groups:

1. Culture: Wu Te
2. Science and Education: Liu Hsi-yao

1974

Same as 1973.
1975

Premier: Chou En-lai


General Offices: (not announced)

Ministries:

1. Agriculture and Forestry: Sha Feng
2. Coal: Hsu Chin-chiang
3. Commerce: Fan Tzu-yu
4. Communications: Yeh Fei
5. Culture: Yu Hui-yung
6. Economic Relations with Foreign Countries: Fang Yi
7. Education: Chou Jung-hsin
8. Finance: Chang Ching-fu
9. Foreign Affairs: Ch'iao Kuan-hua
10. Foreign Trade: Li Ch'iang
11. Light Industry: Ch'ien Chih-kuang
12. First Machine-Building: Li Shui-ch'ing
14. Third Machine-Building: Li Chi-t'ai
16. Fifth Machine-Building: Li Ch'eng-fang
17. Sixth Machine-Building: Pien Chiang
19. Metallurgy: Ch'en Shao-k'un
22. Posts and Telecommunications: Chung Fu-hsiang
23. Public Health: Liu Hsiang-p'ing (f.)
24. Public Security: Hua Kuo-feng
25. Railroads: Wan Li
26. Water Conservancy and Electric Power: Ch'ien Cheng-ying (f.)

Commission:

1. Planning: Yu Ch'iu-li
2. Capital Construction: Ku Mu
3. Physical Culture and Sports: Chuang Tse-tung
1976

Premier: Chou En-lai (d. 1/76); Hua Kuo-feng, acting

Vice Premiers: Teng Hsiao-p'ing (p. 4/76), Chang Ch'un-ch'iao (p. 10/76), Li Hsien-nien, Ch'en Hsi-lien, Chi Teng-k'uei, Hua Kuo-feng, Ch'en Yung-kuei, Wu Kuei-hsien, Wang Chen, Yu Ch'iu-li, Ku Mu, Sun Chien.

General Offices: (none listed)

Ministries:

1. Agriculture and Forestry: Sha Feng
2. Coal: Hsu Chin-chiang (d. 7/76?)
3. Commerce: Fan Tzu-yu
4. Communications: Yeh Fei
5. Culture: Yu Hui-yung (p. 10/76)
6. Economic Relations with Foreign Countries: Fang Yi
7. Education: Chou Jung-hsin: (d. early 1976)
8. Finance: Chang Ching-fu
9. Foreign Affairs: Ch'iao Kuan-hua (p. 10/76); Huang Hua (12/76)
10. Foreign Trade: Li Ch'iang
11. Light Industry: Ch'ien Chih-kuang
12. First Machine-Building: (Chou Tzu-chien?)
13. Second Machine-Building: (Liu Wei, 9/76?)
14. Third Machine-Building: Li Chi-t'ai
16. Fifth Machine-Building: Li Ch'eng-fang
17. Sixth Machine-Building: Pien Chiang
19. Metallurgy: Ch'en Shao-k'un (p. 10/76?)
22. Posts and Telecommunications: Chung Fu-hsiang
23. Public Health: Liu Hsiang-p'ing (p. 10/76)
24. Public Security: Hua Kuo-feng
25. Railroads: Wan Li (p. 4/76)
26. Water Conservancy and Electric Power: Ch'ien Cheng-ying

Commissions:

1. Planning: Yu Ch'iu-li
2. Capital Construction: Ku Mu
3. Physical Culture and Sports: Chuang Tse-tung (p. 10/76)

1977

Same as 1976 (after October) except: Teng Hsiao-p'ing restored as Vice Premier 7/77; and State Science and Technology Commission reestablished, 9/77.
Premier: Hua Kuo-feng


General Offices: (none listed, but Office of Finance and Trade identified through press)

Ministries:

1. Agriculture and Forestry: Yang Li-kung
2. Chemicals: Sun Ching-wen
3. Civil Affairs: Cheng Tzu-hua
4. Coal: Hsiao Han
5. Commerce: Wang Lei
6. Communications: Yeh Fei
7. Culture: Huang Chen
8. Economic Relations with Foreign Countries: Ch'en Mu-hua
9. Education: Liu Hsi-yao
10. Finance: Chang Ching-fu
11. Foreign Affairs: Huang Hua
12. Foreign Trade: Li Ch'iang
13. Light Industry: Liang Ling-kuang
14. First Machine-Building: Chou Tzu-chien
15. Second Machine-Building: Liu Wei
16. Third Machine-Building: Lu Tung
18. Fifth Machine-Building: Chang Chen
19. Sixth Machine-Building: Chai Shu-fan
20. Seventh Machine-Building: Sung Jen-ch'iung
21. Metallurgy: T'ang K'o
23. Petroleum: Sung Chen-ming
24. Posts and Telecommunications: Chung Fu-hsiang
25. Public Health: Chiang Yi-chen
26. Public Security: Chao Ts'ang-pi
27. Railroads: Tuan Chun-yi
28. Textiles: Ch'ien Chih-kuang
29. Water Conservancy and Electric Power: Ch'ien Cheng-ying

Commissions:

1. Planning: Yu Ch'iu-li
2. Economic: K'ang Shih-en
3. Capital Construction: Ku Mu
4. Science and Technology: Fang Yi
5. Nationalities Affairs: Yang Ching-jen
6. Physical Culture and Sports: Wang Meng
7. (added later: Overseas Chinese Affairs)
1979

Premier: Hua Kuo-feng


General Offices: (apparently being restored)

Ministries:

1. Agriculture: Huo Shih-lien
2. Building Materials
3. Chemicals: Sun Ching-wen
4. Civil Affairs: Cheng Tzu-hua
5. Coal: Hsiao Han
6. Commerce: Yao I-lin
7. Communications: Yeh Fei
8. Culture: Huang Chen
9. Economic Relations with Foreign Countries: Ch'en Mu-hua.
10. Education: Chiang Nan-hsiang
11. Farm Machinery: Yang Li-kung (12/79, Chiao Jo-yu)
13. Foreign Affairs: Huang Hua
14. Foreign Trade: Li Ch'iang
15. Forestry: Lo Yu-ch'uan
16. Geology: (est. 9/79) Sun Ta-kuang
17. Justice: (est. 9/79) Wei Wen-po
18. Light Industry: Liang Ling-kuang
19. First Machine-Building: Chou Tzu-chien

Commissions:

1. Planning: Yu Ch'iui-li
2. Economic: K'ang Shih-en (later, Finance and Economic)
3. Capital Construction: Ku Mu
4. Science and Technology: Fang Yi
5. Overseas Chinese

20. Second Machine Building: Liu Wei
21. Third Machine-Building: Lu Tung
22. Fourth Machine-Building: Chien Min
23. Fifth Machine-Building: Chang Chen
24. Sixth Machine-Building: Chai Shu-fan
25. Seventh Machine-Building: Sung Jen-ch'iung
26. Metallurgy: T'ang K'o
27. National Defense: Hsu Hsiang-ch'ien
28. Petroleum: Sung Chen-ming
29. Posts and Telecommunications: Wang Tzu-kang
30. Power Industry: Ch'ien Cheng-ying
31. Public Health: Chang I-ch'en
32. Public Security: Chao Ts'ang-pi
33. Railroads: Kuo Wei-ch'eng
34. State Farms (est. late 1979)
35. Textiles: Ch'ien Chih-kuang
36. Water Conservancy: Liu Lan-po

6. Nationalities Affairs: Yang Ching-jen
7. Agricultural: Wang Jen-chung
8. Physical Culture and Sports: Wang Meng
9. (Import/Export: Ku Mu, est. 8/79)
10. (Foreign Exchange: Ku Mu, est. 8/79)
BIBLIOGRAPHY

Translations From People's Republic of China Sources

Current Background. Hong Kong: United States Consulate General.


Union Research Service. Hong Kong: Union Research Institute.

Journals and Serials

American Political Science Review
Asian Survey
Chi-hsieh Kung-jen
Chi-hsieh Kung-yeh
China News Summary
China Quarterly
China Reconstructs
China Record
China Topics
China's Foreign Trade
Books and Articles on China


---


431


_____. Up to the Mountains and Down to the Villages. New Haven: Yale, 1977.


______. River Control in Communist China (EC31). Hong Kong: Union Research Institute, 1962.


*Communist China, 1968*. Hong Kong: Union Research Institute, 1969.

*Communist China, 1969*. Hong Kong: Union Research Institute, 1970.


Donnelly, Desmond. The role of leadership. In W. Klatt (Ed.), The Chinese Model. Hong Kong: Hong Kong University, 1965, pp. 186-204.


Fifth National People's Congress of the People's Republic of China (First Session). Peking: Foreign Languages Press, n.d.


_____. Health policy during the "Great Leap Forward". In *China Quarterly* (#60). October 12, 1974, pp. 668-698.


Land reclamation by state farms. In Union Research Service (Vol. 41, #1). October 1, 1965.


Li Kuo-ch'i.  *Chung-kuo Tsao-ch'i ti T'ieh-lu Ching-ying (China's Early Railroad Transaction).* Taipei: Central Research Institute, Contemporary Studies Research Branch, 1961.


_____.  *Chinese Politics in 1978: Modernization and the Ghost of Mao.* (Paper distributed by the China Council of Asia Society, November, 1978.)


The newly developed petroleum industry in Communist China. In Union Research Service (Vol. 45, #1). October 4, 1966.


Who's Who in Communist China (2 vols.). Hong Kong: Union Research Institute, 1969.


General Works


