# THE POLITICAL ECONOMY OF COPPER

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WILLIAM JOHN BARCLAY, Jr.

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James B. McKee
Major professor

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ABSTRACT

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By

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The multinational corporation provides both the theoretical and organizational focus of this study. The particular case examined is the political economy of the United States copper industry and the place of Chile and Chilean copper within this political economy. It is the multinational corporation which is both the dominant form of metropole capital and the key linkage mechanism between metropole and hinterland in the capitalist world political economy. Thus, the structuring of the amount, forms, and usage of both actual and potential economic surplus in the hinterland and the dynamics of surplus value accumulation in the metropole reflect the interests and priorities of the multinational.

The use of the political economy of copper as a case study brings together three larger issues: (1) the theoretical implications of the differing meanings of the concepts of economic surplus and surplus value, the core concepts of neo-Marxian and Marxian theory, respectively; (2) the problem of the nature of the relationship between multinational

capital and the metropole state which has been forged during the last half century; and (3) the question of the dynamics of colonialism and neo-colonialism in the contemporary world. The three parts of this study are organized around these three issues as they are illuminated through the political economy of copper.

The methodology most compatible with a study of political economy and with the particular problem investigated here is that of historical-documentary methods. This methodology requires the use of a multiplicity of primary and secondary source materials. The information gathered from these materials is sifted and organized through a conceptual framework to produce a reconstitution and interpretation of the political economy of copper during the last several decades.

# THE POLITICAL ECONOMY OF COPPER

By

William John Barclay, Jr.

A DISSERTATION

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This essay is dedicated to those who have been murdered by the Chilean counterrevolution. May their brothers and sisters succeed in the struggle for socialism and democracy.

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# INTRODUCTION AND SUMMARY OF FINDINGS

The theoretical focus of my dissertation is the linkages between an advanced capitalist metropole and an underdeveloping capitalist hinterland. I see the multinational corporation, the dominant organizational form of capital in the contemporary world, as the crucial linkage mechanism. The internationalization of capital through the framework of the multinational corporation structures the amount, forms, and usage of both actual and potential surplus in the hinterland and the dynamics of surplus value accumulation in the metropole. The particular case I am examining is the political economy of the United States copper industry and the place of Chile and Chilean copper in this political economy.

In terms of my own interests, this study flows from four larger concerns: First, a commitment to the analysis of the changing nature of colonialism and neo-colonialism, both international and internal. Here the multinational corporation is a key factor in shaping the neo-colonial system of class and strata, defining the course and limits of dependent capitalist development. Second, a concern with the emergence of the multinational corporation as the core institution of monopoly capitalism and the new relationship between capital and the metropole state forged during the last half century.

To comprehend the structure and functioning of the capitalist world political economy requires an analysis not only of the priorities and interests of the multinational corporation but also of the manner in which these priorities and interests interact with the functions of the state. Third, an effort to elaborate the differing meanings and implications of the Marxian concept of surplus value and the neo-Marxian notion of economic surplus. These distinct, yet complementary, concepts are at the cores of their respective paradigms. In a nutshell, surplus value provides insight into the imperative of accumulation and thus the relationship between capital and the metropole state. Economic surplus illuminates the contradiction between that which is and that which could be produced in hinterland political economies penetrated by metropole based multinationals. (These conceptions are developed at length in Chapter One.)

Finally, and most importantly, these intellectual commitments are rooted in my opposition to the vast social and economic inequalities which are such a marked feature of the capitalist world political economy. In fact, as this study argues, inequality is inherent in the very functioning of this system. I believe that these inequalities are profoundly damaging to the free development of individual and societal potential in both metropole and hinterland alike. Thus, my theoretical concerns for understanding the world flow from and acquire meaning because of my commitment to change that world. Without that commitment to change, my

theoretical labor would risk becoming mere scholastic exercise. In turn, my theoretical work both informs and inspires my commitment to change.

I

The previous paragraphs were written in retrospect, as a summary of this essay after it had been substantially completed. I did not, of course, begin this project with such a coherent and well-ordered conception of where I was going and the questions I wanted to ask. Instead, like all such projects, this one grew, each part evolving out of what I had done before. In the following pages I will attempt to outline the evolution of my thinking, moving from my initial interest in and support for the Chilean struggle to construct a socialist society to my eventual focus on the role of the multinational corporation in the international political economy of copper. After this summary of my personal development, the remainder of this chapter is divided into two parts. First I present the organization of the essay as a whole, outlining the questions and problems with which each of the following chapters is concerned. Then I discuss the methodology and the sources of data which are involved in a project of this nature.

Given my opposition to the inegalitarian structure of capital as a world system, it was only natural that my sympathies and hopes were kindled by the election of Salvador Allende to the Chilean presidency in September of 1970. Of

course, I was also skeptical. There is, after all, a long history of the failure of the electoral route to socialism in Western Europe and the distorted face of socialist society in Eastern Europe and the Soviet Union. And then there was always the overwhelming counterrevolutionary presence of the United States in the Western Hemisphere. Nonetheless, I hoped that Chile might represent a new break at the weakest link in the capitalist chain (see Hobsbawm, 1971 for a similar suggestion). Most importantly, the creation of a socialist society in Chile would have significance far beyond one corner of the Latin American continent.

Chilean history does, of course, have its unique features: The political structure is almost a paradigm case of the link between class and political party; Chilean democracy has shown greater stability, fewer instances of military intervention, and greater continuity than other Latin American nations; Culturally Chile has always been influenced less by the U.S. and more by West Europe than much of the remainder of the continent (Petras, 1970:chapters 1 and 9; Pike, 1963:chapter 1; Silvert, 1965:chapters 6 and 8). The structural parallels with other dependent political economies are at least as significant, however. Like much of the rest of Spanish America, Chile had passed from a Spanish colony to a British dependency in the nineteenth century. By World War I the United States had replaced Britain for Chile as for most of the rest of the area (Griffin, 1969:chapter 1). Throughout these decades, it was Chilean mineral wealth--

nitrate owned by the British and copper owned by the U.S.--that was the key to Chilean dependency. It is this relationship, revolving around mineral exports under the control of metropole based multinationals, which gives the Chilean experiment such significance for other hinterland nations. (See Girvan, 1970 for a discussion of this relationship in Latin America.)

The gathering conflict between capitalist metropoles and hinterlands over control, development, and use of raw materials may well be the defining fact of the capitalist world political economy during the last quarter of the twentieth century. The United States, Western Europe, and Japan have relied on increasing imports of petroleum and raw materials to sustain economic prosperity; these same materials now dominate the export earnings of hinterland nations. Copper ranks high at both the export and import end of this list (Barraclough, 1975; Jalee, 1969:chapters 1, 3, 5 and 6; Mikesall, 1971b). At least until the 1970's, almost all of these resources were controlled by foreign capital. The direct private foreign investment of U.S. multinationals gave that nation more than 50 percent of this foreign ownership (Mikesall, 1971b:3-6, 13). Thus, the multinational corporation in general, and U.S. multinationals in particular, are at the center of this conflict. The struggle over world resources highlights the operations of the multinational corporation, its relationship with the metropole state, and its impact on hinterland societies. What happens to Chile

and Chilean copper has implications which go to the roots of the present world gap between the rich and the poor. As I came to see the Chilean situation in this context, I necessarily shifted by vision to the two U.S. multinational corporations which have been the decisive factors in Chilean copper since the first decade of the twentieth century, Anaconda Company and Kennecott Copper Corporation.

The conflict between Chile and the U.S. multinationals is not only a case study of the world conflict between rich and poor over raw materials, however. The outcome of the conflict is also crucial for the success or failure of Chilean plans for development, where development means not simply a growing GNP but rather "the happy coincidence of structural change and improvement in the human condition" (Johnson, 1972:273). The high labor productivity of the U.S. owned copper mines in Chile, the substantial proportion of Chilean state revenues drawn from taxation on copper, the potential forward and backward linkages of the industry, and the essential role that earnings from the export of copper play in financing the import of capital goods make copper an important source of the surplus that Chile must mobilize for successful development (Girvan, 1972 provides a discussion which underlines the significance of copper for Chilean development). Here the relationship between Chile and the U.S. multinational corporations parallels not only other copper exporting hinterland nations but the raw material exporting countries of the third world in general. Thus, from this

perspective also my attention was directed towards the U.S. based copper multinationals.

At this point then, I had settled on the study of the two copper multinationals, Anaconda and Kennecott, as the organizing focus of my project. I saw that these firms, and multinational capital in general, had two functions. They served both as the key linkage between metropole and hinterland nations and as a major influence in the creation and reproduction of dependent capitalist political economies internal to the latter countries. The impact of the multinational corporation on hinterland political economies is a multi-faceted one: market fragmentation, regional inequalities and political conflict, incorporation of some social strata and marginalization of others, etc. (Meeropol, 1972; Sunkel, 1973). I needed a conceptual framework within which to analyze these disparate strands. Here I turned to the works of Paul Baran (1957; 1966; 1969) and particularly to his conceptions of actual and potential economic surplus. The central problem which the multinational corporation presents to the hinterland political economy is the contradiction between the forces of production set in motion by the multinational and the relations of production inherent in the internationalization of capital. Baran's economic surplus, which emphasizes both how the total social product is used and the gap between what <u>is</u> produced and that which <u>could be</u> produced seems the best way to approach these issues.

At first I thought that this formulation of my project was complete, that the study of the U.S. copper multinationals and their penetration and restructuring of the Chilean political economy was sufficient. However, as I worked on the project in this form I became increasingly dissatisfied. It was impossible to fully comprehend the functioning of the multinationals at the general level--the drive towards diversification, the struggles around the potential of underseas mining, the parameters within which investment decisions were made--without asking about the political economy of U.S. copper and the functioning of the U.S. state. Nor was it even possible to adequately analyze the actions of the multinationals in Chile--decisions on the expansion or curtailment of production, resistence to Chilean demands for the domestic fabrication of copper, where Chilean copper fit in the multinationals picture of the world--without asking similar questions. After all, I was arguing that the multinational corporation was a linkage mechanism. What the multinationals link together are hinterland political economies and metropole political economies. I needed to understand the dynamics of the latter. I soon discovered that an analysis of the <u>functions</u> of the metropole state was central to this task and that it was only through this analysis that I could understand the relationship between capital and the metropole state, both abroad and within the geographical boundaries of the metropole. In short, I had made two further discoveries: that the study of imperialism and the

study of dependency complement each other (see Bodenheimer, 1971; Dos Santos, 1971; and Girvan, 1973 on this point) and that the study of either is rooted in an investigation of the metropole political economy.

The central problem for multinational capital is growth, expansion. This is simply shorthand for saying that the supreme imperative for capital remains what it was in Marx's day, the accumulation of surplus value. His commandment to the nineteenth century entrepreneur, "accumulate, accumulate, that is Moses and the prophets," is etched on the minds of the managers and directors of the multinational corporation. What has changed and changed decisevely since Marx wrote, however, is the role of the metropole state in this imperative. It was already clear to me that the metropole state was not simply a disinterested observer when metropole capital ventured abroad. As I studied the development of the U.S. copper industry--expansion, efforts at price stabilization, the growing significance of planned research and development--it was obvious that the laissez faire state was a thing of the past in the functioning of the metropole political economy as well. Neither the state nor big capital could be understood in isolation for each was dependent on the other.

If I was not content with the liberal theory of the state as referee, the independent enforcer of the neutral rules of the game, neither was I happy with the model, which many Marxists use, of the state as servant of the capitalist class

(Wolfe, 1974). The reality of the political economy of copper was more complex than either of these theories suggests. It was at this point that I first read James O'Connor's The Fiscal Crisis of the State (O'Connor, 1974). While his project was quite different from my own, I saw almost immediately that the framework he developed for comprehending the contradictory tasks facing the state in the metropole political economies was what I needed for an analysis of the relationship between the state and big copper. The first function of the state, to aid in the imperative of capital accumulation, manifests itself in state social capital expenditures, state outlays which reproduce or create the conditions necessary for profitable capital accumulation. The other, contradictory, function of the metropole state is legitimation, mitigating the social costs of accumulation--regional inequalities, pollution, conflict with hinterland nations over the control of raw materials. These state outlays O'Connor labels social expenses. Within this framework the interests of the metropole state and multinational capital, while interdependent, are not identical. Each must be seen as distinct actors with potentially divergent assessments of the long and short term interests of industry, class, and nation.

Perhaps the best way of summarizing the evolution of this project is by suggesting a comparison between my focus on and conception of the multinational corporation in the capitalist world political economy and Max Weber's discussion

of the medieval city (Weber, 1958:65-89). He saw the city of that era not simply as an economic marketplace but also as a locus of political power which attempted to restructure the political economy of the hinterland. Flows of people, goods, and money were organized in a manner that furthered the growth and development of the city, particularly the rising merchant class whose power and existence were rooted in that growth. The multinational corporation is also best understood as both a political and an economic organization, for its economic actions are also political decisions (see Engler, 1961:3ff and Tanzer, 1970:20ff for a similar argument). It too restructures the political economies of the regions it penetrates, subordinating their rhythms to its own and its expansion nourishes the power of an emerging international corporate class.

The parallels can be extended at least one step further. The new merchant class of the medieval cities faced a dual threat. On the one hand were the demands of the subordinated urban and rural classes for a different version of social order, demands which often produced revolutionary upheavals and which were occasionally, although only temporarily, realized. On the other hand, the city soon appeared as an insufficient political economic base for the full development of capital (Hibbert, 1965:208-228; Weber, 1958). Similarly, the multinational corporation is faced with demands for a new order from hinterland peoples and discontent within the metropole population. The new international ruling

class rooted in the organizational structure of international capital is already suggesting that the world of nation states is an artificial restriction on the further development of capital. In fact, the more articulate members of this elite have made the parallel with the medieval merchants explicit (Weissman, 1973). The medieval urban merchants finally transcended the limits and threat of the medieval city through the creation of the modern nation state. Whether the new multinational bourgeoisie will be so fortunate remains an open question (see Hymer, 1972a for an insightful discussion of the contradictions besetting the development of the multinational corporation).

II

The remaining eight chapters of this study are divided into three parts which are organized around the differing sets of questions through which my thinking progressed. Chapter One, which comprises the entirety of Part One, lays the theoretical foundations for the succeeding chapters. Here I develop and contrast the conceptual framework implied in the concepts of surplus value and economic surplus. Part Two, containing Chapters Two through Five, is concerned with the nature of the metropolitan political economy of copper: the patterns of uneven development by industry and region within the metropole; the shifting relationship between multinational capital and the metropole state; the conflicts and coalitions between multinational capital, local and

regional capital, and state agencies. In Chapters Six through Eight, which comprise Part Three, I turn to an analysis of the copper multinationals, Anaconda and Kennecott, and the political economy of Chilean dependency: the forms in which the actual and potential surplus of the Chilean political economy of copper appear; the mechanisms by which the corporate organization of multinational capital appropriates and redirects that surplus; the ties between indigenous classes, interests, the Chilean state, and the continued existence (and expansion) of copper production under the aegis of multinational capital. This organization of my project reverses the chronological development of my own thought, beginning with the political economy of the metropole rather than that of the hinterland. As I suggested previously, this is necessarily the case: dependent political economies can be understood only within the larger context of the expansion of metropole based capital and the emergence of a capitalist world political economy.

Within this general framework, each individual chapter is directed towards a particular problem and attempts to answer several questions. Chapter One has a two-fold purpose. On the one hand, as mentioned above, it provides the theoretical underpinnings for the remainder of the study. On the other hand, I consider it a small contribution in the collective effort to create an alternative paradigm within the social sciences, a paradigm which builds upon the potential of Marxian social theory (Blackburn, 1973; Review of

Radical Political Economics, 1971). Thus the chapter both stands on its own but also raises several issues explored in the following chapters. These two functions are brought together through a consideration of the following questions: (1) What are the contrasts and continuities between Marxian and neo-Marxian theory? and (2) What facets of advanced capitalism do the two perspectives illuminate? Of course neither of these questions can be treated exhaustively within such a limited space. Rather I have approached both questions through an extensive theoretical discussion of central concepts: surplus value in the case of classical Marxism and economic surplus for neo-Marxian theory.

Here I will simply sketch my answers to these two questions (see also Barclay and Stengel, 1975). The central continuity between surplus value and economic surplus is, as might be expected, that both are critical concepts. That is to say that each strips away the veil of appearances woven by everyday life and reveals the anatomy of the social order. They do so in quite different ways, however. First, there is a marked contrast in the level of historical generality at which the conceptual net is cast. Surplus value is specific to capitalism as a mode of production. Both actual and potential economic surplus are applicable to a wide variety of social formations. From this contrast flows a second one. While both concepts illuminate contradictions within capitalist society, these are contradictions of a distinct nature. Surplus value points to the social relationships of

class and class struggle while economic surplus asks about the pace and social rationality of economic growth. Thus, the two concepts and the two paradigms focus on distinct aspects of advanced capitalism. Each of these contradictions is crucial to my focus on the multinational corporation as the dominant organizational form of capital. Surplus value, because it focuses on the social relationships of class, provides a grasp on the imperative of capital accumulation. Three paths to the accumulation of capital exist, each of which involves the multinational corporation and the metropole state in a structured interdependence. Economic surplus, because it inquires of the nature and direction of societal growth (or lack of growth), provides a framework for analyzing the multinational corporation as the linkage between metropole and hinterland and as the major determinant of hinterland underdevelopment. Thus, the two conceptions are complementary; neither can absorb the other. This complementarity probably arises from the differing roots of classical Marxism and neo-Marxian thought: class conflict and social change in the heartland of capitalism in the first instance and a critique of the U.S. empire in the second case.

Chapter Two, which introduces Part Two, is concerned with three separate questions, my answers to which are interwoven throughout Chapters Three through Five. While this means that the chapter is perhaps the least integrated of the study, all of the questions are within a broader problem:

the structure of the metropolitan political economy and what is the place of the copper multinationals within this structure. This problem is approached by way of the following questions: (1) What is the nature and roots of the sectoral divisions within the U.S. political economy? (2) What is the structure of the copper industry in terms of these sectoral divisions and what intersectoral patterns are demonstrated by the industry? and (3) What is the relationship between capital, both that of the monopoly and competitive sectors, and the metropole state? Thus, this chapter moves through successive approximations to provide a model for analyzing the copper multinationals and the metropolitan political economy.

In answering each of these questions, I have relied on the framework provided by O'Connor (1974; see also Franklin and Resnick, 1973 and Fusfeld, 1968) and the work of the revisionist historians on the development of the political economy of modern liberalism (cf Kolko, 1963; Radosh and Rothbard, 1972; Weinstein and Eakins, 1970; Weinstein, 1968; and Williams, 1966). Thus, I suggest that O'Connor's monopoly competitive sectoral division is rooted not in technology but in the law of uneven development and the resulting social relations of production. While competitive and monopoly capital have a long term shared interest in the preservation and expansion of capital as a system, their unequal partnership in that system is the basis for several real conflicts over the short term. A study of the copper industry within

this framework reveals an additional facet of the monopoly/competitive sectoral division: instead of running only between industries, it actually interpenetrates an industry such as copper. (This provides further support for the argument that the sectoral divisions are social, not technological.) Thus many of the inter-sectoral contrasts--vertical integration/functional specialization, expansion/marginalization, secular deterioration of wages--are internal to an industry such as copper. Anaconda and Kennecott are, of course, part of the monopoly sector within the industry. However, their world and their political concerns also involve numerous small producers. At both the general level of the U.S. political economy and at the specific level of the copper industry, then, a major role of the metropole state is as the mediator of conflicts between different groups of capitalists in the interest of the capitalist class as a whole. The metropole state has, therefore, a hegemonic function, solving the problem of legitimacy. Equally important is the state's role in capital accumulation. Gabriel Kolko's conception of political capitalism (1963) encapsulates these two functions, the relationship between the state as instrument and structure and expansion of capital.

"It is not enough to construct an abstract model and provide an explanation of how it operates; it is just as important to demonstrate the explanatory effectiveness of such a model as applied to historical realities" (Furtado,

1964:1). This is the task I undertake in Chapters Three through Five. Here the histories of Anaconda and Kennecott during the three decades 1944-1973 provide the empirical test for the model of state and capital constructed in Chapter Two which focuses upon the imperative of capital accumulation. While these chapters consider the copper industry as a test case for the model in general, I am particularly concerned with several questions which are implicit or explicit within the model. Each is also the focus of a wider debate among social analysts. How do the divergent interests of monopoly and competitive sector capital manifest themselves within a particular industry and within the state as structure? How are these interests mediated by policies which enable the state to fulfill the contradictory functions of capital accumulation and legitimation? Does the metropole state itself develop any interests which diverge from those of monopoly capital, i.e., how does the state as structure differ from the state as servant of the capitalist class? How are conflicts between monopoly capital and the underlying population mediated by the state and how do state agencies structure the demands for regulation within the needs of the regulated? What relationship revails between the metropole state and monopoly capital when the latter goes "offshore" and how does this differ from the relationship within the metropolitan political economy? To shed light on these questions I have focused on five issues: The setting of the rules of the game (the state as instrument);

the politics of stockpiling and the ideology of national security; the efforts of big copper to externalize the diseconomies of inter-industry uneven development through diversification; the social costs of capital accumulation by big copper; and the management of foreign relations--involvement of the metropole state in the interaction between Chile and the copper multinationals. At this point it becomes necessary to shift attention away from the nature of the multinational corporation and the metropolitan political economy towards the political economy of Chilean dependency. This is the topic of Part Three.

Part Three is introduced by Chapter Six which explores the roots of Chilean dependency and covers the period from independence to the arrival of the copper multinationals in the years prior to WWI. The problem of the roots of dependency in hinterland political economies extends considerably beyond the Chilean case, however, and the debate over this issue is intense. Three general positions can be distinguished (Dos Santos, 1971; Meeropol, 1972; Mikesall, 1971a). The dominant school of thought has laid primary emphasis on the social structure of hinterland societies in explaining "underdevelopment." In opposition to this view, others have stressed external factors. More recently, a third school of thought has synthesized these positions, linking the development of the national social structure to the evolution of the world capitalist political economy. In my discussion of Chile as a case study of dependency, I have developed this

third position, through the following three questions: (1) What were the limits on Chilean development which flowed from the colonial export oriented political economy? Specifically, what were the roles of mining interests, the state, and the Chilean middle sectors in pre-twentieth century dependency? (2) How did the arrival of the copper multinationals in the first decade and a half of the twentieth century both build upon and modify the nineteenth century political economy of dependency? This question asks about the nature of Chile's insertion into the emerging capitalist world market. (3) What was the basis for the penetration and dominance of foreign capital--technology, organization, or financing? This question is central to the debate over the world gap in economic development and the role of foreign capital in lessening or maintaining that gap.

In answering each of these questions it is necessary to bring together: (1) historical material on the Chilean class structure; (2) a discussion of the international division of labor produced by the metropole revolution in physics and chemistry during the last third of the nineteenth century; and (3) theoretical work on the interaction between foreign enclaves and national political economies. Thus I suggest that even in the late nineteenth century, a period during which Chile appeared to be a rapidly developing society, Chilean class structure contained the roots of dependency. Furthermore the dependent relationship involved not

only the interests and priorities of the propertied classes but also the emerging middle sectors whose base was in commerce and the state. Chile's reincorporation as a primary producer in the twentieth century capitalist world political economy by the copper multinationals consolidated a pattern established earlier in the British owned nitrate production. At the same time, however, copper as the mechanism of dependency meant increased specialization and reliance upon a single commodity and on the industrial prosperity of a single metropole nation. Further, the Chilean productive structure was now geared towards demand in a high technology society and thus output could not easily be shifted to other markets if Chile attempted to cut the ties of dependency. Lastly, the success of the copper multinationals was not based upon either superior innovative or risk taking ability, but rather upon access to financing on a scale available only in a major metropole. It was this which made possible the large scale mining of known deposits with known technology.

Chapters Seven and Eight attempt to answer, for the Chilean case, a question that has been extensively debated but seldom analyzed in a systematic, empirical manner: what have been the costs to dependent political economies of penetration by foreign capital? It is here that the concepts of actual and potential economic surplus provide the most insight in ordering the limited statistical and descriptive material available. While these chapters focus on Chile as a case study, I place the evidence from this particular case

within the larger patterns of multinational corporate appropriation and control over economic surplus (for differing perspectives on the multinational corporation see Girvan, 1970; Hymer, 1972a; Magdoff, 1969; Penrose, 1971; and Vernon, 1971). Thus the questions I ask concerning the relationship between Anaconda and Kennecott on the one hand, and the Chilean political economy on the other, have much wider implications. What are the major mechanisms by which the multinational corporation appropriates actual economic surplus and what are the forms of potential economic surplus lost to a dependent political economy such as Chile? Since the multinational corporation is the modern parallel to Weber's medieval city, how is the appropriation of actual economic surplus and the loss of potential economic surplus rooted in this organizational form of capital? Throughout these two chapters I am also interested in a crucial comparison: how does the economic surplus lost due to the hinterland/multinational corporation relationship compare to the amount available for hinterland attempts to overcome the problems of underdevelopment?

In examining the appropriation of the actual economic surplus by the multinational corporation I consider four mechanisms to be of prime importance: The flow of capital between parent and subsidiary through reinvested profits and repatriated earnings; the international division of labor and the flow of royalties, fees, and costs of production between metropole and hinterland; the enclave nature of

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foreign investment and the channeling of the multiplier effect into the metropole political economy; and the ability of the multinational corporation to allocate profits and taxes between countries and processing levels through control over internal transfer prices. There are two organizational features of the multinational corporation which determine the loss of potential economic surplus: (1) the internalization of the capitalist world division of labor by the multinational and (2) vertical integration across political boundaries. The resulting loss of potential economic surplus takes two forms: the growing disparity between Chile's share of proved world copper reserves and her share of copper output; and the locational decisions by the multinational corporation concerning processing facilities which limit the forward and backward linkages available to the Chilean copper industry. The overall result of the relationship between the multinational corporation and hinterland societies is an intensifying conflict between the national political economy of the hinterland and the international political economy of the multinational. The stakes in this conflict are substantial: when the loss of actual and potential surplus is combined, it appears that Chile could easily have doubled the economic surplus available for growth during the 1950-1970 decades.

III

The questions which I have formulated as the organizational focus for each chapter necessitate a study in political economy. By political economy I understand an analysis in which the institutional framework subsumed under the demand and supply curves in orthodox economics, i.e., which is held constant, becomes a central part of the analysis. Thus political economy is not simply a new name for economics but symbolizes a commitment to a holistic analysis, one which integrates the disparate academic specialities of sociology, history, and economics (Beckford, 1972:v-vi). Further, the Marxian tradition of political economy is a critical one in which the goal is the dereification of the social world (cf Marx, 1967:Vol. 1, Chapter 1, esp. section 4). The methodology most compatible with this conception of political economy and the problem I chose is that of historical-documentary research. In this concluding section of the first chapter, I briefly outline the application of this methodology to my project. This discussion has two parts. First I raise some general points about the meaning and interpretation of historical materials. Second, I discuss in more detail the strengths and weaknesses of the sources available for a study of this nature.

The late C. Wright Mills once wrote that "every well-considered social study...requires an historical scope of conception and a full use of historical materials" (Mills, 1959:145). The use of such materials and such a conception

is certainly the core of a project such as my own. The exact relationship between history and the field of sociology has been a subject of considerable debate, however. The dominant position is perhaps best represented by the combined product of a leading sociologist and (recently deceased) historian, S. M. Lipset and Richard Hofstadter. In their book Sociology and History: Methods, (1968) Hofstadter argues that sociology, through its emphasis on the skills of quantification and conceptual generalization, can contribute to the scientific standing of history (see his essay in Lipset and Hofstadter, 1968:1-16). Lipset's view nicely complements this conception. He suggests that the task of sociology is to create general propositions and that the work of historians serves, in effect, as a master file of cases by which sociologists can test these propositions (see his essay in Lipset and Hofstadter, 1968:17-58). This approach to historical-documentary research carries over the logic of sampling to the study of historical patterns and historical change. However, as Moore argues, this procedure has serious problems, for it risks "gains in logical rigor and ease of manipulation..at the expense of..historical content" (Moore, 1963:80).

In contrast, I believe that it is more fruitful to consider historical-documentary research as an attempt to "perceive the general in the atypical or even the unique, resolving in this fashion the tension between universals and particulars" (Moore, 1963:88). Thus, while the concern with

the relationship between the general and the particular remains, this approach contrasts with that outlined above which omits "more and more of the characteristics of what we are studying until the residue is something approaching pure form without content" (Moore, 1963:89). Historical-documentary research, then, requires the use of concepts which reveal structures when applied to history (Dobb, 1963:vii-viii; Mannheim, 1936:200-201). As my discussion in sections I and II of this chapter made clear, I have drawn my concepts from Marxian and neo-Marxian theory. This theoretical tradition of historical materialism, and thus the conceptual framework I have drawn from it, is one of structure and function which posits a hierarchy of social phenomena and internal tensions (contradictions) in any social structure (Hobsbawm, 1973:273-274, 278-289).

Understood in this manner, historical-documentary research in political economy requires the use of a multiplicity of primary and secondary sources which are sifted and organized through a conceptual framework. The outcome is a reconstruction of the history which the researcher seeks to illuminate, a reconstruction which is at the same time an interpretation of that history. Further, the reconstruction involved is necessarily incomplete; "everything that happened" can never be the goal of any effort to understand the social world. Thus my approach to historical-documentary methods differs from experimental and survey research. In both of the latter cases, hypotheses are formulated, data is

collected, and then the analysis is undertaken. Research using historical-documentary methods begins with a problem and a set of questions and a conceptual framework by which to tease out the answers to these questions from the available materials. As a result, the gathering and the analysis of information overlap, a characteristic this method has in common with field or qualitative methods. Historical-documentary methods also share two further similarities with field methods: it is both difficult to codify and makes possible greater flexibility during the research process than the more established research methodologies.

In carrying out my particular research project, I made use of a variety of primary and secondary sources, some obvious, some less so; some of immediate aid in my analysis and some of which had to be used only with great care. Here I will comment on the types of sources I drew upon in a general way before concluding with a brief discussion of some which were of particular relevance to the central questions of my project. Perhaps the most widely used materials in this project are the wealth of government documents available in most college and university libraries. These sources provided information on a wide range of questions with which I was concerned: congressional hearings and reports on particular industries such as copper covered the spectrum of issues from price fixing to state programs to encourage investment and expansion of industrial capacity. Particularly useful, once I abstracted from the ideology of the Cold War,

was the information published by state agencies concerned with military preparedness and the strategic interests of the state. The Business Services Administration's quarterly journal Copper is a prime example of this type of source material. Similar publications are available for steel and other strategic industries and could serve as a basis for parallel research projects.

A second significant source of information was the United Nations, particularly the Economic Commission for Latin America (ECLA). My general impression is that researchers have made insufficient use of the vast amount of material, most of it of very high caliber, that the regional agencies of the UN regularly gather and publish. Such publications include not only primary sources. At least in the case of ECLA, the agencies regularly draw upon the talents and the analytical abilities of the best social theorists of the region and can thus be of considerable bibliographic aid also. Without the material available through ECLA, many of the questions I raised about the political economy of Chilean dependency would have remained unanswered. Further, since virtually all of their material is available in English, the regional agencies of the UN may be of special aid to researchers whose knowledge of foreign languages is limited.

The third major source of primary information that I drew upon was industry publications, both those concerned with the mineral industry in general and those whose focus was copper in particular. The latter included company

reports. Once again, this seems to be a very underutilized source of information, perhaps because of the tendency to either take such publications at face value or to dismiss them altogether as pure propaganda. Of course it is with material of this nature that the researcher must be most critical and where the method of historical-documentary research most closely parallels the effort of the participant observer to construct an analytic description of social reality (McCall and Simmons, 1964:4-5). The potential for research through the use of industry publications is fantastic, however, particularly for those interested in political economy, and can even make use of the ideology within which such material is cast. Let me suggest only one example of a project toward which I felt a constant pull as I buried myself in the experience of the Cold War years as seen through the eyes of the mining industry. One could carry out a fascinating study of the meaning of the Cold War--how it affected perceptions of both world and domestic politics, how it became the social cement of an era and delineated the universe of discourse, and how policy makers in both public and private spheres articulated and acted upon its assumptions--through a content analysis of a series of industry publications such as the Engineering and Mining Journal (E&MJ) and the "social commentary" found in most company annual reports. Finally, as the discussion and references in Part II of this chapter make clear, I also drew upon a range of secondary materials. These varied from historical

and sociological studies of Chile to economic and social histories of the copper industry and a selective sifting of the recent flood of writings on the multinational corporation. In the latter case I was interested both in the range of perspectives on the meaning of the multinational corporation and particularly in those works which tried to place the multinationals in the perspective of the world political economy of capital.

In general I made greatest use of the documents published by the state and the mining industry in Part II of this essay and those of the UN, supplemented by industry publications, in Part III. The task I set myself in Chapter Two, a sketch of the U.S. political economy as a whole, the place of copper within that political economy, and the relationship between capital and the state required both the conceptual framework provided by O'Connor (1974:1-12) and the use of such primary sources as the Census of Manufactures and Employment and Earnings. Chapter Two can thus be thought of both as an outline of a conceptual framework and as a small case study of that conceptual framework. In Chapters Three through Five I relied most heavily on the publications of the mining industry and the copper companies. However, I was doing so not simply to provide an account of how capital perceived the 1944-1973 era, particularly the relationship between mining capital and the state. Instead, I was using the information generally read only by the participants within the industry--mining engineers, company

executives, officials of state agencies concerned with mineral development--to test the framework for analyzing the state budget which O'Connor developed from Marxian theory. There are some obvious difficulties with this procedure and, as noted above, it was here that I had to be most critical of my sources and the way in which they analyzed the social reality which they reported. This was particularly true when it came to examining the relationship between mining capital and the state. I discovered that the older laissez faire ideology--where state and capital appear in opposition--remained dominant, even within the publications and speeches of big copper, well into the 1960 decade (see Seider, 1974 for a similar finding for big business in general). However, the use of industry sources not intended primarily for public relations was also as asset. State actions, company responses, and even conflicts of interest within the industry were much more clearly articulated in E&MJ than might normally be the case (e.g., in contrast with annual reports). I emerged from this effort with a much strengthened belief in the validity of my theoretical framework for understanding the functions of the metropole state.

Here I should mention one other phenomena that I encountered repeatedly. Both individuals and institutions usually articulate (and understand) their interests and actions in terms of some ideology, or at least some rhetoric of legitimation. In the early days of the Cold War, interests

were often expressed with a frankness that is revealing--even embarrassing--in retrospect. This is so for two reasons. First, the Cold War universe of discourse of the late 1940's and early 1950's had not yet come under attack and was thus neither as sophisticated nor as complex as was to be the case by the latter 1960's. Second, once a particular ideology has become delegitimized by subsequent events (in this case the Indochina War, detente, and the cultural shift of the 1960's), the motives behind actions articulated within its framework become more transparent. Thus, a historical perspective on an era often reveals key relationships and interests involved in political conflicts with a clarity denied either to the participants or to the researchers present at the time. This type of insight is one of the strengths of historical-documentary methods of research, i.e., the ability to overcome the limits of studies of milieux (Mills, 1959:149-150).

Part III also required the weaving together of primary and secondary sources of information. Chapter Six is once again a case study that focuses on a specific issue, the origins of dependency in hinterland political economies. Here I drew upon largely secondary sources on Chilean history filtered through the theoretical literature on dependency. That is to say I was not seeking simply to give an account of Chilean history but an account which links the Chilean class structure to Chile's position in the evolving capitalist world division of labor. Once again I found a

little used government source to be quite helpful. In the 1950's and early 1960's the Department of Commerce published a series of books designed to aid U.S. multinationals in planning foreign investment. Whether the research staff of multinationals ever makes use of these materials I do not know. These publications do, however, contain valuable historical information including some of the longest statistical series on such important political economic variables as foreign trade, foreign investment (including the identity of the companies involved), output of foreign owned extractive industries, and regional inequalities.

In Chapters Seven and Eight I faced the difficult task of quantifying the actual and potential economic surplus lost to Chile as a result of the penetration of U.S. copper multinationals. At the same time, I wanted my discussions of the mechanisms of economic surplus appropriation in the Chilean instance to be small case studies of the larger pattern of conflict between national and multinational political economies. Thus I wanted my estimates for Chilean loss of economic surplus to be paralleled by estimates of the dimensions of economic surplus appropriation by U.S. multinationals as a whole. Here I made use of both UN and U.S. data on foreign investment, supplemented by studies of the multinational corporation which illuminate the link between its organizational structure and the international division of labor in the capitalist world political economy. ECLA's yearly report on the Latin American economies, which contains

summaries for individual countries, was also a basic source here, providing much material not otherwise available.

Perhaps the best way to summarize this overview of the methods and sources used in this project is by making a general recommendation for graduate programs in sociology. There should be a course or substantial portion of a course in historical-documentary methods of research that is required or strongly recommended in every department. There are both practical and theoretical reasons for such an addition to graduate programs in sociology. The library as a source of information is greatly underworked in a discipline that has increasingly come to see either the experiment or the questionnaire as the model of research. In a time when we are facing substantial cutbacks in research funding, historical-documentary research represents an economical alternative method. However, my recommendation is based not simply nor primarily on economy in research. There is a distinct limit to what can be discovered through the experiment or the questionnaire, a limit in terms of time and place boundedness and in terms of social import. Historical-documentary research--the deceptively simple method of Marx and Weber--is essential to transcend these limits and to realize the promise of our discipline: the sociological imagination.

# PART I

# THEORETICAL FOUNDATIONS

# CHAPTER 1

## ECONOMIC SURPLUS AND SURPLUS VALUE

From the vantage point of the rising laissez faire order, the classical political economists attacked the irrationality and exploitation embedded in the decaying feudal and mercantile systems. Adam Smith put their case well when he commented that landlords "love to reap where they have not sown." Ricardo integrated this formulation into his system of political economy, defining rent as payment for "the use of the original and indestructible powers of the soil... [representing]...no addition to the national wealth but merely a transfer of value" (Ricardo, 1971:91,331). Further, Smith's concern with the needs for capital accumulation in the new system (Blaug, 1968:53) led him to a theory of productive and unproductive labor which became a theoretical weapon in the hands of the bourgeois class.

> The labour of some of the most respectable orders in the society is, like that of menial servants, unproductive of any value, and does not fix or realize itself in any permanent subject, or vendible commodity, which endures after that labour is past...The sovereign, for example, with all the officers both of justice and war who serve under him, the whole army and navy, are unproductive labourers...Their service, how honorable, how useful, or how necessary soever, produces nothing for which an equal quantity of service can afterwards be procured...In the same class must be ranked, some of the gravest and most important, and some of the most frivolous professions: churchmen,

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> lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera-singers, opera-dancers, etc. (Smith, n.d.: 315).

Thus political economy was born not only as an attempt to understand a new social order, but also as a critical analysis of a past order.

The classicists saw the imperatives of production and capital accumulation which were the motors of the new bourgeois society. However, with the partial exception of Ricardo--whom Marx called the economist of production par excellence--their vision was blurred when it came to the analysis of the capitalist social relations structured by these imperatives. Irrationality, exploitation, productive and unproductive labor--these issues receded from the view of political economy as the new order consolidated itself. It was left to Marx to unravel the laws of motion of capital and to inquire of the political economic category profit as classical political economy had of rent--why does it exist? Marx's answer, and the theoretical core of his critique of capitalist society, was the concept of surplus value, a concept which integrated the explanation of profits, interest, and rent. Despite its early appearance in the history of economic thought, however, this concept remained outside the orthodoxy. Indeed the very questions that it sought to answer were ruled illegitimate by the marginalist revolution of the late nineteenth century. Although surplus value continued to be invoked by even reformist socialists and was debated in the Marxist economic underground, it has had

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little importance in academic economics. This has been particularly true in the U.S. where Marxism has always been weak. However, in recent years a new generation of U.S. economists, particularly those associated with the Union of Radical Political Economics (URPE) have taken up Marx's unfinished task: the critique of capitalist society. But they have done so with a different concept, that of economic surplus.

In fact, economic surplus has emerged as the key conceptual tool in a new paradigm for social analysis (Stanfield, 1973:1).[1] Yet this has occurred almost by default. There has been remarkably little discussion of either the concept or its relationship to Marx's notion of surplus value. Both of these are imperative if we are to continue the successful development of a counter paradigm in political economy and if we are to understand the strengths and limits of our tools. This chapter is a first step in that effort and consists of two parts. First, I discuss the meaning of each concept, clarifying and comparing the theories of productive and unproductive labor upon which each rests. This task is relatively straight forward for surplus value, but requires some selectivity when it comes to definitions of economic surplus. I have chosen to focus on the work of Paul Baran (1957, 1966, 1969) and Paul Sweezy (1966, 1974) since they have been the central figures in the development of the latter concept and are the authors usually cited when the concept is used. In the second part of this chapter

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I explore the uses and implications of each concept, concluding that both are insightful since they illuminate different aspects of contemporary capitalist societies. Here I focus on surplus value as a tool for grasping the dynamic of accumulation in capitalist societies and on economic surplus as a way of viewing the loss of potential wealth and well being of subordinate nations in an imperial system. The problem of the accumulation of capital is the major theme of my analysis of state and capital in Part II while the loss of potential for social and economic development is the integrating thread in the analysis of the political economy of Chilean dependency in Part III.

## Definitions, Levels of Consumption, and Theories of Productive Labor

Let us begin by considering Marx's definition of surplus value:

> The character and tendency of the process M-C-M [money-commodity-money] is therefore not due to any qualitative difference between its extremes, both being money, but solely to their quantitative difference. More money is withdrawn from circulation at the finish than was thrown into it at the start...The exact form of this process is therefore M-C-M'; where M' = M+$\Delta$M = the original sum advanced plus an increment. This increment or excess over the original I call 'surplus value' (Marx, 1967: Vol. I, p. 150).

The "original sum advanced," M, includes both the variable capital outlays, V, by the capitalist for the purchase of labor power and the constant capital outlays, C, for the means of production exhausted in the process of producing

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the commodity. It does not, however, include the consumption outlays of the capitalist and of unproductive groups in general. All of this consumption is financed out of surplus value, S. In a situation of simple reproduction, that is where the means of production and the labor power exhausted are reproduced but no growth occurs, consumption on the part of unproductive groups absorbs all of the surplus value created. In expanded reproduction, some portion of S is accumulated for the purchase of additional means of production and/or labor power (Marx, 1967:Vol. II, Chapters XX and XXI).

Surplus value is thus "the monetary form of the social surplus product" (Mandel, 1968:90). Social surplus product is not to be confused with economic surplus. In Marx's formulation, social surplus product is the result of surplus labor, that labor performed which is above and beyond the necessary labor required to reproduce the producing class and the means of production. Necessary labor, surplus labor, and therefore social surplus product have characterized a multitude of social formations:

> Capital has not invented surplus-labour. Wherever a part of society possesses a monopoly of the means of production, the labourer, free or not free, must add to the working time necessary for his own maintenance an extra working-time in order to produce the means of subsistence for the owners of the means of production, whether this proprietor be...Etruscan theocrat, civis Romanus, Norman baron, American slave-owner, Wallachian Boyard, modern landlord or capitalist (Marx, 1967:Vol. I, p. 235).

Surplus value, on the other hand, is specific to societies in which production for exchange value, of commodities for

market, is found. In fact,

> The essential difference between the various economic forms of society, between, for instance, a society based on slave labour, and one based on wage-labour, lies only in the mode in which this surplus-labour is in each case extracted from the actual producer (Marx, 1967:Vol. I, p. 217; see also Vol. III, Chapter XLVII).

In turn, the "mode in which...surplus labour is...extracted from the actual producer" is the basis for Marx's theory of productive and unproductive labor, a distinction which underlies the entire conceptualization of surplus value. Further, one of the major differences between surplus value and economic surplus is the divergent theories of productive and unproductive labor developed by Marx on the one hand and Paul Baran on the other. Initially, Marx classifies labor as productive if it produces use values (Marx, 1967:Vol. I, pp. 180-181). However, in class society, to be a productive laborer means to be linked through a historically developed social relation with those non-producing classes which appropriate the social surplus product. Productive labor, then, is labor which contributes to the wealth and expansion of the ruling class in a particular mode of production and to the wealth and expansion of that mode of production itself.[2] Capitalism is, of course, such a mode of production. Thus, in a society in which capital is dominant

> our notion of productive labour becomes narrowed. Capitalist production is not merely the production of commodities, it is essentially the production of surplus-value. The labourer produces, not for himself, but for the capitalist. It no longer suffices, therefore, that he should simply produce.

> He must produce surplus-value. That labourer alone is productive who produces surplus-value for the capitalist, and thus works for the self-expansion of capital (Marx, 1967:Vol. I, p. 509).

Although later writers have sometimes confused the issue, Marx is explicit in his refusal to restrict the category of productive labor to that labor engaged in the production of tangible goods or salable commodities. This conception is actually closer to what Marx called "Adam Smith's Second Explanation: the View of Productive Labour as Labour which is Realized in a Commodity," an approach which Marx criticized in Theories of Surplus Value (Marx, 1969:156-170; see also Gough, 1972:52 on this point). Marx drives home his formulation in both general terms and with specific illustrations of labor outside the sphere of goods production but which also creates surplus value. Thus, the definitions of productive and unproductive labor

> are therefore not derived from the material characteristics of labour (neither from the nature of its product nor from the particular character of the labour as concrete labour), but from the definite social form, and social relations of production, within which the labour is realized (Marx, 1969:153).
>
> An actor, for example, or even a clown, according to this definition, is a productive labourer if he works in the service of a capitalist (an entrepreneur) to whom he returns more labour than he receives in the form of wages; while a jobbing tailor who comes to the capitalist's house and patches his trousers for him, producing a mere use value for him, is an unproductive labourer. The former's labour produces a surplus-value; in the latter's, revenue is consumed (Marx, 1969:153).
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> If we may take an example from outside the sphere of production of material objects, a schoolmaster is a productive labourer, when, in addition to belabouring the heads of his scholars, he works like

> a horse to enrich the school proprietor. That the latter has laid out his capital in a teaching factory, instead of in a sausage factory, does not alter the relation (Marx, 1967:Vol. I, p. 509).

For Marx, this definition of productive labor as embodied in the distinction between the clown and the jobbing tailor

> also establishes absolutely what unproductive labour is. It is labour which is not exchanged with capital, but directly with revenue, that is, with wages or profits (including of course the various categories of those who share as co-partners in the capitalist's profit, such as interest and rent) (Marx, 1969:153).

This brief account does not, of course, exhaust Marx's theoretical development of the concept of productive and unproductive labor as the basis of the expansion of capital through the appropriation of surplus value. Nevertheless, to summarize, while the line between productive and unproductive labor may be difficult to draw in practice, it is conceptually clear. In the second portion of this chapter I domonstrate that it is this conceptual clarity which gives the concept of surplus value its analytical strength as a tool for grasping the dynamic of accumulation in the capitalist social order.

Before concluding this discussion, two final points must be made explicit. First, unproductive labor should not be confused with unnecessary labor since "labor may be necessary without being productive" (Marx, Grundrisse, quoted in Baran, 1957:33). That is to say that labor such as is involved in the sphere of circulation or in the mechanisms of social control, may be necessary for the functioning and preservation of a given social formation even if it

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definition offered is "the briefest possible [one]...the difference between what a society produces and the costs of producing it" (1966:9). The subsequent addition of the qualifying phrase "socially necessary" (which is nowhere discussed) to the notion of the costs of production only adds confusion. While there is not space to consider all of the resulting difficulties in detail (see O'Connor, 1966 and Stanfield, 1973:Chapters 1 and 2 for an analysis of some of the problems involved), I will list the major ones: (1) This definition combines output categories with income flows, a problem which is apparent in the statistical appendix that develops empirical estimates of the economic surplus. In arriving at these estimates categories of output such as total government expenditures are added to income categories such as total property income: profits, rent, and interest (Stanfield, 1973:86 makes a similar point in a different context); (2) The inclusion of the entire budget of the state sector in the category of economic surplus is an "unusual assumption for Marxists to make...If the main seats of state power are occupied by the corporate oligarchy, then state spending must serve ruling class interests. Thus, in the absence of government financial programmes, the corporations themselves would be compelled to maintain utilities, transportation facilities, the health of the work force, and so on" (O'Connor, 1966:46); (3) Under monopoly capitalism the total product and mode of surplus utilization are not independent of each other, e.g., some of the new cars produced each year would probably not be made if surplus were

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ion and the theory of productive and unproduc-
ich underlies the concept of potential economic
Baran the meaning of essential consumption is
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elihood'" (Baran, 1969:277). This is similar
er political economist who uses a slightly dif-
t of potential economic surplus defines as
ntial production:

mum amount of production required to main-
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isskopf, 1972:366).

empirical determination of essential consump-
ifficult (See Stanfield, 1973, for an effort
BLS budgets), the idea is theoretically clear.
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roductive labor force, the amount set aside
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ocess <u>and</u> the surplus value needed to support

the capitalist and other unproductive classes at the same level of "decent livelihood" as the producing classes are all included in the concept of essential consumption. The surplus value which goes into the consumption of the capitalist and all other classes[4] above the level of a decent livelihood is part of the potential economic surplus, however.

The theory of productive and unproductive labor that Baran uses in his discussion of potential economic surplus is less clear. He defines unproductive labor as:

> all labor resulting in the output of goods and services the demand for which is attributable to the specific conditions and relationships of the capitalist system, and which would be absent in a rationally ordered society. Thus a good many... unproductive workers are engaged in manufacturing armaments, luxury articles of all kinds, objects of conspicuous display and marks of social distinction. Others are government officials, members of the military establishment, clergymen, lawyers...advertising agents, brokers, merchants... (Baran, 1957:30-31).

There are two significant differences between the productive/unproductive conceptualization of the 1952 article and this definition taken from The Political Economy of Growth, published in 1957. (1) In his earlier article Baran mentions in passing workers "who are engaged in the production of non-essential goods" (1969:277), but his discussion is cast solely in terms of those workers "not directly related to the process of production" (Baran, 1969:277). Thus, examples given are physicians, artists, advertising agents, gamblers, etc. but none of the labor force in manufacturing. However, as the above quotation demonstrates, certain groups

of manufacturing workers are explicitly included in Baran's 1957 discussion of unproductive laborers. (2) Second, there is his treatment of what might be called the "socially useful" professions--scientists, physicians, teachers. In his first discussion of the concept of potential economic surplus, Baran classifies the people in these professions as unproductive workers. When he revised the concept for The Political Economy of Growth, he explicitly excludes these groups from the category of unproductive labor. He does so on the grounds that the demand for their labor "would become multiplied and intensified to an unprecedented degree" in a "rationally ordered society" (Baran, 1957:33). Even though these services are socially useful and would be expanded, he nevertheless characterizes these groups as "supported by the economic surplus" (1957:34). Thus, despite his step away from Marx's formulation of productive and unproductive labor, Baran seems unable to abandon it entirely, and his own schema remains somewhat ambivalent.

Once again it is useful to compare this conceptualization with the productive/unproductive classification developed by Marx. The central difference is as follows: Marx's classification of productive and unproductive labor is firmly rooted in a historically specific theoretical analysis of a given mode of production. Productive labor contributes to the wealth and power of that society and thus to the wealth and power of the ruling class. Baran, on the other hand, specifically rejects this approach to the issue:

> what is productive and what is unproductive labor in a capitalist society cannot be decided by reference to the daily practice of capitalism...the decision has to be made concretely, from the standpoint of the requirements and potentialities of the historical process, in the light of objective reason (Baran, 1957:32; see Baran, 1969:275 also).

Thus, except to the extent that the level of "essential consumption" is historically variable, productive labor for Baran remains a historical category. Further, as a result of his focus on irrationality and waste, he approaches the theoretical question of productive and unproductive labor through an analysis of unproductive labor in specific modes of production with productive labor emerging as a residual category. Marx develops an analysis of productive labor and social growth so that unproductive labor is the residual category.

Several other distinctions flow from this difference in conceptualization. First, and most obviously, some workers which are productive in Marx's schema are unproductive for Baran and vice versa. Examples of the former would be those engaged in the production of sophisticated alarm systems for the protection of factories, in the manufacture of new-fangled potato chips, and in the creation of luxury goods for capitalist consumption. The latter, those productive for Baran but not for Marx, could include family farmers, artists, and independent professionals. Since the work of both authors was part of a critique in praxis of capitalist society, this distinction is of more than purely theoretical interest. Socialists have often argued that those

engaged in productive labor have the greatest potential for class consciousness and thus should be the focus of socialist political activity. Thus, different conceptions of productive labor have direct implications for socialist strategy. (On this point see Cherry, 1973:60-65 and Gough, 1972: 71-73). Secondly, Baran's statements to the contrary notwithstanding (cf Baran, 1957:33 and 1969:275), nobody in his model can be said to "live off the surplus" since essential consumption of all individuals is defined as outside the potential economic surplus. Of course, some groups--and to some extent these are Baran's nonproductive groups--consume more of the surplus than others, that is to say that excess consumption is differentially distributed. In Marx's model, on the other hand, unproductive groups do live entirely off the social surplus product. Finally, for Marx, those who live off the social surplus product are not productive workers. In Baran's analysis, however, some people who are supported largely from the potential economic surplus may also be productive workers, e.g., doctors or teachers.

After considering these differences of conceptualization, I have decided to use the discussion and definition of actual and potential economic surplus in The Political Economy of Growth as the basis for my own analysis throughout the remainder of this chapter and for the study of the political economy of Chilean dependency in Part III. There are three reasons for this choice. First, as the previous discussion has indicated, these are by far the most powerful

of the different concepts of economic surplus that Baran and Sweezy have developed. Second, they are also the most conceptually rigorous. Although Baran had already developed his own theory of productive and unproductive labor at the time of his 1952 article, he still remained at least partially under the spell of the analogous Marxian categories. This accounts for some of the confusion in the earlier discussion. Finally, as already noted, this same book is the reference cited by Baran and Sweezy themselves at the end of their brief discussion of economic surplus in Monopoly Capital, indicating at least some satisfaction with that version of the concept of economic surplus.

## Discussion and Critique

On the few occasions that either Paul Baran or Paul Sweezy have discussed the relationship between economic surplus and surplus value, they have always stressed the continuity and similarity between the concepts. Baran's footnotes in The Political Economy of Growth (1957:22 and 23) suggest that the difference involved is a quantitative rather that a qualitative one. Thus he states that potential economic surplus

> excludes such elements of surplus value as... essential consumption of capitalists, what could be called essential outlays on government administration and the like; on the other hand, it comprises what is not covered by the concept of surplus value--the output lost in view of underemployment or misemployment of productive resources (1957:23).

In Monopoly Capital the two concepts are linked even more directly. The authors justify their choice of economic surplus as their major theoretical tool by arguing that "in a highly developed monopoly capitalist society, the surplus assumes many forms and disguises" other than the sum of profits, interest, and rent with which surplus value "is probably identified in the minds of most people familiar with Marxian economic theory" (Baran and Sweezy, 1966:10). Recently, Sweezy has reiterated the argument of continuity between the two concepts. "At no time did Baran and I explicitly or implicitly reject the [Marxian] theories of value and surplus value but sought only to analyze the modifications which became necessary as the result of the concentration and centralization of capital..." (Sweezy, 1974:32). Nor have Baran and Sweezy been alone in this belief in conceptual continuity. Several other writers, e.g., Nicolaus (1969:109-110) and Gough (1972:72) have accepted this claim of continuity in their own comments on the concept of economic surplus.

However, as the discussion of the two concepts has already demonstrated, they rest upon quite divergent theories of productive and unproductive labor. This divergence flows from the radically different use of historically rooted categories in the two concepts. Equally important, potential economic surplus, through its stress on the output lost due to the wastefulness of the existing socioeconomic order, includes an institutional critique which is absent from the

concept of surplus value. It seems that, just as Baran's theory of productive and unproductive labor remained partially under the spell of the analogous Marxian categories, so the two authors did not fully realize the distinctive nature of their new concept. Rather than merely extending surplus value to the conditions of monopoly capitalism, Baran and Sweezy, along with subsequent analysts, have developed a conceptual tool which has different uses and illuminates different facets of the reality of advanced capitalist societies. None of this is meant as a denial of Sweezy's insistence that he and Baran never rejected the theory of surplus value but rather to point out that the same theoretical framework cannot be the basis of both surplus value and economic surplus. Instead, I am suggesting that the usefulness of the new concept exceeds that of surplus value on some dimensions, but is more limited on others.

Perhaps the best way to approach these issues is through the divergent uses of historical categories. The most striking difference between the two concepts is the historical generality of economic surplus and the historical specificity of surplus value. In his earliest discussion of economic surplus, Baran (1969:280-285, 291-294) applies the concept to modes of production as varied as the prehistoric Middle East, the Roman Empire, feudal Europe, and the contemporary United States. Five years later, in <u>The Political Economy of Growth</u>, economic surplus is used to analyze a wide range of non-Western societies while <u>Monopoly Capital</u>

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distance trade has occurred. The reason for
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ode of production. For Marx the social rela-
labor process were the fundamental element in
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specific mechanism by which surplus labor was
f the producing classes by the non-producers
3:226). Thus, it is only under the capitalist
uction that free wage-labor meets capital in the
ther, Marx saw that this freedom of the laborer
s: freedom to dispose of one's own labor time
ied by freedom from any claims on the means of

subsistence except that which could be purchased in return for the sale of one's own labor power. The latter freedom ensured that the former would be exercised, or, as Edmund Burke was the first to make explicit, the whip of hunger would force the laborer into the market to seek employment from capital (Polyani, 1944:116-117). It was on the basis of this sociological condition--which "comprises a world's history"--rather than the economic model of equal, autonomous agents who meet in the market, that Marx constructed an entire critique of political economy (Horowitz, 1970:156-158).

The employment of the laborer by the capitalist results in the production of surplus value while the aggregate of individual surplus values describes the relationships between the capitalist class as a whole and the proletariat as a whole. It is in fact the labor of the individual proletarian that creates the individual capitalist just as it is the labor of the collective proletariat that produces the capitalist class. Thus the dialectic is both micro and macro:

> ...[C]apital presupposes wage-labor and wage-labor presupposes capital. They mutually condition one another; they mutually bring each other into existence...[C]apital and wage-labor are the two sides of one and the same relation. The one conditions the other (Marx, 1948:38-39).

Similarly, the conditions necessary for the existence of the capitalist are those which call into being the proletariat. Surplus value thus strips away the veil of appearances woven by the interaction of commodities, of things, in the market and reveals the labor process, the social relations of production (see Marx, 1967:Vol. I, pp. 71-73).

The concept of economic surplus, in contrast, is built neither upon the labor process nor upon any other social relation. It is defined in the aggregate, for society as a whole, and cannot be represented as the sum of the surpluses created from the social relations of individual laborers and capitalists. Clearly the output lost due to the irrationality and wastefulness of the prevailing social order is not appropriated since it is never produced, thus there is no social relation involved. Thus, the dialectics of production, exploitation, and class conflict, integral to any class based mode of production, are virtually ignored. In Monopoly Capital, for example, the use of this concept leaves us with a contradiction of monopoly capitalism, the tendency of the surplus to rise, that is a contradiction without an agent and therefore moves in a void. The lack of an internal contradiction which drives the system forward is underlined by the very language used when the economic surplus is discussed. Both authors repeatedly write of "society" doing this, or of economic surplus as an index of "society's" ability to do that. In fact, when Baran introduces his discussion of economic surplus, he does so in terms of an analysis of "comparative statics" which "ignore the paths of transition from one economic situation to another" (1957:22; see also 1969:273).

Yet there is a dialectic involved in the concept of economic surplus, a dialectic that Baran himself explicates when he writes

tegory of potential economic surplus itself
ends the horizon of the existing social
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rplus is thus a product of Baran's lifelong strug-
ure reality by reason, "to point out the...dis-
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son.[5]

, what Baran has done is not, as a recent and
uite useful article by Ian Gough suggests, to
historical viewpoint which Marx utilized to
rkers in the circulation process from production
ough, 1972:67) to the categorization of all pro-
unproductive labor. Instead, he has chosen a
that is intellectually outside the prevailing
r, that is unencumbered by its values...and...
s critical insight into that social order's con-
and hidden potentialities" (Baran, 1969:275).[6]

Here we have a paradox. It is precisely this position outside of history which enables Baran to make historical categorizations of productive and unproductive labor, illuminating the irrationality of a given social order. This focus on irrationality has given his work, and that of his colleague Paul Sweezy, much of its moral and political force. On the other hand, it is this same position that turns Baran's conception of economic surplus into merely a category of political economy rather than also a social relation of exploitation as in the case of Marx's own conception of surplus value. At the conclusion of this chapter I will try to suggest some of the larger socio-historical reasons for this difference.

At this point the discussion has laid the basis for the consideration of the strengths of each of the concepts as these strengths bear on the analysis in Parts II and III of this essay. Before proceeding, however, it may be worthwhile summarizing the argument to this point. First, although Baran and Sweezy themselves insisted on the similarities between economic surplus and surplus value, I argued that an examination of the divergent theoretical bases of the two concepts called into question this claim. I then began to consider precisely how the two concepts differed, focusing on the historically specific nature of surplus value and the ahistorical nature of economic surplus. I next demonstrated that the historical specificity of surplus value was rooted in a social relation and dialectic peculiar

to the capitalist mode of production, the confrontation of capital and wage-labor in the market. Thus the concept is one of change, an attempt to grasp the dynamic of an entire epoch. Economic surplus, on the other hand, is located not in any social relation but in a dialectic of reason which exists outside of, or beyond, history. This dialectic of thought is the origin of both the strengths and limits of the concept. Now we are ready to turn to an examination of surplus value as a way of understanding the central imperative of the capitalist mode of production, the accumulation of capital. Then I shall discuss economic surplus as a conceptual tool for the analysis of the relationship between political economic units in a system of dominance and subordination. The final pages of this chapter are devoted to a sociology of knowledge consideration of the two concepts.

"The fundamental problem to which Marx's sociology was addressed was the systematic explanation of structural changes generated by the very inner workings of capitalist societies themselves" (Balbus, 1971:37). The concept of surplus value is these "inner workings" in a nutshell and it points to the central law of motion of capital as a system: "Accumulate, accumulate, that is Moses and the Prophets." This is the dynamic which has driven the capitalist mode of production forward from its origins in a few twelfth century Italian city states (Cox, 1959) to become the world system of the twentieth century. To this dynamic all else is subordinated. The accumulation of surplus value is, of

course, based on the accumulation of productive labor. This is true at all three levels: the biography of the individual capital, the social structural level of capital as a class, and in the history of the capitalist mode of production as a whole. Marx's injunction, like the dialectical social relation upon which it is built, is an imperative that operates at both the micro and macro levels. In each case, to fail to expand means to decline and eventually to be absorbed by another, stronger, unit of capital. It is within the parameters of this imperative that capital allocates surplus value to waste, consumption, and reinvestment. The latter course is crucial for it is through the reinvestment of surplus value that capitalist society moves out of the situation of simple reproduction and into a process of expanded reproduction which in turn makes possible the continued accumulation of capital for the further expansion of reproduction.

In surplus value terms we may distinguish three paths to the accumulation of capital. (1) The amount of surplus value extracted from a given quantity of labor power may be increased, that is the rate of surplus value rises, while the amount of capital employed remains constant; (2) The quantity of labor power set in motion may be increased due to the employment of more capital while the rate of surplus value remains constant; or (3) The quantity of labor power set in motion may rise while the amount of capital and the rate of surplus value remain unchanged. Of course, various

combinations of these three paths may also occur. (See Marx, 1967:Vol. I, Chapters VII-XVII for an exhaustive discussion of these possible combinations.) Here I will sketch the process involved in each case.

The mass of surplus value extracted from a given quantity of labor power may be increased either through a lengthening of the working day and thus of the period of surplus labor or by raising the productivity of labor, that is by reducing the period of necessary labor. In Marx's terminology, the first form is the production of absolute surplus value. The second, which "revolutionises out and out the technical process of labour, and the composition of society ...[and]...therefore presupposes...the capitalist mode of production" (Marx, 1967:Vol. I, p. 510) is the production of relative surplus value. In the beginnings of the capitalist epoch--it was undoubtedly the impulse of capital towards the extraction of evermore absolute surplus value which predominated and which also made the confrontation between capital and labor such an explosive one. However, as technology and science have been harnessed to the logic of capital, the extraction of relative surplus value has come to predominate, particularly in the large scale, technologically innovative sectors of industry. The accumulation of capital through the production of relative surplus value, the increase in the productivity of labor power, is a major theme in my analysis in Part II of this essay.

The mass of surplus value may be increased through an extension of the sway of capital, the drawing into the social relations of capitalist production an increasing number of laborers. This second path to the accumulation of capital is at the roots of the expansionary dynamic of the capitalist mode of production. It also takes two forms, internal and external. The latter, extensive, form of expansion has been analyzed in writings on the different stages of colonialism and imperialism. As an explanation of the thrust of capital beyond the boundaries of its own nation state, this emphasis on the imperative of capital accumulation is sufficient. However, for reasons I outline below, the analysis of the impact of capital on colonized regions and peoples solely in terms of the extraction of surplus value is inadequate since the sociological relationships of race and nationality are collapsed into pure class relations. Here the analysis must be supplemented with the concept of economic surplus. The internal, or intensive, expansion of capital has been less studied. However, Marx himself stressed the importance of the enclosure acts for the creation of a proletariat from pre-capitalist classes and strata and thus for the accumulation of capital (Marx, 1967: Vol. I, Chapters XXVII and XXVIII). Even in the centers of the world system of capital this dynamic continues into the present. On the one hand, strata which have been wholly or partially outside the capital-labor social relation--women, youth, racially oppressed peoples--are incorporated as a

further source of surplus value. On the other hand, activities which have been funded out of revenue, i.e., which have absorbed unproductive labor, are brought under the dominion of capital in its thirst for surplus value. Such activities range from domestic servants to functions previously carried out by the state such as mail delivery in the U.S. Both this type of internal expansion and the accumulation of capital imperative behind external expansion form a part of the dynamic of state and monopoly capital analyzed in Part II.

Marx did not live to write his "specific study of the state...[which was to be]...the conclusion of his life's work" (Girardin, 1974:200). Thus, while he discussed in depth these first two paths to the accumulation of capital, he did not consider in any detail the third path, the ability of a given amount of capital to set more labor power in motion without lowering wages. The social relations involved here can best be summarized as the socialization of costs and the continued private appropriation of profits. The process is simple: capital shifts part of the outlays for constant capital to some other portion of society. Today this is usually the state, but at an earlier period it could be wage labor itself which might be required to supply both means of production and place of work as in the old putting out system. With a reduction of outlays for constant capital, the identical amount of capital employs more labor power and thus accumulates surplus value more rapidly, even if the

rate of surplus value remains unchanged. This is possible since, in Marx's model the rate of surplus value, defined as $\frac{s}{v}$, and the rate of profit, $\frac{s}{v + c}$, do not necessarily move together. Of course, it is often the case that the socialization of the outlays for constant capital will increase the rate of surplus value through the production of relative surplus value. Still, the two paths are analytically distinct, and the ability of capital to transfer the outlays of constant capital to the state is a central pattern of my discussion of the political economy of copper in Part II.

Precisely <u>because</u> of its ability to illuminate the labor process, the dialectic of class, and the dynamic of capital accumulation, it is difficult to use surplus value as a sufficient conceptual tool to grasp the "underdevelopment" of the hinterlands of world capitalism by the metropoles, depressed areas by national growth poles, and racially subordinated populations by dominant peoples. A focus on the appropriation of the social surplus product by the dominant unit in each of these cases gets at only some of the facets of the linkages involved. This approach takes too much as a given the organization of the social relations of production in both the dominant and subordinant entities. This is particularly true in the stage of imperialism when the social relations of production have internalized the political economy of dependency in the subordinate unit. At the same time, these social relations are integrated with the linkage mechanism, the multinational corporation, of the

dominant unit. What I am suggesting is that crucial to each of the structures of dominance and subordination mentioned is the loss of potential wealth and well being on the part of the subordinate entity as it becomes organized in a manner which is complementary to the political economic dynamic of the dominant unit. (See Dos Santos, 1971, for a discussion of the complementary nature of dependent societies.) Potential economic surplus illuminates this loss of potential as well as much of the social surplus product which is also appropriated.

All of this is not to deny that the extraction of surplus value remains the fundamental imperative of capital as a world system and a--the?--basic exploitative social relation of the capitalist mode of production. Rather it is to stress that this imperative and this relationship is often embedded in, and modified by, international, regional, and racial structures of dominance and subordination. Thus, potential economic surplus encompasses the concentration of technology intensive production processes in the metropoles of world capitalism, the canalization of forward and backward linkages by the internationalisation of capital, and the dependent nature of the rhythm of economic expansion and contraction in the hinterlands. In each case, it is a matter of "output lost because of the irrational and wasteful organization of the existing productive apparatus," Baran's third heading under which potential economic surplus is found, rather than the appropriation of surplus

value from wage labor. (Part of the inadequacy of the writings of many theorists of imperialism is precisely this overemphasis on the latter relationship, cf the otherwise insightful works of A. G. Frank, 1969 and 1970.) Thus, rather than illuminating the "inner workings" of any specific mode of production, potential economic surplus provides a measure by which to judge the outcome of all modes of production. Since, as argued previously, the concept is thus outside of history, the forms of potential economic surplus cannot be specified as precisely as the three paths to the accumulation of capital. However, the analytical power of the concept is considerable and simply needs to be developed.

Potential economic surplus is not the only conceptual tool developed for the analysis of imperialism and dependency during the post World War II period of increased interest in these issues. While Baran was elaborating the economic surplus concept in the 1950's, Myrdal was discussing the process of underdevelopment in terms of the "backwash" and "spread" effects. The former are defined as "all relevant adverse changes, caused outside that locality" experiencing economic growth (Myrdal, 1971:30). Spread effects are simply the other side of the coin, the positive effects of such growth which manifest themselves in other localities (Myrdal, 1971:31; see also Weaver, 1968, especially Chapters 1 and 2 for a discussion of backwash and spread). For Myrdal, "the play of the forces in the market normally tends to increase, rather than to decrease the inequalities between

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regions" (Myrdal, 1971:26). Thus, the spread effects of economic growth in the industrialized regions could not be expected to balance the backwash effects as far as the "underdeveloped" regions were concerned. More recently, Galtung has developed a parallel notion in his conception of "spin offs" by which he understands the intra-unit effects of inter-unit interaction (Galtung, 1970:86-87). Again these are argued to be differentially distributed with the beneficial effects concentrated in the dominant entity and the negative effects in the subordinate one. For example, Galtung sees a psychology of dependence, "specialists in having" such as lawyers, and practical knowledge emerging in the "perpheries" while the "centers" produce a psychology of self-reliance, "specialists in creating" such as scientists and engineers, and technical/scientific skills and knowledge (1970:87).

While these three concepts at least partially overlap, there are also important differences between them. Despite its looseness of formulation, potantial economic surplus possesses greater theoretical rigor than does the notion of backwash and spread effects and also encompasses the outcomes of inter-unit interaction which spin offs emphasizes. In the former case, the economic surplus concept gives us the parameters by which to judge the "adverse effects"--the output that could be produced by the use of all employable productive resources. As compared with spin offs, potential economic surplus keeps our vision on the gap between the is

and the ought, what is real and what could be real. A further strength of the concept is the light it casts on the question of economic growth, a problem closely linked to the analysis of imperialism and dependency. While the source of growth is obscure in comparison to an analysis in terms of surplus value, economic surplus does pose questions about the direction or nature of the growth that occurs--what is the gap between the social and private rationality in any given growth process? Potential economic surplus also points to the reasons for lack of growth since the economic surplus can be wasted, invested in unproductive activities, or simply not produced due to "the waste of resources caused by various aspects of monopoly and monopolistic competition" (Baran, 1957:36). Once again, the position outside of history enables us to use the concept to focus on the negation of what is, an advantage over the concepts of spread and backwash and spin offs in the comprehension of imperial relationships. Finally, as I argue in Chapter 2, potential economic surplus also aids in the understanding of the drive of the multinational corporation to canalize external economies.

To conclude this chapter I will approach the contrast between surplus value and economic surplus from a somewhat different angle, a consideration of the socio-historical bases of the contrasts. First, at least in part the divergence between the two concepts, particularly the lack of a historically grounded contradiction in the concept of economic

surplus, is rooted in the distinct social and political environment in which each was developed. Marx thought and acted during the years when the nascent proletariat first announced its political presence through demands for suffrage, strikes, and insurrections. His own biography intersects the clash between the pre-capitalist and capitalist social orders in Germany, the great urban proletarian risings of mid-nineteenth century France, and the hegemonic capitalism of Victorian England. The new bourgeois order was still young, at places on the continent hardly yet consolidated, but already the revolutionary agent appeared to be waiting in the wings. At the same time, Marx's profoundly historical and dialectical grasp of the social world meant that both the grandeur and potential along with the tragedy and human wastefulness of capitalist industrialization were day by day etched anew in his mind. Thus, the dialectic within his schema is rooted in the praxis of those who first grasp the need for revolution in the hand, i.e., the proletariat.

Contrast this with the biography of Paul Baran, the major theorist of the economic surplus concept. Leaving the Soviet Union in the twenties--already with forebodings of what the future held[7] --he witnessed the debacle of the German left and the failure of the working class everywhere to make the revolution which the world crisis of the 1930's was to trigger. Fleeing from the Nazis, Baran left the home of classical Marxism to find sanctuary in the United

States, the advanced capitalist nation where the Marxian political economic vision remained largely detached from any proletarian base. Further, Baran first developed the economic surplus concept during the years in which the Cold War was at its height and his own isolation as a radical at Stanford was quite pronounced. Thus, in a period of retreat for Marxian politics, Baran created a concept whose dialectic was an appeal to those who first grasp the need for revolution in the head, a dialectic of thought. It is not surprising that an attack on irrationality and waste, the critique of the overdevelopment of wants and the underdevelopment of needs which is epitomized in the consumption ethic of monopoly capitalism, should attain such a prominent position in this context. Even in the middle of the 1960's, the chapter on the sales effort, which stresses this waste and irrationality, emerges as one of the most powerful in Baran and Sweezy's Monopoly Capital (1966).[8] Nor is this emphasis incongruent with the fact that Baran himself first applied the concept in a seminal analysis of the poverty of the "underdeveloped" capitalisms of the globe. The major integrating theme of The Political Economy of Growth is the manner in which the subordination of the third world to the capitalist metropoles has caused the waste and loss of the developmental potential of the former areas (Baran, 1957; see especially Chapters 6 and 7 "Towards a Morphology of Backwardness"). Similarly, just as the decline of Marxian political praxis produced a dialectic which operated on the

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plain of reason, so the apparent absorption of class conflict in the advanced capitalist societies externalized the agent of revolutionary change.

Second, as the discussion in this chapter has made clear, a major problem in the comparison of surplus value and economic surplus is the vast disparity in the level of elaboration of the two concepts. For Marx, surplus value was the foundation piece in an intricate theoretical analysis of capitalism as a mode of production. As such, its interconnections with the other elements in his theoretical system were painstakingly refined over a period of decades. Surplus value, the dialectic of class, the expansion of capital as a system, and the nature of the labor process--none of these can be considered separately in Marx's schema. Furthermore, because Marx's theoretical efforts resonated with political praxis that attempted to change the world, the concept has been analyzed and used extensively by Marxists for more than a century. By contrast, economic surplus is a much less rigorous concept to begin with and has never been part of an exhaustive and comprehensive analysis of monopoly capitalism. Thus, Baran and Sweezy subtitled their <u>one</u> volume work on the U.S. "an <u>essay</u> on the American economic and social order" (emphasis added). To some extent, the appeal of the economic surplus concept has been allowed to remain at the intuitive level. This was perhaps inevitable in a time when the depoliticization of daily life meant that the struggle to simply maintain one's

radical commitment required increasing amounts of personal time and energy. Conceptual formulations that encourage the imagination to break out of the one dimensionality of everyday life are a natural outcome of such a period. Thus, the concept has retained several ambiguities which this chapter, written in perhaps more hopeful times, has attempted to clarify, with the goal of aiding not only my own analysis but also the larger product of a counter paradigm in political economy.

To summarize the discussion in this chapter, while the concepts of surplus value and economic surplus diverge, they are complementary, not contradictory. That is to say that, when applied to the analysis of contemporary capitalism, each concept illuminates some facets of that reality which are cast in the shadows by the other. Thus surplus value emphasizes the confrontation between wage labor and capital in the market as the basis of class conflict, linking this conflict to the inner workings of the system. More importantly, this social relation is also the key to the accumulation of capital and therefore the growth of capitalist society itself. Economic surplus on the other hand, poses a challenge to that which is in the name of that which could be, a challenge which is extended to all class based modes of production. Here the focus is on the waste and irrationality which have characterized all such societies, a critique of the functioning of the institutional orders which are grounded in the divergent interests of dominant

and subordinant classes. This gap between the is and the ought is most apparent in the hinterlands of world capitalism. Thus the central contribution of the economic surplus concept appears to lie in the study of uneven development which is integral to the international system of capital, the creation of poles of wealth and poverty. At a higher level of analysis, the two concepts do converge. That is to say that both are critical categories of social theory that, unlike bourgeois social science, refuse to judge the established order "by criteria it, itself, has evolved" (Baran, 1957:72). For those, such as myself, who believe that the study of the social world should be a liberating praxis, this is perhaps their central strength.

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## NOTES

1 This book contains one of the few discussions of the concept I have been able to locate. The thrust of Stanfield's argument is that while surplus, as defined in Monopoly Capital, does show a tendency to rise, the investment seeking portion does not, nor is there sufficient evidence to show that the U.S. version of monopoly capitalism cannot absorb the surplus.

2 I owe much of this formulation to a talk by James O'Connor at Michigan State University in the spring of 1974.

3 For an analysis of pre-capitalist societies the earlier version would be the appropriate one, however.

4 In Baran's model, excess consumption is not limited to the ruling class since it is not based on a competitive model of capitalism.

5 In fairness to Baran, he does argue that the content of reason is historically variable. On the other hand, he goes on to say that it remains constant over long periods of time.

6 See Baran's essay entitled "On the Nature of Marxism" in the same volume, particularly pp. 32-40, for an elaboration of this approach to Marxian social analysis.

7 There is some evidence that Baran was associated with one of the groups that opposed the rise of Stalin to absolute predominance.

8 One of the best of the recent books of readings in political economy, Edwards, Reich, and Weisskopf (1972), discusses the concept of economic surplus only in the chapter entitled "Irrationality."

# PART II

# COPPER AND THE METROPOLE STATE

# CHAPTER 2

# COPPER AND THE STRUCTURE OF THE METROPOLITAN POLITICAL ECONOMY

## The Theory of Uneven Development and the Monopoly and Competitive Sectors

The conceptual underpinning for the monopoly/competitive sector division of the U.S. political economy is the theory of the uneven nature of capitalist development. The concept originates in Marx's writings on the abortive German bourgeois revolution of 1848 and was drawn on heavily by Bolshevik theoreticians, particularly Trotsky, to explain the course of Russian capitalism and the success of the Bolshevik revolution (Horowitz, 1970:23-28, 97-101). Despite its early elaboration, however, this approach to analysis of advanced and retrograde forms of development has been largely neglected by both sociologists and economists. In its place has appeared a dualist model of diffusionism in which the "modern" and "traditional" aspects of a political economy are seen as originating in distinct social worlds. Over time the modern sector is thought to penetrate into and transform the traditional sector, producing a strain towards homogeneity (Frank, 1972:356-382). This sociological theory of homogeneous, or even, capitalist

development has its counterpart in the static equilibrium economics of the neo-classical paradigm where "diminishing returns to any single investment supposedly militate against a long-run dichotomy between sectors of the economy or between classes in society" (Bluestone, 1972a:65).

The renewed concern over regional and sectoral inequalities engendered by the very process of capitalist growth has caused several authors to return to the question of uneven development in recent years (Bluestone, 1972a; 1972b; Gorz, 1971; Gurley, 1971; Mandel, 1970; Myrdal's notion of "circular causation with cumulative effect is an earlier, although incomplete, effort in the same direction (1971)). Both Gorz and Gurley are concerned primarily with the problems of regional uneven development, a process which Gurley calls the tendency of capitalist economies to build on the best. "Thus, a businessman locates a new factory in an urban center, rather than out in the hinterlands in order to gain access to existing supplies, a skilled labor force, high income consumers; to maximize profits, he hires the best, most qualified workers" (Gurley, 1971:330-331). Gorz goes further linking these tendencies toward regional inequality to those producing sectoral inequality by arguing that "in the context of monopolistic accumulation, the leading industries...are those which make the quickest gains in productivity," the consumer durable producers (Gorz, 1971:25). While Gorz explicitly excludes capital goods industries from this sector, O'Connor (1974:15-17)

includes them since the social relations of production and the pace of technological change are similar to that prevailing in consumer durables. Bluestone's (1972a:65-66) summary of the concept ties the sociological and economic imperatives, the regional and sectoral processes together and is worth quoting at length:

> The simple dynamics of profit maximization, especially in a period of monopoly capital, produce a tendency toward a 'secular deterioration of terms of trade' between nations, between industries, and between social classes.
>
> This occurs for two reasons. First, investment in a dynamic economy tends not only to increase the capital intensity of the product or factor in question, but also changes the quality of the factor so as to make further investment technologically profitable. Capital investment in a given product, for instance, often increases the market value of the product, thereby strengthening the profitability of renewed investment. Higher past profits can also be used for research and development, which further expand the market for these goods. Profits also allow expanded advertising, which reinforces this tendency. On the other hand, new capital, products, or people that originally fail to meet the test of the market, like many infant industries, seldom receive additional investment and consequently are doomed to deterioration.
>
> The second reason for a dichotomization within society derives from the potential redistributive effect of any given investment. While it may be true that continued investment runs into diminishing marginal returns, capitalists will tend to link efficiency and distribution criteria in investment decisions. Private investors will tend to reinvest their capital in areas which promise the highest relative return <u>only if such investment does not tend to alter the long-run income distribution in such a way as to reduce their own relative standing</u>. The capitalist has both a psychological and a political stake in an unequal distribution of income, and consequently often measures his success not by the absolute amount of accumulation, but by the relative surplus he accumulates compared

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> with others..Seldom will the maximization of private returns constrained by this distributional objective coincide with the maximization of total social returns. The outcome, of course, is uneven development where the rich become richer and the poor more impoverished.

Thus Bluestone develops Gurley's stress on the private rationality behind building on the best as the non-technological determination of this sectoral dichotomization. That is to say that rather than the primary/secondary/tertiary categories which conventional wisdom deduces from technology, (compare Bell, 1973:Chapter 2) the theory of uneven development makes clear that the sectoral divisions of the political economy are rooted in the social relationships of production and accumulation. Of course, as I shall argue below, the dichotomous model of the U.S. political economy is incomplete. The state sector, whose very rationale is rooted in this tendency toward dichotomization, turns the model into a trichotomy. With this by way of introduction, let me now turn to a sketch of uneven development in the U.S. as it appears in the monopoly and competitive sectors outlined by O'Connor (what follows draws heavily on Franklin and Resnick, 1973:74-83; Fusfeld, 1968; and O'Connor, 1974:13-16).

The monopoly sector is the locale of big capital and big labor, of the multinational corporation, and is the political economic base of "the more sophisticated leaders of America's largest corporations and financial institutions" (Weinstein, 1968:ix). These are the class conscious entrepreneurs whose vision of the entire political economy and

ability to subordinate the market to corporate rationality has been the source of the political economy of modern U.S. liberalism: the welfare state at home and the open door empire abroad (Weinstein, 1968:4-5). This elite sits across the bargaining table of class collaboration from those labor leaders Mills called the new men of power. Behind the latter are the giant unions whose wage and benefit contracts set the standards that others seek to emulate and that the small businessman fears: the steelworkers, the Teamsters, the United Auto Workers. These men, these unions, and their power are as much a part of the monopoly sector as are their corporate partners. It is the fortunes of this sector that lie behind the fluctuations of the GNP growth rate, the American Challenge, and much of the rising--at least until 1965--real income which is the basis of the "American standard of living."

This is the visible sector of the political economy--steel, autos, chemicals--and is what most of us, including quite a few economists and political leaders,have in mind when we speak of "the U.S. economy." The Fortune lists--the 500 leading industrials, the 50 largest commercial banks, the 50 insurance companies whose assets dwarf the others--are devoted to the celebration of this economy. All the corporations which appear on the now numerous company/country comparison tables are drawn from this sector. What can we say about the characteristics and trends of the monopoly sector? In a nutshell: both invested capital and

productivity per employee (white or blue collar) are high and increase over time, wages and salaries are attractive, and profits are ample. The demand for the output of this sector increases relatively slowly and this fact, coupled with rising productivity means a rate of labor absorption that lags considerably behind the growth of the labor force. Some of these companies and certain industries may grow slower or faster than others but, except in times of major crisis (e.g., the Penn Central) they do not go out of business: the continuity of names and industrial distribution on the Fortune 500 is quite impressive. Here the world of the Smithian entrepreneur has been left far behind and bears a relation to reality somewhat analogous to the rationalization of U.S. agricultural policies in terms of the need to preserve the family farm. The New Deal/WWII response to the Great Crash cemented the corespective behavior of the large corporation and the big union. Thus jobs are steady, working conditions are good, and retirement will bring a pension check sufficient for a decent life--if inflation is kept under control and no major medical problems develop.

But this is not all there is to the U.S. political economy. The contrast with the competitive sector is a sharp one. The latter is the milieux of small capital--the mom and pop grocery store, the local textile mill, the town bank--of a disproportionate number of part time employees, and a good portion of the 65 percent of the nonagricultural

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labor force outside of unions. This latter group includes the several million service employees whose wages are below the federal minimum while the former group encompasses much of the under class of big cities: recent rural migrants, the aged, racial minorities (Gorz, 1971:23). Much of the work force organized into small unions such as the United Paperworkers can be found here also.

The multinationals of the monopoly sector plan the future and through their peak associations--the Committee for Economic Development, the Business Council--argue for the advantages of foreign investment, trade liberalization, and, in times of intensified international competition, the need to increase productivity. Businesses in the competitive sector struggle to survive from year to year and, when their representatives speak politically, it is in the terms of tariff protection to save jobs and businesses at home and the demand that big government and big labor give the small guy "just trying to make an honest buck" a break. For most of the several hundred thousand people of this country who experience mobility from the ranks of the employed to the ranks of the self employed--and usually back again--during their lifetime, this sector is the setting for the dream of economic independence. That is to say they become dependent on the market (monopoly sector companies subsume the market) rather than on an employer.

No magazines celebrate life in this sector. It is invisible in the manner of Harrington's The Other America, of

which much of it forms a part. Our freeways go around it, or if through it, the competitive sector is shoved aside first. Hosiery mills, drug stores, laundries--the jobs, the industries, and even the people seem a grab bag. Nevertheless, again something can be said about characteristics and trends. Capital per employee is low and productivity is neither high to begin with nor rising very rapidly, lagging behind the growth of productivity in the economy as a whole. Wages are also low. These jobs are often beyond the reach of federal minimum wage laws and wages are largely market determined, rising no faster than the rate of inflation. Labor demand is often unstable in any given firm or industry but overall the labor demand in this sector grows faster than that of the monopoly sector. Working conditions are poor, barely meeting and sometimes violating minimum standards of noise, ventilation, and cleanliness. All of these are characteristics we might associate with the brutal squeezing of a work force in a drive for higher profits. The work force is squeezed alright, but the high profits are not there. Profit rates are lower than in the monopoly sector nor can they be increased and wages and working conditions improved. The competitive sector is already overcrowded and price increases simple shift demand away from one easily substitutable good to another. Thus, the working poor, more than 50 percent of the total poor, are here and a good portion of the aged poor spent much of their working years here. These are also the jobs available to those who

move in and out of officially defined poverty and on and off the welfare rolls.

Finally, while O'Connor's original formulation implied that an industry would usually be located in one sector or another, what we actually find is that many industries cut across both sectors. Copper is a good example of this pattern. On the one hand, there is big copper--Anaconda, Kennecott, and Phelps Dodge--which together produce two-thirds of U.S. mine output. On the other hand, there are the 175 or so companies which work the approximately 200 mines that provide 5-6 percent of U.S. copper output. While my discussion of copper focuses on the big three, with occasional interest in the middle level producers such as Magma or Miami, I shall also discuss the economic and political role of the small producers whose world is that of the competitive sector. The new political economy of liberalism has attempted to incorporate both big and small business in the synthesis of state and economy.

## Copper as a Monopoly Sector Industry

> Company [Anaconda] and subsidiaries are engaged in the mining, milling, and smelting of nonferrous metal ores; in the refining and sale of the materials obtained from these ores; in the manufacture and distribution of semi-finished and finished copper, aluminum, and brass products, and lumber. The principal metals recovered from ores treated are copper, lead, and zinc, but there are also recovered silver, gold, arsenic, cadmium, manganese, selenium, and tellurium...At Great Falls, Montana, company owns an electrolytic refinery...Company owns lumber mills at Bonner, Montana, with a capacity of about 114,000,000 board feet per annum...At Butte, Montana, a

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> subsidiary, the Butte Water Co., operates the water system...
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> ---Moody's Industrial Manual, 1965

During the post war years, approximately 200 companies have been active in copper mining in the United States. As suggested above, three of these stand head and shoulders above the rest. But their superior position in copper mining alone does not begin to exhaust the power and scope of Anaconda, Kennecott, and Phelps Dodge. Before it can be utilized in the production of other goods, copper has to be refined and fabricated. Twelve companies constitute the entire copper refining industry in the U.S. Four of these control 88 percent of total refining capacity: ASARCO 24 percent, Phelps Dodge 23 percent, Kennecott 21 percent, Anaconda 20 percent. In the refining stage, which requires a much larger commitment of capital than mining, the dependency of the small nonintegrated producers on big copper is readily apparent. It is here that big copper also jostles one another: Kennecott's long time stock and buyer/seller ties to ASARCO have linked a major producer with a company whose copper interests were based at the refining stage. As ASARCO has used state aid to integrate backwards, Kennecott has acquired its own refining capacity. Finally, Anaconda, Kennecott, and Phelps Dodge are three of the four firms that possess 50 percent of the nation's fabricating capacity (Report of the Subcommittee, 1970:12; Wideman, 1965:266). It is immediately obvious that big copper, like other monopoly sector industries, is characterized by a high degree of

vertical integration. Or, in the words of Anaconda's sales department: "From the Mine to the Consumer."

As Robert Engler points out in his brilliant Politics of Oil, corporations of this nature and spread are as much political as economic organizations. They are best conceptualized as competing and cooperating governments, each dedicated to bringing as much of the total industrial process as possible into the realm of the predictable. That is to say that they desire to turn the external unknowns of the market into internal decisions of the firm. They are, in short, organized systems of power (Engler, 1961:3). In the financial, geographic, and personal scale of the decisions involved they rival many of the formal political entities with which they deal. As far as intra-industry politics and economics are concerned, the significance of the vertical integration of big copper can be summarized as follows. The political interests of big copper are considerably more diverse than those of competitive copper. At times, as I shall demonstrate in Chapters Four and Five, big copper and competitive copper oppose each other. At the same time, the integrated producers are less vulnerable to the ups and downs of the economic cycle. They may have good and bad years but they continue to have those years. Many of the smaller producers close down or operate at a loss during periods of slack demand.

Just as the big three are the major miners, refiners, and fabricators of copper, so they are the visible element

of the industry. All have been among the 175 largest corporations by sales in the Fortune 500 since that yearly hymn to bigness in business was first published in 1954. The TNEC included the companies in their list of the 200 largest nonfinancial corporations in the late 1930's. On an asset basis they are even larger. Anaconda and Kennecott are among the 100 largest on the Fortune list and Phelps Dodge is in the next 25. The consistency of rank among the three demonstrates the stability of the monopoly sector--while they have moved up and down on Fortune's list, it has always been 1, 2, 3--Anaconda, Kennecott, Phelps Dodge. In fact, the pattern of stability is even longer. Since 1912, Anaconda and Kennecott (or their corporate ancestors) have been the two leading copper producers in the capitalist world with Phelps Dodge usually third or fourth (Herfindahl, 1959:171).

Copper itself has been a visible metal. One of the first to be mined and used in human society, it formed the basis of the bronze age in the past and is the basic metal in the age of electricity in the present. Since the industrial revolution, only one metal, iron, has been removed from the earth in greater quantities than the red metal. Copper remained the second metal in world output until the 1960's when aluminum, a much newer and partially competitive substance, passed it in terms of yearly production (Ageton and Greenspoon, 1970:535-537). Finally, as big capital is entrenched in the corporate organization of the industry,

so the labor force is in the domain of one of the largest unions, the United Steelworkers. Unlike some monopoly sector industries, the consolidation on the side of labor is late and still incomplete. Other unions such as the United Mine Workers still have a hold in the industry and until the late 1960's no one union was dominant. The International Union of Mine, Mill, and Smelter Workers (IUMMSW), expelled from the CIO in the late 1940's for its refusal to purge alleged communists from leadership positions, held the largest number of contracts in the industry until the end of the 1950's. After the explusion, the USW, apparently with industry encouragement, made repeated raids on IUMMSW contracts. While the outcome of the conflict was a stalemate--IUMMSW held most of its existing contracts but failed to expand with the industry--the financial exhaustion of the smaller union made it a willing recipient of USW merger feelers during 1966-1967. The merger talks culminated with the dissolution of the IUMMSW in the U.S. and its absorption by the USW in 1967 (E&MJ, 1946-1967).

Table 1 on the following page compares big copper with a sample of other large corporations, the mining and manufacturing concerns of the Fortune 500.[1] Most, and probably all, of the latter group of companies would also be part of the monopoly sector. Thus, the comparison is between big copper and a sample of monopoly sector corporations. Several relationships which emerged in the course of the theoretical discussion of the monopoly sector are readily

Table 1. Selected Data on Sales, Assets, Employees, and Invested Capital, Big Copper and Fortune 500: 1954-1969

1954

| | Sales Rank | Asset Rank | Employees Rank | Assets/Employee | Sales/Employee |
|---|---|---|---|---|---|
| Anaconda | 62 | 22 | 37 | $22,427 | 11,882 |
| Kennecott | 71 | 25 | 64 | 28,692 | 16,629 |
| Phelps Dodge | 108 | 68 | 123 | 26,250 | 20,194 |
| Fortune 500, median | --- | --- | --- | n.a. | n.a. |

1959

| | Sales Rank | Asset Rank | Employees Rank | Sales/$ Invested Capital | Assets/ Employee | Sales/ Employee |
|---|---|---|---|---|---|---|
| Anaconda | 69 | 25 | 53 | $0.69 | $28,508 | $16,696 |
| Kennecott | 98 | 47 | 75 | 0.58 | 29,481 | 16,055 |
| Phelps Dodge | 161 | 89 | 144 | 0.75 | 29,560 | 20,245 |
| Fortune 500, median | --- | --- | --- | 2.06 | 14,849 | 20,054 |

1964

| | Sales Rank | Asset Rank | Employees Rank | Sales/$ Invested Capital | Assets/ Employee | Sales/ Employee |
|---|---|---|---|---|---|---|
| Anaconda | 61 | 31 | 49 | $0.84 | $30,019 | $21,064 |
| Kennecott | 116 | 52 | 95 | 0.69 | 35,073 | 20,918 |
| Phelps Dodge | 156 | 101 | 168 | 0.90 | 33,553 | 26,956 |
| Fortune 500, median | --- | --- | --- | 2.14 | 16,957 | 23,162 |

1969

| | Sales Rank | Asset Rank | Employees Rank | Sales/$ Invested Capital | Assets/ Employee | Sales/ Employee |
|---|---|---|---|---|---|---|
| Anaconda | 76 | 45 | 74 | $1.21 | $40,343 | $32,266 |
| Kennecott | 111 | 52 | 143 | 0.95 | 57,183 | 36,341 |
| Phelps Dodge | 168 | 122 | 212 | 1.14 | 44,829 | 37,133 |
| Fortune 500, median | --- | --- | --- | 2.41 | 21,545 | 27,986 |

Source: Computed from relevant issues of Fortune magazine 1955, 1960, 1965, 1970.

apparent for big copper. First, even within a group of firms with higher than average assets per employee, a measure of capital intensity, big copper stands well above the median in each year (inspection of the 1954 data for individual companies makes clear that the same relationship holds then also). Second, sales per employee moves from at or below the median in the early years of the period to a position above the median by 1969. This is an indication that, again relative to the Fortune 500 sample of monopoly sector corporations, big copper grows more through increased productivity than through growth in employment. Third, because of the heavy capital commitments indicated by these first two measures, sales per dollar of invested capital are well below the median for the entire group. Overall, mining showed the lowest value of sales per dollar of invested capital and ranked among the four highest industries in terms of sales and asset value per employee in each of the years for which that information is available. Last but not least, profits as a rate of return of sales, both for mining and for big copper, exceed the median even for the 500 in each year, a further indication of the function and structure of big copper as a monopoly sector industry.

Table 2 on page 93 compares growth trends for big copper and the U.S. economy during the same decade and a half. The dollar value increase in output for big copper grew at about the same rate as the GNP indicating the fairly slow growth of demand in monopoly sector industries. The

variation ranged only from Phelps Dodge's 8 percent less than GNP to Anaconda's 19 percent more than GNP. While it might seem desirable to control both GNP and sales for price changes, in the latter case this would be virtually impossible since the total sales of each company are composed of a changing mix of as many as twenty different metals. A rough measure of what the actual relationship between sales growth in copper and GNP growth with prices controlled would be can be estimated as follows. The price of copper, the largest single element in the total sales of each company, more than doubled between 1954 and 1969 while inflation during the same period was less than 75 percent. Thus, on a constant dollar basis for copper and the total GNP, the sales growth for the three companies was less than GNP growth, further demonstrating the slow growth in demand for monopoly sector output. The comparison between increase in employees and growth of the labor force strikingly demonstrates the inability of a monopoly sector industry to absorb new labor at the rate it becomes available. Both Anaconda and Kennecott increased employment at less than one-third the rate of growth of the private non-agricultural labor force despite a sales growth (for all products) which was greater than the dollar growth of output in the private sector of the economy. Even the much greater increase in employment by Phelps Dodge was not as large as the growth of either the private or total non-agricultural labor force. Total employment in big copper expanded at less than half

the rate of growth of the non-agricultural civilian labor force. Once again this indicates the lagging rate of labor absorption in the monopoly industry, forcing increased marginalization in the competitive sector and the growth of state employment.

Table 2. Big Copper and the U.S. Economy 1954-1969

| | % Increase in Sales | GNP Increase 1954-1964 | % Increase in Employees | % Increase Non-agri. Civilian Labor Force | % Increase Private Non-ag. Civilian Labor Force |
|---|---|---|---|---|---|
| Anaconda | 184.4 | | 12.6 | | |
| Kennecott | 148.2 | 154.7% | 13.3 | 43.4 | 39.4 |
| Phelps Dodge | 142.6 | | 32.1 | | |

Sources: Calculated from Economic Report of the President, 1972 and Fortune.

In the remainder of this discussion of copper as a monopoly sector industry, I have had to make use of information compiled for the entire industry and divided by size of establishment. This is the form in which the Census of Manufactures and the Census of Mineral Industries provides data rather than by identifiable company. Thus, only an approximation of the relationship between big copper and the rest of the economy is available although, at least at the mining stage, this approximation is very close. The largest mines are generally owned by the three largest corporations in the

industry. To some extent this same relationship holds in the refining and fabricating stages of the industry also although here the size differential is less marked.

Perhaps the key relationship of the monopoly/competitive division of the political economy is what Bluestone (1972a: 65) calls the secular deterioration of wages of competitive sector workers compared to monopoly sector workers. Rather than divide the entire economy between competitive and monopoly sectors, I have simply compared wages of production workers in copper with those for all private nonagricultural workers. Table 3 presents this data for copper mining and copper rolling and drawing (fabricating). I had hoped to make three comparisons: (1) a comparison of wages for all production workers in each group; (2) a comparison between the wages of those workers in the largest copper establishments (an approximation of big copper) and those of all private nonagricultural workers; and (3) to get at the question of monopoly and competitive sectors <u>within</u> the copper industry, a comparison of the hourly wages of the largest establishments with those of the smallest establishments. However, except for the last Census of Manufactures in 1967, the data necessary for the second and third comparison are not available for rolling and drawing. This has necessarily restricted the discussion, although mining employment is an important segment of the total employment, comprising more than half the employment in mining, milling, smelting, and refining.

Table 3. The Secular Deterioration of Wages (All Ratios Involve Average Hourly Wage Rates of Production Workers)

| Ratio | 1947 | 1950 | 1955 | 1960 | 1965 | 1972 |
|---|---|---|---|---|---|---|
| Copper Mining/All Private Nonag. Wkrs. | 1.15 | 1.17 | 1.24 | 1.26 | 1.28 | 1.30 |
| Copper Rolling & Drawing/ All Private Nonag. Wkrs. | 1.19 | 1.23 | 1.24 | 1.25 | 1.25 | 1.19 |

| Ratio | 1939 | 1954 | 1958 | 1963 | 1967 |
|---|---|---|---|---|---|
| Copper Mining Estabs. With 1000+ Wkrs./ All Private Nonag. Wkrs. | N.A. | 1.31 | 1.38 | 1.43 | 1.41 |
| Copper Rolling & Drawing Estabs. With 1000+ Wkrs./ All Private Nonag. Wkrs. | N.A. | N.A. | N.A. | N.A. | 1.28 |
| Copper Mining Estabs. With 1000+ Wkrs./ Copper Mining Estabs. With < 100 Wkrs. | 1.08 | 1.20 | 1.19 | 1.23 | 1.28 |
| Copper Rolling & Drawing Estabs. With 1000+ Wkrs./ Copper Rolling & Drawing Estabs. With < 100 Wkrs. | N.A. | N.A. | N.A. | N.A. | 1.10 |

Sources: Ratios calculated from Employment & Earnings: United States 1909-71, U.S. Dept. of Commerce, n.d.; Employment & Earnings, December 1973; 1939, 1954, 1958, 1963, and 1967; Census of Manufactures, Industry Statistics: Nonferrous Metals, Mill and Foundry Products and Census of Mineral Industries, General Summary and Industry Statistics: Copper, Lead, Zinc, Gold and Silver Ores.

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The ratios in Table 3 for copper mining strongly support the theory of uneven development and secular deterioration of wages between monopoly and competitive sector industries. The relative gap between wages in copper mining and all other private nonagricultural production employees has increased during each period although not at a steady rate. The largest relative gains were made during the Korean War but the trend may not have been wartime induced since it was not repeated during the Vietnam War. It would be fascinating to have a similar ratio for the late 1930's to determine the significance of the New Deal/WWII era for the establishment of this pattern but no data for average hourly earnings in the entire economy are available for these years. The ratios between the wage rates in the largest mines and those for the entire economy reinforce the concept of secular deterioration of wages and demonstrate the existence of a monopoly sector within the copper industry. This analysis is reinforced from a different angle by the ratios between wages in large and small establishments within the industry. The intra-industry secular deterioration of wages is almost as marked as that between copper and the rest of the economy. On this measure, 1939 data is available and the 1939/1954 figures lend support to the argument for the consolidation of the social relations of uneven development during the 1940's.

Copper fabricating exhibited the lowest level of concentration within the industry, a factor which may account

for the mixed results for this industry on the question of secular deterioration of wages. On the one hand, the industry emerges as a relatively high paid one, with a larger industry/total private economy gap in the initial year than was true for copper mining. Once again the early 1950's show the largest secular deterioration and the ratios keep pace with those for copper mining until 1960. However, during the 1960-1972 period the wage gap first levels and then actually declines between 1965 and 1972. As noted previously, it is not possible to calculate comparisons by size for copper rolling and drawing except for 1967. Using the latter year as a benchmark, it appears that the differentiation between monopoly and competitive sector industry is much less pronounced here than in the case of copper mining with a ratio of 1.10 for the wage gap between large and small establishments in the former case compared to 1.28 in the latter. It should be reiterated that these statistics are only by size of establishment, not by individual company. Information on the fabricating plants of big copper might lend stronger support to the secular deterioration of wages argument.

Data pertaining to several of the other dimensions of monopoly sector industries are presented in Table 4. Demand for copper rose at less than the rate of GNP growth, largely due to the concentration of end use in the producer goods industries and to increased efficiency in raw material usage. The price inelasticity of demand for monopoly sector

Table 4. Labor and Product Demand, Copper and the U.S. Economy

I. Index Numbers of GNP (Constant Dollars), Gross Private Domestic Investment (Constant Dollars) and Copper Mine Production, 1947-1971 (1947 = 100)

| | 1947 | 1950 | 1955 | 1960 | 1965 | 1971 |
|---|---|---|---|---|---|---|
| GNP | 100.0 | 114.6 | 141.3 | 157.4 | 199.4 | 238.6 |
| Copper Mine Production | 100.0 | 107.3 | 117.8 | 127.4 | 159.5 | 179.6 |
| Price per Pound of Refined Copper | 100.0 | 99.5 | 178.5 | 154.1 | 168.4 | 248.8 |

II. Index Numbers of Employment of all Wage and Salary Workers

| (1947 = 100) | 1947 | 1950 | 1955 | 1960 | 1965 | 1971 |
|---|---|---|---|---|---|---|
| Civilian Non-ag. Labor Force | 100.0 | 103.1 | 115.5 | 123.6 | 138.6 | 161.1 |
| Private Non-ag. Labor Force | 100.0 | 101.8 | 111.1 | 114.1 | 125.4 | 142.6 |
| Employment in Copper Mining | 100.0 | 92.7 | 99.2 | 91.5 | 100.0 | 123.9 |

| (1958 = 100) | 1958 | 1960 | 1965 | 1971 |
|---|---|---|---|---|
| Private Non-ag. Labor Force | 100.0 | 105.2 | 115.6 | 131.5 |
| Employment in Copper Rolling and Drawing | 100.0 | 97.8 | 99.7 | 88.0 |

Sources: Calculated from Employment & Earnings: United States 1909-71, U.S. Dept. of Commerce, n.d.; Employment & Earnings, December 1973; Economic Report of the President, 1972; Minerals Yearbook, annual.

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commodities is also indicated by a comparison of the index numbers of copper output and copper prices.

The indices for the growth of employment graphically indicate the failure of monopoly capital to absorb new labor in line with the rate of labor force growth in even the private economy. When the comparison is with the total non-agricultural labor force, the short fall in employment expansion is even greater since it is the state--federal, state, and local--which has been the greatest absorber of new labor in the last three decades. Particularly illuminating would be a comparison between growth in employment in copper production alone among the big three of the industry and total civilian employment. Unfortunately this comparison cannot be made because the post WWII period has witnessed diversification and conglomeration on the part of big copper. For example, even by the middle fifties, Anaconda's combined output of all other metals--lead, zinc, gold, silver, molybdenum, etc.--exceeded her output of copper. The same mining and processing facilities are usually the source of a variety of metals, thus making employment calculations by particular metal impossible.

An insight into the significance of this development--conglomeration--can be obtained by contrasting the employment expansion figures for big copper from Table 2 with those for copper mining, copper rolling and drawing, and the total economy in Table 4. Employment has grown faster in big copper than in the copper industry as a whole despite

the greater productivity of the former, although the total labor force has grown even faster. The thrust towards conglomeration thus appears to be quite important for big copper in terms of employment expansion, a pattern that is probably characteristic of monopoly industry as a whole. This is a major counter trend to the marginalization of more and more of the labor force into the competitive sector and is realized through the concentration and centralization of capital.

As a conclusion to this discussion of the structure and growth trends of copper as a monopoly sector industry, one more facet of monopoly industry must be noted, the internationalization of capital. For copper, this process considerably predates the post WWII era. Anaconda acquired and brought into production its Chilean, Mexican, and (former) Polish properties before the Great Crash. Kennecott developed its Chilean mine during the same years. Phelps Dodge, which remains a primarily domestic producer, had not gone offshore before the end of WWII. Nonetheless, the shift of the U.S. from a net exporter to a net importer of raw materials in 1940 was also true of copper production and consumption (Bidwell, 1958:1). Since that time, this country has consumed approximately a third of capitalist world copper output while producing about a quarter of this total (Copper, various issues; Wideman, 1965:293). Coupled with this shift in the trade balance has been a declining grade of ore, "one of the most significant factors affecting copper production cost" (Ageton and Greenspoon, 1970:546).

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The response of big copper to this crisis was concisely summarized by Kennecott in its 1951 Annual Report: "Your management is making every effort in the three of the four quarters of the globe where exploration is possible, to find and develop new mines" (Kennecott Copper Corporation, 1951). The focus of this chapter is not the international political economy of copper. Thus, for present purposes the dialectic of national monopoly/international expansion can be summarized as follows: Monopoly industries at home are able to accumulate the necessary capital to expand abroad; successful foreign expansion means control over foreign resources, direct access to foreign markets, geographical dispersion of political risks, and the multiplication of financial opportunities (compare Girvan, 1971a:24-37). In turn, these serve to reinforce monopoly power at home. In this process as in the process of domestic growth and conglomeration, the relationship between big copper and the state has been fundamental. It is to an analysis of the state in the metropole political economy that I now turn.

## The Kapitalistate as Instrument and Structure

> Well, I do not think that necessarily any organized effort in industry to bring about a stabilization of prices means necessarily a fixed price. I do think it would be infinitely better from the standpoint of employment, from the standpoint of the ownership, stockholders, management, and everybody concerned, if we had some means of protecting the public and at the same time enabling industry to self regulate itself...
>
> --Cornelius F. Kelley, Pres. and Chmn. of Anaconda, testimony before the TNEC in January 1940

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> We cannot go through another ten years like the ten years at the end of the twenties and the beginning of the thirties without having the most farreaching consequences upon our economic and social system.
>
> --Sec. of State Dean Acheson, statement before the Congressional Committee on Postwar Economic Policy in November 1944

From the onset of the capitalist era, politics and the political authority have been integral to the creation of a fertile soil for the expansion of capital. Politics and economics were inextricably mingled in the West European city states which were the birthplace of the modern bourgeoisie (Dobb, 1963:Chapter 5; Pirenne, 1956). The mercantilism that followed was simply the city policy writ large (Cox, 1959:318ff). Even the theoretical father of laissez faire recognized an important role for the state. After all, Adam Smith did want the political authority to do certain things: to remove the fetters of the mercantile order and to clarify and enforce the rules of the game for the new regime of competition. Capital would do the rest.

In the laissez faire capitalist order, the state acts as an instrument rather than as a structure. This instrument is wielded in the interest of capital as a whole and in the maintenance of the class structure which is its basis and which capital itself reproduces (Sweezy, 1968:240-244). (At times, of course, the state acts in the narrow interests of individual capitalists but we are not concerned with this variation in the rules of the game here. Anyway, such action is usually legitimated in terms of the broader framework

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of actions necessary to maintain the capitalist social order.) Of paramount importance is the definition by the political authority of an industry, region, or project as open to private capital accumulation, the guaranteeing of the right of private property (Murray, 1971:88; Miliband, 1969:69ff). For mining corporations, themselves a product of this guarantee, the nature of the market in land is the all important question. In the words of a contemporary spokesman of big copper, the demand of capital is for the following: (1) security of tenure; (2) exclusivity of use; and (3) the setting of the operating rules (E&MJ, February 1969:124, speech by Kennecott's General Counsel Malcolm R. Wilkey on the question of access to underwater minerals).

Security of tenure does two things. First, it provides the time horizon necessary for large scale investment to be made. When profits can be reasonably anticipated next year and next decade, the firm can use this year to build the required infrastructure, train the necessary labor force, and carry out the research demanded by the project. Second, security of tenure is important in the intercorporate struggle over control of mineral resources. A competitor cannot acquire the land worked by one firm today for its own use tomorrow. Exclusivity of use complements security of tenure. Since usage is exclusive, others cannot reap the external economies which are the potential result of a transportation network, a power source, or the technical knowledge acquired by the first occupant. Exclusive and secure

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usage and access together mean that after a mineral deposit is purchased it can be developed at a time and output set at a rate that makes the most economic sense for a given corporation. All of this can be done without the fear that someone else will have removed all or part of the deposit in the meantime on a schedule that fits their own differing calculus of private rationality. Finally, the state must set the rules of operation. What is desired here is that the actions of the state be predictable enough to be entered into the cost accounting framework of the individual corporation. A tax on profits, even a high one, is one thing; a tax on profits one year, on invested capital the next, a demand for a portion of the output the third, is something else. The latter is repugnant to capital which demands that the rules be made clear and not be subject to change without notice. When security of tenure, exclusivity of use, and clarity of operating rules are integrated in the framework of the modern corporation, the vagaries of the market which dominate both small capital and those who must sell their labor power, are largely subsumed (see Galbraith, 1967:Chapters 3 and 6 for a discussion of the corporation's ability to subordinate the market).

All of this is part of the generally taken-for-granted scheme of things. In recent years, analyses of state and capital during the monopoly phase have extended the argument, however. Increasingly the two are seen as coequals, whatever the perspective of the particular writer (compare Bell,

1973; O'Connor, 1974; Shonfield, 1969). Both Robert Engler and Michael Tanzer, in their pathbreaking works on the oil industry have stressed the political nature of the modern corporation and the economic significance of all state action (Engler, 1961:3ff; Tanzer, 1970:20ff). Rather than the earlier model of the state as referee, a function that was appropriate for the period of Laissez faire, it is the positive state that now occupies the stage.

Murray (1971:88-91) has elaborated this line of argument in an article which suggests five functions of the kapitalistate in addition to its role as guarantor of property rights. (1) Economic liberalization consists largely of the abolition of pre-existing restrictions on the movement of capital, labor, and commodities. The standardization of currency, laws of trade, weights, etc. falls here also. Within the national domains of the capitalist metropoles this task has long been accomplished (Cox, 1959). Today, as I shall argue later, it is the internationalisation of capital which demands parallel efforts. (2) Economic orchestration is the lesson of the Great Crash. The state attempts to regulate and lessen the ups and downs of the business cycle through some form of planning (Dowd, 1974: 269-271; Shonfield, 1969). This function belongs to the positive state of the twentieth century while that of economic liberalization is also done by the state as referee of the nineteenth century. (3) Input provision in the form of labor, capital, land, and infrastructure has characterized

the kapitalistate from an early date. This has been particularly the case in frontier areas such as the U.S. Here the state must regulate the supply and price of labor, define both land and labor as alienable commodities, and support the development and extension of a reliable system of finance and credit. In the U.S., state constant capital investment in infrastructure has been important first in the system of canals of the late eighteenth/early nineteenth centuries, later the land for railroads in the nineteenth century, and finally the constructure of highways in the twentieth century (Faulkner, 1960:270ff, 428ff, and 622ff). In the monopoly phase, science has been harnessed to the logic of private profit and technical and scientific knowledge have come to the fore as state inputs. The rhythm of technological advance must be integrated with the rhythm of the business cycle. (4) Intervention for social consensus: the state attempts to meliorate the outcomes of the tempo of uneven development as it is manifested in the clash of social and private rationality. Control of the external diseconomies of pollution and regional inequality, the regulation of the conditions of work and of the functioning of the market place, and the effort to cushion the insecurity of employment and income for the underlying population, are all included here. (5) Finally, there is the problem of the external relations of a given national capitalism. Here the identity of the state with "its own" capital is perhaps the strongest. Aid, trade, and military policies, even when

carried out through "international agencies" are oriented to the need to provide a fertile soil for the internationalization of capital in a world of competing nation states (Magdoff, 1969: Hayter, 1971). At the same time, the state strives to protect the preserves that capital has already carved out at home and abroad.

For the U.S. case, these functions of the state have been nicely encapsulated in Gabriel Kolko's notion of political capitalism, a formulation which rejects the dichotomy between the economy and the polity which has informed much historical and sociological analysis. He is worth quoting at some length: Political capitalism is

> the utilization of political outlets to attain conditions of stability, predictability, and security--to attain rationalization in the economy. Stability is the elimination of internecine competition and erratic fluctuations in the economy. Predictability is the ability, on the basis of politically stabilized and secured means, to plan future economic action on the basis of fairly calculable expectations...security...means protection from the political attacks latent in any formally democratic structure..rationalization...is the organization of the economy and the larger political and social spheres in a manner that will allow corporations to function in a predictable and secure environment permitting reasonable profits over the long run (Kolko, 1963: 3).

The question then, is not state intervention or no state intervention, but what kind of state action by what agency and with what effects (Kolko, 1963:4).

The transition from the state as instrument to the state as structure was contemporaneous with a shift in the ideological framework within which the dialectic of state

tal moved. While liberalism has been the hegemonic
(Gramsci, 1971; the concept of hegemony in this
been quite helpful throughout this section) of both
nd then dominant business groups in the United
two periods in the formation of the liberal politi-
omic world view can be distinguished (Weinstein,
i). The opening years of the twentieth century mark
sition between these periods. In the nineteenth
Weinstein sees equality, mobility, and antagonism
nment intervention in the self-regulating political
as the main tenets of liberal doctrine. The con-
on of big capital and the rise of the U.S. as a
ternational capitalist power in the early twentieth
(Dowd, 1974:64-69, 85-87; Williams 1966:343ff)
turning away from this emphasis on competition and
al striving. In its place there was created a
chauung of cooperation, efficiency, and "social
bility" (Sklar, 1972:22; Weinstein, 1968:xiii).
hegemonic task of the kapitalistate is the replace-
the ideological concepts of laissez faire capitalism
ideal of a responsible social order in which all
could look forward to some form of recognition and
in the benefits of an ever-expanding economy"
in, 1968:x). The key element in the new order is
ise of "an ever-expanding economy" such that op-
al groups can always, given time, be incorporated
established political economy. The roots of the

ever-expanding economy lie, of course, in the synthesis between the monopoly sector and the state. It is upon this structure that the "socially responsible" community is built. (For an analysis of the crisis of the liberal conception of the community see Wolff, 1969.)

Much of the groundwork for this new structure of state and capital had been laid by the time of World War I. However, prosperity and "the return to normalcy" of the 1920's witnessed the temporary, and partial, suspension[2] of these efforts (Bernstein, 1969:265; Sklar, 1972:65; Williams 1966: 439ff). The impact of the Crash was to revive the thrust towards the new liberalism. This revival was essentially a return to a Wilsonian conception of the corporation, its role in the new industrial order, and its relationship to the state (Sklar, 1972:65). As Wilson had argued, the response to the new conditions could not be a return to a competitive capitalist order (he never seriously entertained the possibility of a socialist alternative). Instead, the effort of the state must be directed towards preventing the misuse of the corporation and to redirect its functioning in the pursuit of the public interest (Sklar, 1972:19). Business and businessmen, while to be chastized if they violated the public trust or enriched themselves <u>at the expense</u> of the public interest, must not be subject to arbitrary and capricious executive decision making. They would also have to be adequately protected from the "political attacks latent in any formally democratic structure,"

i.e., from the "whims" of popular opinion as reflected in the elected bodies of government. Law, then, must create a predictable and secure environment for the flourishing of the new capitalism, for it was only in such an environment that the public good could be realized by private capital. Regulatory agencies provided the ideal solution. These agencies were to be charged with the dual task of preventing the abuse of the power of the corporation and encouraging the development of its public service potential. Each of these tasks required the independence of the regulators from both the executive and congress (Kolko, 1963:298; Sklar, 1972:20).

This merger of businessman and public official (Weinstein, 1968:10) was expressed well by Cornelius F. Kelley, president and board chairman of Anaconda, at the end of the depression. Reflecting on the experience of the depression and the efforts of the New Deal to reconstruct the political economy of modern liberalism he asked that the TNEC agree to the proposition that industrial cooperation for stabilization be accepted as a protection and service to employees, owners, stockholders, and the general public. In sum, to "everybody concerned," for all would then be able to participate in the benefits of the ever expanding economy (TNEC, 1941:13160). The voice of the industry, E&MJ, had reached the same conclusion nine years earlier in an editorial entitled "Uncontrolled Individualism and Its Aftermath" which attacked the arguments for free competitive determination of copper prices on the grounds of humanitar-

ianism and the maintenance of local standards of living (E&MJ, September 1931:241). As the quote from Secretary of State Dean Acheson at the head of this section indicates, businessmen were not alone in this realization and the stakes involved were recognized to be high indeed.

In many ways this new vision was far from that of Adam Smith, yet the major flaw in each case is strikingly similar. Smith, with a background in moral philosophy, hoped to increase the scope of individual freedom and contribute to the common welfare by limiting the alien power of the state (Dowd, 1974:9-11). What he failed to see, and what Marx saw so clearly, was the manner in which his answer to the problem produced a new alien, and even more awesome, power, the corporation in a Hobbesian capitalist world. The new liberalism created the other term in the dialectic, the state regulatory agency. Perhaps, from a movement that was not opposed to business but in fact often led by business (Kolko, 1963), the aufhebung was inevitable: the synthesis of state and capital in kapitalistate. A new and still more threatening structure emerged which has been the pivot of the political economy of U.S. capitalism during the last three decades.

The functioning of this new synthesis, of the state as structure, is best understood through the marxian categories of social expenditure and social investment as developed in O'Connor's Fiscal Crisis of the State. It is in the changing volume and distribution of state expenditures that the political economy of the state sector appears and it is these

expenditures that reflect the two contradictory functions of the state: capital accumulation and social legitimation (O'Connor, 1974). Capital accumulation encompasses the predictability and stability aspects of political capitalism while legitimation brings together Kolko's concern with security and Weinstein's larger emphasis on the legitimation of the corporate ideal in the liberal social order. Together they provide the anatomy of contemporary U.S. capitalism.

Let us look more concretely at the nature of these two categories of state expenditure. State outlays that increase the tempo and amount of capital accumulation are geared towards the expansion, growth, and continued harmonious class relations in the monopoly sector. This type of expenditure appears in the form of social capital and can be further subdivided into expenditures for social consumption, or social variable capital, and those for social investment, or social constant capital. The former are designed to lower the costs of the reproduction of labor power through investment in variable capital and include state financed and organized schemes such as social insurance and urban renewal. These expenditures decrease the proportion of the working day devoted to the reproduction of labor power thus increasing the time that can be devoted to the creation of surplus value and raising the rate of exploitation. Social investment as a category of social capital can be further divided into physical capital such as transportation, industrial parks, and mineral exploration,

and investment in human capital such as administrative and scientific training programs. Both forms of social investment increase the productivity of labor through investment in constant capital. Thus, they enable capital to increase the relative rate of exploitation and the amount of surplus value extracted from a given amount of labor power (see Marx, 1967:Vol. 1, Chapters XVII-XXVII on the relationship of surplus value, constant capital, variable capital, and rates of exploitation). Both types of social capital outlays are indirectly productive since they indirectly expand surplus value, the sine qua non of productivity in the eyes of capital.

It is the reality of the productivity of state expenditure in contemporary capitalism that can be taken as distinguishing the state as structure from the state as instrument. The difference can be summarized as follows:

1. The State as Instrument: $C+V+S \begin{matrix} \nearrow S_p \\ \searrow S_s \end{matrix}$

2. The State as Structure: $(C_p+C_s)+(V_p+V_s)+(S_p+S_s)$

where C=constant capital; V=variable capital; S=surplus value and the subscripts p and s indicate private and state sectors.

In the former case the total constant and the total variable capital are equal to private constant and private variable capital. All state expenditures are financed out of surplus which is divided between private and state portions through political bargaining. The state and the private sector are thus in conflict over the distribution of the social surplus.

This model of the state and economy has underlaid much marxian analysis (cf Baran and Sweezy, 1966) and, although without this conceptual framework, much of the orthodox social science discussion of the state. Although the revisionist historians have also not discussed the issue in these terms, they have in fact worked with the second model of state and economy. Here the state and private capital participate together in the investment of constant and variable capital. As it stands, this formulation is partially misleading when it comes to the disposition of surplus value. Under the rules of the capitalist game, the state does not directly appropriate the surplus value which its outlays indirectly create but instead relies on taxation. This distinction is crucial for grasping the socialization of costs/private appropriation of profits/fiscal crisis dialectic.

The very process of state productive expenditure in the monopoly sector creates the need for the contradictory state role of legitimation. Legitimation expenditures must reintegrate both the casualties of monopoly sector growth, i.e., the social disruption of the "ever-expanding economy," and meliorate the relative economic deprivation of competitive sector capital and labor. These expenditures appear as social expenses in the analysis of the state budget. They are not even indirectly productive, that is these outlays do not expand surplus value even indirectly. Unproductive should not here be equated with unnecessary for these

expenditures, like the outlays for the reproduction of labor power in Marx's schema, are "functional necessities" for the maintenance of the capitalist system. Welfare at home (Piven and Cloward, 1972) and counterinsurgency abroad (Klare, 1972) are examples.

Although the categories social capital and social expenses interpenetrate each other (a point O'Connor, 1974, stresses:7) in conjunction with a grasp of the state as instrument they provide the essential framework for the analysis of the fusion of big copper and the U.S. state. In what follows I attempt this analysis for the 1944-1973 period. I begin with a discussion of the state as instrument and then move on to a more extensive examination of social expenses of legitimation which arise from the rhythm of capital accumulation on the part of big copper.

# NOTES

[1] I have used 1969 as the last year in both Tables 1 and 2 since the rankings and ratios for the 1970-1973 period would be affected by the nationalization of copper in Chile in 1971. This is particularly true for Anaconda which had dropped behind Kennecott in sales and assets in the 1973 rankings. The latter company's structure was also affected although not to the same degree.

[2] The word suspension as it captures the relationship between the "return to normalcy" of the 1920's and the earlier elaboration of the political economy of modern liberalism has two contradictory senses. On the one hand it means to stop, to end, while on the other it means to sustain, to hold. Both of these senses are implied here.

## CHAPTER 3

## AN ATTEMPT TO INTERNATIONALIZE THE NATIONAL RULES OF THE GAME: THE STATE AS INSTRUMENT

The instrumental function of the kapitalistate falls under the normally accepted rules of the game. Few social theorists devote much time or effort to the consideration of the state as instrument of the capitalist class and businessmen, while they certainly have a day to day awareness of these facts, do not write theoretical treatises. In itself, the easy assumption of this reality is a tribute to the hegemony of the bourgeois social order. Nevertheless, it is worth summarizing the historical function of the U.S. state as an instrument in the development of the mining industry and the options excluded in the development of a legal framework for mineral exploitation. This will enable us to see more clearly the meaning of efforts by big copper, and big capital in general, to reproduce this pattern on the international level in the coming struggle for control over undersea mineral deposits.

There are at least two patterns of mineral exploitation excluded by the capital/state relationship which have emerged in the U.S. The first pattern would have the state itself develop minerals such as copper, iron, and (later) aluminum

since these metals are necessary inputs in so many other industries. The model would be that of public utilities where a particular commodity is defined as a state input, a form of social constant capital. The state developed mineral industry would have been operated either at cost, thus decreasing the constant capital outlays of private capital, or to raise state revenue. The rate of profit but not the rate of surplus value would be increased in the former case. Pre-capitalist states such as Rome have often pursued the latter course in an attempt to solve their own version of the fiscal crisis (Rostovtzeff, 1926:225). In either case, access to mineral supplies would have been open to capital at large, limiting the possibility of preferred buyer/seller relationships and generalizing both external economies and economies of scale. While state social constant capital investment in mineral development would have furthered capital accumulation, it would have limited the contribution of minerals to unequal rates of accumulation, acting also as a counter to the tendency towards uneven development. Here the timing of the development of new deposits, the setting of output levels, and the rate of depletion of old deposits would have differed from that of any individual corporation and from the simple sum of corporate decisions. This would also be true for the substitution of competing metals, e.g., copper and aluminum, research priorities, and the calculus of social costs in mineral development. While for an earlier period this

pattern of mineral development may be considered marginal to the social structure of capitalism, it is certainly not incompatible with the thrust of capital for surplus value. The interests of private capital as a whole would be served as is the case with state industry in Western Europe (Kidron, 1970:Chapter 1; Shonfield, 1969:Chapter 5; O'Connor, 1974:183-188).

There is still a second pattern excluded by the U.S. case which is clearly within the capitalist rules of the game. In the areas of the world colonized by Spain and Portugual, particularly Latin America, the operating rules retained all of the subsoil and mineral rights as the preserve of the state. By and large, for both fiscal and ideological reasons, the state in these nations has not developed and operated these mineral deposits but has instead leased claim to individuals and firms for a specific period of time. The time involved has often been so long, e.g., 99 years, as to mean effective loss of state influence. Nevertheless, this legal tradition has been the groundwork for state operated mining and petroleum companies in Latin nations (see Tanzer, 1970:Chapters 22 and 25 on state oil companies in Latin America).

Rather than following either of these patterns, the U.S., reflecting its English colonial experience, followed the practice of Anglo-Saxon law. During the early years as an independent nation, the individual states provided the legal framework for mineral development. Both businesses

and markets were small and the differing state laws presented no immediate problems. The boost given to regional and national business by the Civil War, the new technologies of large scale production, and the elaboration of a transportation network integrating previously disparate markets changed this, however (Faulkner, 1960:327ff and 477; Seligman, 1971:91-112). Thus, by 1860 when the U.S. census showed a frontier area almost exactly equal to the already settled regions of the country, the expansion of capital required the supersession of the conflicting legal frameworks of the individual states. Here mining led the way. "The search for minerals, which had played such a major role in the early exploration and settlement of the American continent, again became an important influence..." (Faulkner, 1960:348). By 1890, the last frontier had been closed.

The mineral-led development of these areas was based heavily on the legal framework established by the first federal mining codes of 1866 and 1872. These codes contained two key provisions. First, corporations and individuals were given free access to the public domain; second, low cost purchase--originally $5.00 an acre--was legislated for lode claims (McMahon, 1965:313). The codes were cast in the universalism characteristic of capitalist legal relations. The equally characteristic substantive inequality of capitalist society assured that it was to be yet another case where the effective rule was to be the famous dictum of Anatole France: "The law, in its majestic

equality forbids the rich as well as the poor to sleep under bridges, steal bread, or beg in the streets." All of this was of particular significance for copper since it was only a decade after the 1872 code that the first electric generating stations were built in NYC, London, and Milan. Within another quarter century the automobile made its first appearance. The development of a mining code and the rise of the electrical industry transformed the composition of end use for copper and radically increased the volume of demand at a time when the states which were to dwarf the output of the then premier copper district of the world--Michigan--were being opened up to settlement. Each member of the triumvirate of big copper was established in the 1880-1910 period and each has found their richest domestic sources of copper in the five states of Arizona, Montana, Nevada, New Mexico, and Utah (Richter, 1927a). All of these were, of course, largely part of the public domain at the time of the first federal mining code and even today, when 20 percent of the contiguous U.S. is still within the public domain, fully 50 percent of these five states remain so situated (United States, Dept. of Interior, 1973:v-2).

For big copper the framework established by these early state actions has been a profitable and generally smoothly working system for the last century. Now, however, a new game has begun and the stakes are high. By the early 1960's it was clear that the undersea mineral nodules (sometimes called manganese nodules) contained manganese, copper, iron,

nickel, and cobalt to a total amount probably in excess of all that found on the dry land surface of the earth (see for example, the September 1959 E&MJ editorial "Who Owns the Sea?"). Thus, at a time when some minerals are approaching absolute exhaustion in the U.S. and when the richest, most economical sources of many others are more likely to be found in the hinterlands of world capitalism, big capital is presented with a new opportunity for expansion. There is, however, a crucial problem. Most of the nodules are located in international waters. Does it follow that they should be "internationalized" minerals, in the development of which all nations shall participate?

Big copper, at least, has an answer to this query and the answer is no. Kennecott has been a leader among mineral multinationals in the exploration of the ocean floor, beginning in 1967 to allocate substantial resources for such work (Kennecott Annual Reports). The U.S. state has been a coparticipant in this concern. In 1963 the United States Bureau of Mines (USBM) began a research program on the problems associated with metal and mineral mining under the ocean floor. During the same year the U.S. Geological Survey announced a five year study of the ocean floor (E&MJ, February 1963:20 and May 1963:23). In 1967, the USBM undertook a program for underseas mining development in cooperation with private capital and the next year Senator Pell of Rhode Island proposed an Ocean Space Treaty while Kennecott began active prospecting on the Pacific floor

(E&MJ, February 1967:17 and July 1968:86). In 1969 the Marine Science Council, a state/capital group, issued a report urging that state agencies direct their energies to research on mineral extraction and mapping the ocean floor rather than on actual mining or the development of hardware for mining. The latter tasks were thought best left to private capital (E&MJ, January 1969:16). The next month Kennecott's General Council Malcolm R. Wilkey called for a new mining claims law for operations on the U.S. continental shelf, for defined boundaries between territorial and international waters, and for provisions for activity on the part of private capital in the latter area. He went on to suggest that underseas minerals would become a significant component of world output in 7-10 years (E&MJ, February 1969: 124; Kennecott Annual Report, 1969). Later that year, the Assistant Secretary of the Interior for Mineral Resources, Hollis M. Dole, gave added impetus to this thrust by warning of a mineral shortage within twenty to thirty years which could depress the standards of living among the rich nations of the globe. Dole urged the need to develop foreign sources and new technology to tap unused mineral deposits (E&MJ, May 1969:15).

Here the stategic concerns of the metropole state have come into play, providing support for but also acting independently of the private calculus of multinational mining capital (Girvan, 1971a:18-21 and 26-37, discusses the importance of metropole state strategic interests in the

determination of incremental mineral output and guaranteed access to supplies in the case of Jamaican bauxite). That is, a fusion of the state as instrument--the efforts, detailed below, to define underseas mining as an area suitable for private capital accumulation--and the state as structure--social investment--is occurring. The concerns of the metropole state, as they have been manifested in international debates and conferences over underseas mining, are threefold. (1) Controlled access to underseas minerals, that is, access through the internationalization of nationally based capital, will provide assured supplies of these materials to meet future needs. This has been a recurrent concern of the U.S. state (Bidwell, 1958), first reflected in the Paley Report of 1952 and most recently expressed in the Annual Reports of the Secretary of the Interior under the 1970 Mining and Minerals Policy Act. (2) Underseas mineral resources could lessen the need of metropole nations. This concern is closely tied to the question of controlled and secure access. Here, underseas mineral deposits are perceived as providing a counter lever against rising third world nationalism. Would Chile, for example, have been as quick to nationalize U.S. copper investments--without compensation, no less--if the threat of a Kennecott vice president to make Chile a "residual supplier" of the metal could have been realized through production from underseas mining? (3) Finally, the U.S., along with Japan and several other capitalist metropoles are net importers of raw

materials. This is a regular and rising negative entry in the balance of payments at a time when international competition for both markets and raw materials is increasing sharply. (As early as 1965 the U.S. government was reported pressuring the mining industry to improve its balance of payments as reported in E&MJ, November 1965:23.) Underseas mining could alleviate this problem, giving the state greater freedom of action in the arena of international politics. (These three themes emerge from a reading of articles in mining publications such as E&MJ and Copper, newspaper accounts and the Reports of the Secretary of Interior issued under the 1970 Mining and Minerals Policy Act. See also the statement of C. H. Burgess, Kennecott vice president in Mineral Resources and the entire volume.)

There are, however, other players in this game who have a different conception of what the appropriate rules are. Most of the smaller nations of the world are seeking UN control of mining under international waters and for a pooling of resources in the development of underseas mineral deposits. The reason is simple: The cost of a single underseas mining operation is estimated at $300 million, a sum considerably beyond the reach of many smaller countries. International cooperation is desired also for development of technology and for market size sufficient to absorb the output from such a large investment. The possibility here is for an international rules of the game which would parallel one of the patterns excluded in the U.S. case. The

UN could invest the social constant capital necessary to develop these resources and operate them at cost or as a revenue source. In either case, the relative independence and the hopes for industrialization of hinterland nations would be increased. Both patterns would also increase the potential of the UN as a world government. This would be particularly true if the minerals were used to raise revenue, emancipating the UN financially from the political influence of the metropoles (cf Logue, 1973:405-418).

The conflict over the future of mineral nodules has been joined on the floor of the UN with the U.S. leading the opposition to international control of underseas mining and, where outright opposition seems too politically costly; urging a go slow policy (E&MJ, March 1969:16). The third Law of the Sea Conference, in 1974, took up this issue but was unable to resolve it. Thus the conflict has been rescheduled for future meetings.

At present a stalemate exists between the political weight of the third world and the economic and military weight of the U.S. and a few metropole allies. The stand of the U.S.S.R., which could be crucial in the outcome, is still unclear. However, the mineral multinationals must be considered as another element in this conflict. It cannot be assumed that the interests of the metropole state and big copper, or big capital in general are identical. I suspect that the latter would not be unhappy if the UN were to emerge as a new state structure and instrument with the

power to establish and enforce the rules of the game in underseas mining. This would be acceptable if the social investment necessary for private capital accumulation (mapping of the undersea deposits, research on extraction techniques) were also to take place under UN auspices but with private appropriation of the profits from mining itself. The outcome would be an international political capitalism with stability, predictability, and security greatly enhanced for private capital. This internationalization of capitalist rationality would further emancipate the multinationals from their metropole states and at the same time increase the dependency of hinterland states on the policies of these same multinationals.

# CHAPTER 4

# THE STATE AS STRUCTURE: SOCIAL CAPITAL

## State Social Investment in Physical Capital: Diversification and Stockpiling

State social constant capital investment in physical capital increases the productivity of a given amount of labor power and is thus indirectly productive. State outlays of this nature remain only indirectly productive because monopoly capital socializes much or all of the costs of planning and developing physical capital projects while continuing to privately appropriate the profits. Thus these state outlays only indirectly lessen the fiscal crisis, i.e., only through the increased tax revenues arising from private capital accumulation. This category of state expenditure has served the capital accumulation needs of big copper in two ways. On the one hand it has furthered efforts at diversification while on the other it has evened out the rate of capital accumulation on both an inter and intra industry basis. The former case involves state outlays which were originally intended to provide a stockpile of materials for national defense. An examination of these outlays provides a first picture of the state as structure, the synthesis of state and capital.

During the last half century the rate of growth of demand for aluminum has been much more rapid than for copper. Although bauxite was not produced until 1910, by the 1960's the expansion of capitalist world aluminum output had made it the largest nonferrous metal by tonnage produced. The divergent rates of growth for the two metals is expected to continue for the remainder of this century. Aluminum and copper are competing metals for several industrial uses, particularly in the electrical goods industry which has provided 50 percent of the market for copper since the 1920's (Brown and Butler, 1968:69-75; Parsons, 1933:20). Thus, some of the expansion of demand for aluminum has come at the expense of copper. For example, aluminum has displaced copper in high voltage overhead power lines (Brown and Butler, 1968:166). Government studies in the 1950's showed that during the 1945-1954 period, the 25 industries consuming 69 percent of copper base mill products and 38 percent of aluminum base mill products increased their demand for copper only 1.6 percent while their demand for aluminum rose 66.3 percent (Copper, Spring 1957:5-6). Thus, despite copper's established position as a monopoly sector industry, its relative standing was being eroded. Even within the monopoly sector the law of uneven development was working itself out.

The decision on metal choice has in fact been cumulative as the law suggests: once the shift to aluminum occurs it is seldom reversed due to the investment in new

equipment, the commitment to new size specifications, and the advantages of established and stable relations between buyers and sellers. For example, Ford's decision to purchase 30,000 tons of molten aluminum per year from Kaiser was considered a breakthrough for the aluminum industry (Girvan, 1971a:23). There are, of course, limits to the possible aluminum penetration of copper markets. Thus, aluminum's greater volume per unit of conductivity means that copper's position in telephones and electric motors remains secure. Further, an era of energy shortage gives copper a cost advantage. Producing a ton of the red metal requires less than 20 percent of the KW hours required to produce a ton of aluminum. Overall, however, a major force behind the efforts of big copper to develop new markets has been the penetration of aluminum into copper's traditional markets.

Differing growth rates have not been the only contrast between copper and aluminum. While there have long been three major copper producers and numerous lesser firms, Alcoa was the sole domestic producer of aluminum until the end of World War II. During the war the state built aluminum facilities to meet the increased wartime demand. With the end of the war came the question of the disposal of these facilities: should the state sell them to the company with the most experience in the field, Alcoa, thus entrenching and appearing to legitimate a monopoly or should new producers be sought? The decision would obviously affect both the total rate of capital accumulation and particularly

the rates for individual corporations. The final decision was designed to both encourage competitiveness in the industry and to increase the rate of growth of aluminum output. The state's 301 million dollar investment in bauxite mines, smelters, and alumina plants was disposed of for $101.1 million to Reynolds and Kaiser.

State social constant capital expenditures to increase aluminum production did not stop with the sales to Reynolds and Kaiser, however. During this same period the state offered favorable terms for amortization of investment and a five year market guarantee to new capital entering aluminum production (Brown and Butler, 1968:145; Girvan, 1971a:82-83). Big copper had long been concerned by competition with aluminum and in 1952 Anaconda (along with two smaller firms, Ormet and Harvey) became a reducer of alumina. Although initially dependent on Reynolds as an alumina source, Anaconda quickly began efforts to integrate forwards and backwards, researching the possibility of producing alumina from clays in Georgia and Idaho and establishing an aluminum fabricating facility. In the former effort they were aided by USBM research while their venture into fabricating was facilitated by the similarity with copper fabricating (Brown and Butler, 1968:145-147; E&MJ, November 1952:136 and January 1957:80-85; Anaconda Annual Reports). While Anaconda has remained the fourth largest producer of aluminum in the U.S., aluminum output has expanded much more rapidly than copper production, increasing over 200 percent in the last

decade. Together with Ormet and Harvey, Anaconda has cut into the market shares of the big three in aluminum (Brown and Butler, 1968:27; E&MJ, various issues; Anaconda Annual Reports). The internationalization of capital has also been a force behind Anaconda's aluminum venture. Agreements with the French firm Pechiney (the world's fifth largest aluminum producer) enabled Anaconda to acquire advanced reduction technology for their Columbia Falls, Montana plant. Frustrated with the efforts to produce aluminum economically from alumina clays, Anaconda has joined with Reynolds and Kaiser in the Alpart Project. The three companies will mine bauxite and reduce alumina in Jamaica, shipping the product to their U.S. plants for further processing (E&MJ, January 1967:81, OECD, 1969:58).

On the one hand, these state expenditures represent social investments in physical capital: the below cost sale of the plant and equipment, favorable amortization terms, and market guarantees. From the perspective of the major political economic forces behind these decisions, that is undoubtedly the correct classification. However, if analyzed from the perspective of the copper industry suffering from the costs of uneven development in its competitive struggle with aluminum, these state expenditures functioned as social expense outlays. The divergent interests of copper and aluminum producers were integrated within the larger class imperative of an increased rate of capital accumulation. The interpenetration of state and capital converted interest

group conflict, which "is inconsistent with the survival and expansion of capitalism" (O'Connor, 1974:67), into the common denominator of class interest (cf O'Connor, 1974: 65-70 on this point). Further, state expenditures made it possible for Anaconda to socialize the risks of uneven development. Fluctuations in Anaconda's rate of capital accumulation were no longer tied to the fortunes of copper in its competitive struggle with aluminum. Rather, different regions, towns, or segments of the international proletariat within the organizational framework of Anaconda now bore the brunt of the shifting demand for the two metals. Domestically, Anaconda, Montana--long time center of Anaconda's copper processing--declines while Columbia Falls, Montana, with its new aluminum refining and fabricating capacity, grows. Internationally, Anaconda's Chilean copper competed with its Jamaican aluminum. Anaconda, however, kept on growing.

The unceasing efforts of capital to transform external unpredictable outcomes of the market into internal controllable decisions of the firm (Galbraith, 1967:Chapter 2), is characteristic of big copper also. Here the concern is with "wasteful" competition and the problems of over and under production. The lack of control over production levels and existence of alternating periods of slack and capacity-straining demand means uneveness in the rate of capital accumulation by price instability. The result is difficulty in corporate planning and, once again, the spector of aluminum penetration of copper markets since the higher degree

of concentration in the production of aluminum has resulted in greater price stability for that metal in recent years. As a selling point, price stability is particularly important in the producer goods sector of the economy where the ability to control, and if possible, reduce, prices is emphasized (Baran and Sweezy, 1966:68-70). This is difficult if the price of an important component of the final good, such as copper, is not readily predictable.

State expenditures for stockpiling enter here since they both further the accumulation of capital and act as a price stabilization mechanism. At the same time, the network of stockpile and purchasing agencies, legislative guidelines, and private capital graphically illustrate the state as structure. Stockpiling, of course, was not begun with these purposes in mind. Although industry publications such as E&MJ had been calling for such action as a "preparedness measure" and incidentally as an industry relief measure (E&MJ, January 1939 editorial), well before World War II, it was the war itself which provided the impetus for state stockpiles. The rationale lay in the key role that many minerals, including copper, play in armaments production. Since the major sources of several of these metals are outside the U.S., governmental stockpiling would assure access to the needed raw materials. Thus, the initial state expenditures in this area should be understood as social expenses and only secondarily as social investment.

All of this seems straightforward enough, but (1) the ideology of national interest is a very malleable one and (2) once a national security establishment is created, the agencies involved attempt to maximize their resources and functions, that is to tie themselves more firmly to expanding industrial sectors and, in turn, to aid in that expansion (see Barnet, 1973:13ff on this latter point). Let me take these complicating factors in order. The initial stockpile legislation, the 1939 Strategic Metals Act, specified only that the minerals and metals involved should come from U.S. producers but not necessarily from domestic ores. A conflict over this question quickly developed. Competitive capital argued that national security and national defense meant national--the support of existing domestic producers and, as in the case of copper, where domestic capacity was lacking, state constant capital expenditures to increase the output of the resources in question. Thus, stockpiles were quickly tied to capital accumulation through the ideology of "a national minerals policy." Big copper, along with other multinational mining corporations responded that the goal was adequate resources for national defense and that whether these came from domestic ores or foreign ores under the control of U.S. producers was a secondary issue. The defense policy of these interests was often cast in terms of a "Western Hemisphere policy," arguing that we could retreat to "our" hemisphere and have all raw materials necessary for an extended war. (The information in this

paragraph is drawn from the following sources: Bidwell, 1958:38-42; E&MJ, 1939-1940; and McMahon, 1965:327-328.) The political conflict between large and small producers mirrored a differing conception of future of the capitalist political economy. Competitive capital sought to maximize the rate of capital accumulation for national and regional capital while monopoly capital saw the imperative of capital accumulation on the international level.

Competitive capital found its political voice in this debate in the members of Congress from the western mining states while big capital pursued their interests through the Secretaries of Navy, War, and Defense (E&MJ, 1940-1941). The simple exigencies of an escalating war demand for raw materials propelled the state towards the policy of big capital but part of the political goals of small capital (including competitive copper) were realized in the post war stockpile programs. That is to say that while state constant capital outlays were responsive to the demands of monopoly capital, the state also incorporated the potentially politically disruptive pressures of competitive capital. To understand this process we must consider the second point raised above, the ability of state agencies to link their survival and growth to the demands of capital and the strategic interests of the state.

Whatever the outcome of the debate over the responsibility for the origins of the Cold War (contrast Schlesinger, 1967 and Williams, 1967) one reality cannot be denied: the

Cold War as a militarized peace served the interests of capital and the state alike. For the mineral industry, the Cold War ideology was the framework for the continuation and expansion of state stockpiling. When the Strategic Materials Act expired in 1946, it was renewed as the Strategic and Critical Materials Stockpiling Act and retained under congressional control (Bidwell, 1958:39-40; Wideman, 1965:289). In the early years of the Cold War it was still possible for state agencies to clash over military vs. economic priorities as the Commerce Department and the Defense Department (DOD) did in 1948. The Commerce Department questioned the wisdom of stockpiling metals in short supply domestically while the DOD demanded assured availability of metals for the coming conflict with the U.S.S.R. With Truman's backing, the DOD's military definition of reality triumphed (E&MJ, February 1948:121).

Along with business in general, mining interests increasingly saw the economic and strategic needs of the nation not in conflict but as a seamless whole, the unity behind leadership in foreign affairs and domestic prosperity. Thus, E&MJ repeatedly argued that military preparedness, including stockpiling, and mineral industry growth and expansion were two results of the same state policies. Typical was a May 1948 piece by Col. G. A. Lincoln entitled "Military Strategy and Minerals." Col. Lincoln saw minerals as the key to a rising standard of living domestically (the ever-expanding economy) and success in foreign warfare.

Stockpiles would serve both purposes and also further the political-economic thrust of the United States in the Third World (E&MJ, May 1948:84-88). In that same year, another E&MJ article pointed out the connection between the Marshall Plan and assured continued access of the U.S. to mineral supplies from West Europe's colonial empires (E&MJ, September 1948:70-74). Two years later, the fate of the U.S. mineral industry was linked to the future of civilization itself in an editorial entitled "A Mining Program to Defend Civilization." Once again state social constant capital investment was to provide production incentives and financial aid to mining (E&MJ, September 1950:66-70).

State response to the perceived threat took the form of the Defense Production Act of 1950 (DPA). The DPA created a second stockpile, under the control of the executive, and established the Defense Minerals Exploration Administration to provide financial support in the exploration and development of minerals in the U.S. (Brown and Butler, 1968:154; McMahon, 1965:325; Wideman, 1965:289). Aid took the form of tax concessions and a guaranteed market for a state-capital negotiated portion of the output of mines developed under the program. By the early 1960's it was believed by at least one expert in the area that the DPA program (under which over 800,000 tons of copper were purchased) had boosted U.S. copper output above the level the cost/price relationships prevailing in the industry would otherwise have produced (Herfindahl, 1959:138).

Like and ideology in which the central tenet is national interest or national security, the Cold War weltangschauung proved quite flexible. In 1954, still a third, Supplemental, stockpile was established, but this time in opposition to the priorities of mining capital. The metals in this stockpile were to be acquired neither from U.S. domestic nor foreign-owned mines, but directly from the stocks on hand in third world nations. These were the halycon days of agricultural surpluses and the synthesis of state and agricultural interests, acting through the Department of Agriculture, had concluded that farmers could be aided and the national defense served by the exchange of agricultural commodities with raw materials from allied nations with a food deficit (Bidwell, 1958:43-44). Mining capital, including big copper, opposed this Supplemental Stockpile on three grounds: (1) it was administered and controlled by state agencies tied to agriculture rather than mining; (2) it was thought to be a disruptive influence on the world market, although producers were split over this point; and (3) releases from this stockpile were beyond the control of mining interests. In June of 1957 copper and other mining interests forced a temporary halt in this stockpile through a congressional investigation of the agricultural surplus/raw materials barter scheme. When the Supplemental Stockpile was reinstated later in the year, it was under much tighter administrative control and a sharp decline in the amounts involved resulted (E&MJ, June 1957:78, 118 and August 1957: 128).

Despite the demise of the Supplemental Stockpile, state accumulation of raw material stocks continued throughout the 1950's and into the 1960's. However, the rate of stockpile accumulation was clearly subordinated to the rate of private capital accumulation. When the demand for a mineral was particularly weak, stockpile purchases would increase and political pressure would mount for raising the stockpile ceiling. On the other hand, as demand recovered, stockpile purchases could be delayed with the firm retaining the right to sell increased amounts to the state in the future to meet its stockpile quota. While this pattern was of greatest importance to competitive capital whose marginality is underlined during periods of slack demand, big copper was also involved. Thus Anaconda and Kennecott used this mechanism to hold onto their dominant position in the production of tin and zinc, metals in which the U.S. is a high cost producer. Even within the copper industry itself, the same dynamic operated. For example, in early 1957 E&MJ reported a market decline in demand for copper stimulating copper sales to the state following an extended period during which the state allowed capital to divert output needed under the stockpiling program to civilian use (E&MJ, January 1957:119; see E&MJ throughout the 1950-1960 decade for evidence of this pattern; Bidwell, 1958 also discusses the politics of stockpiling). In the case of each metal, state stockpile purchases helped to even out the rate of capital accumulation and to dampen the impact of market fluctuations.

In short, the synthesis of state and capital created the more predictable and stable economic environment required by political capitalism.

The new Kennedy administration briefly considered ending stockpiling altogether and released the previously classified information on stockpile quotas and stocks actually on hand (E&MJ, March 1962:21 and April 1962:25; United States, Dept. of Interior, 1972:4-5). However, for most of the 1960's the problem of copper price stability and the strategic interests of the state dominated the politics of stockpiling. As the U.S. became ever more mired in Indochina, copper price stability, which had been established in 1962 at 31¢/lb., began to crack, creating a dual U.S./world market structure with an initial 3-4¢/lb. gap appearing by the early months of 1964 (E&MJ, March 1964:23; O'Hanlon, 1966:118). By the end of the year, copper prices had begun to rise. While it might seem that producers, at least, would not oppose such an increase, the fear of aluminum penetration of copper markets must once again be remembered. In addition, price increases stimulate output from marginal mines and an influx of scrap. As supply catches up with and surpasses demand, prices begin to fall creating further instability. While the state is not interested in copper price stability from the same perspective as big copper, there was a convergence of goals during the Indochina War. Rising copper prices would increase the cost of the war, putting additional strains on state

resources and perhaps forcing a tax increase. Since this was politically costly for an undeclared and increasingly unpopular war, the state responded by using the stockpiles to exert leverage on copper prices. Once again it was the case that neither producers nor consumers in a monopoly sector industry such as copper are interested in market determination of prices (Brown and Butler, 1968:145).

During 1965-1967, 550,000 tons of the 835,000 tons of stockpiled copper were released on the basis of a defense priority (Report of the Subcommittee, 1970:19). The first step in this, eventually, unsuccessful effort to stabilize copper prices came in early 1965 with a release of 20,000 tons, considerably below the 100,000 ton release sought by Senators Mansfield and Symington but opposed by the producers as so large as to disrupt the normal market functioning (E&MJ, January 1965:19). As it became evident that stockpile releases were to continue, the mining industry pushed for and obtained legislation setting stockpile release prices at "fair market value" rather than presidential option (E&MJ, March 1965:19). This incipient conflict between big copper and the state came to a head in November of 1964 when Anaconda announced a further price increase of 2¢/lb., bringing the U.S. price in line with the world price of 38¢/lb. The state, in pursuit of its strategic objectives in Vietnam, countered with both short and long term measures against the rising price of copper. The first response was the release of 200,000 tons of copper, about 15

percent of U.S. yearly consumption, and directives to the DOD and FHA to encourage the substitution of aluminum wherever possible. (The policy of substitution had only limited effectiveness since within a year aluminum too was in short supply and stockpile releases were necessary in an effort to control price.) To increase the supply of copper over the long run, the state revived the Office of Minerals Exploration's (OME) program of payments to cover up to 50 percent of the exploration costs of copper and other minerals (E&MJ, December 1965:21 and August 1966:17; Forbes, 1970:28). Under these pressures, plus the requested repeal of the tariff on fabricated copper, Anaconda's price increase, which had been followed by all major producers except Kennecott, was rescinded (O'Hanlon, 1966:119; Report of the Subcommittee, 1970:17). To further augment supplies, the state purchased 100,000 tons of copper from Chile at the U.S. rather than the higher LME price. The quid pro quo was a forty year $10 million loan at less than 1 percent and a promise of increased tax payments by Anaconda subsidiaries (P'Hanlon, 1966:119; E&MJ, February 1966:25). State pressure on the price of copper continued through 1967 when another 150,000 tons were released from the stockpile.

The state effort to control the U.S. copper price for its own strategic interests took place in the context of rapidly rising world prices for the metal which were spurred by strikes in 1964 and increased demand by India and the U.S.S.R. The outcome was the effective insulation of the

U.S. market from the world market. Copper from foreign producers could not be expected to enter the U.S. market at prices below those prevailing on the LME when consumption outside the U.S. was high enough to absorb existing output (E&MJ, December 1965:21 and February 1966:24). Here the corporate interests of big copper and the strategic interests of big copper and the strategic interests of the state further diverged. While, as I have argued previously, price stability is important to big copper in its competitive struggle with aluminum, the division between the U.S. and the world market left over half of Anaconda's production and about 30 percent of Kennecott's production out in the cold. The division between the U.S. and the world market was solidified for the companies by the politics of Eduardo Frei's Christian Democratic Party. While opposed to the nationalization of the U.S. properties in Chile, the reformist PDC was interested in raising the "take" of the Chilean state from these properties, both to undercut the appeal of the left's call for nationalization and to help finance Chilean development. Chilean revenues from copper production were in part dependent on the market price for copper. Thus, the Chilean state began for force the companies to sell Chilean copper at the LME price rather than the lower U.S. producer's price. As the gap between the LME and the U.S. price widened (it was already more than 25¢/lb. by mid 1966), Anaconda and Kennecott found themselves unable to profitably integrate their now more costly

Chilean output with their U.S. refining and fabricating facilities. Thus, the companies turned increasingly to West Europe as a market for their Chilean copper during the latter 1960's. Ironically, the strategic interests of the metropole state in Indochina produced corporate policies leading to a market shift which worked to the advantage of the Unidad Popular when they nationalized the companies' Chilean properties in 1971. Allende was not faced with retaliation through the immediate loss of the U.S. as Chile's major market. (Information in this paragraph is drawn from E&MJ, February 1966:80-82; May 1966:29, and January 1967:21; Girvan, 1972:35-37; O'Hanlon, 1966:119, 121, 235.)

The politics and economics of stockpiles and stockpile releases represents the interpenetration of social expenses for the maintenance of empire with social constant capital outlays for capital accumulation. Three relationships of the larger political economy are illuminated through an examination of this interpenetration. (1) State social expense outlays for stockpiling also serve as social constant capital outlays to sustain and level the rate of capital accumulation. Thus, the impact of the instability of the producer goods sector demand for copper is lessened. Here both big copper and the state share an interest in subsuming the market. (2) The interests of surplus capitalists in the competitive sector are integrated through the synthesis of state and capital into the class imperative of the ever-expanding economy. Here state social constant

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.es designed to realize the "national interest" may at
conflict with the corporate interests of any given
ıt of big capital. In sum, the interpenetration of
ı expenses and social constant capital in the political
ıy of stockpiling reveals the fundamental unity of the
:e/welfare state.

## State Social Investment in Human Capital: Rationalization and Diversification

Social constant capital investment in "human capital"
e second type of state outlay for increasing the pro-
vity of labor power. Much of the expenditure falls
the broad category of state supported research and
opment. While the costs of scientific and technical
ce are socialized through the state's use of tax rev-
, the fiscal crisis is not eased since the technical
ity gained from these investments is turned over to
te capital for development. That is to say that both
and risks have been socialized but profits continue
privately appropriated. For big copper, state expen-
es of this type have played a key role in the efforts
tionalization and in the drive to diversify. In the

former case, the mineralogical and geological knowledge gained from state projects creates a technically skilled labor force that can avoid much of the uncertainty and risk of mineral exploration, thus increasing the rate of exploitation. In the latter case, state expenditures in the development of new metals map out routes for profitable capital accumulation, increasing the productivity of the labor force employed in capital's efforts to develop new product lines and new markets. Once again, the total pattern is one of the interpenetration of state agencies and private capital, the state as structure.

The transformation of the unknown parameters of a situation into calculable variables is the essence of the process of rationalization, the overarching goal of political capitalism. From its inception as the Federal Bureau of Mines, the USBM has been the rationalizing agency _par excellence_. The agency carries out extensive research on exploration, development, and operating difficulties in metal mining. Particularly useful for big copper (and other mineral interests) have been the USBM's studies of rock mechanics and geological structures and their relationship to mineral deposits (McMahon, 1965:308-309). The USBM also publishes an annual _Minerals Yearbook_ and a periodic _Mineral Facts and Problems_ which are valuable data sources for long term assessments of both supply and market situations. As the political economy of U.S. mineral supplies has been internationalized in the post 1940 decades, a volume on foreign

output has been added to the Minerals Yearbook. A sister state agency, the United States Geological Survey has worked in close cooperation with the USBM in recent years. The Geological Survey was given the task of mapping the continental shelf, making the maps available for industry use in late 1969 (E&MJ, September 1969:16).

The projects undertaken by the USBM are not limited to those which increase the rate of capital accumulation for mining capital as a whole. The relationship between the agency and capital provides a classic case of "the private appropriation of state power for particularistic ends" (O'Connor, 1974:9). A couple of examples will suffice to clarify this process. In 1961 it was the USBM's Salt Lake City research facility that was responsible for developing the flotation process which made Anaconda's Mount Washington beryllium ores economically mineable (E&MJ, January 1962: 138; the Mount Washington mine was itself developed for another state agency, the AEC and is discussed below). In 1967 the USBM developed the process by which uranium could be extracted from Kennecott's Bingham Canyon Mine copper. This research both brought a new firm into the uranium industry and raised the productivity of the labor in that mine (E&MJ, October 1967:140; Kennecott Annual Report).

The free market in labor which characterizes advanced capitalism means that any individual unit of capital risks losing the increased technical skills (and thus the increased rate of exploitation) which its own labor force may acquire. Thus, much of the state's social variable capital

outlays for research and development serve the interests of mining capital as a whole. Perhaps the most spectacular example of this type of state expenditure is the USBM's cooperation with NASA in the Earth Resources Observation Satellite Program under the aegis of the Department of Interior. Together these agencies planned and launched satellites in 1972 and 1973 which used sensors and infrared devices to obtain land use maps, soil classifications, and mineralogical information for the entire globe. The results are available to mining capital at large, raising the productivity of labor engaged in exploration and development (E&MJ, November 1969:16 and September 1973:18; NASA:45-46). The internationalization of capital has thus propelled the internationalization of the state as structure.

Although the synthesis of state and capital in the USBM has been functional for the mining industry, for several years big mining capital has agitated for higher level representation in federal mineral policy making. The Secretary of the Interior is the cabinet official that represents mining but he/she has a constituency much broader than mining alone. As early as 1961 the big producers were supporting a bill to create a U.S. Department of Mineral Resources with four subdivisions: coal, petroleum and natural gas, metallic and nonmetallic minerals, and mineral patents and leases (E&MJ, April 1961:19). That same year E&MJ called for a cabinet level Secretary of Mines who could oppose wilderness bills which threatened to withdraw federal land from mining (E&MJ, May 1961:81).

Two developments of the 1960's fed this initial concern and were the impetus behind several other bills and committee studies which culminated in the Mining and Minerals Policy Act of 1970. On the one hand, mining capital and mining engineers have never tired of arguing that a sound minerals policy is the basis of national defense. The rising concern over population growth and potential minerals shortages for economic growth have spurred this impetus to political action by big copper and other mineral interests (Anaconda Annual Reports; Kennecott Annual Reports; United States, Bureau of Mines, selected years). Secondly, the 1960's decade witnessed increased pressure from ecology groups on the Secretary of Interior to follow mineral and public land policies which mining capital saw as detrimental to its interests. In 1962 both Anaconda and Kennecott opposed reclassification of land around Anaconda, Montana as a National Wilderness Area and the creation of a national park at Wheeler Peak where Anaconda had a large beryllium mine (E&MJ, April 1962:13 and July 1963:118). Big copper was also part of the coalition which got the 1964 wilderness bill watered down to include provisions requiring congressional action to enlarge the area included in the bill and funds for the USBM to search for deposits prior to the December 31, 1983 cut off date for prospecting (E&MJ, September 1964:23).

Although former USBM chief Charles Will Wright called for a cabinet level mineral department as early as 1966

(E&MJ, November 1966:17) and the USBM led the push for a new Paley Report (E&MJ, February 1968:83), mining capital failed in the efforts to obtain its maximum program. However, early in 1969 the Mineral Science and Technology Panel of the National Academy of Science released a report embodying most of the goals of mining capital. The panel (composed of industry and university representatives) called upon the state to coordinate and increase support for mineral research, especially that of the USBM. In addition, state outlays were to be used to provide incentives for research by private capital, to employ more overseas mineral attaches, and to compile an annual report of the Secretary of the Interior on the state of the nation's mineral resources. Finally, the synthesis of state and capital was to be formalized through the creation of a cabinet level council on mineral resources. Most of these proposals were incorporated into the Mining and Minerals Policy Act of 1970 (E&MJ, March 1969:15 and June 1972:110-111; United States, Bureau of Mines, 1971; United States, Secretary of the Interior, 1972).

Mining capital remained unsatisfied with this arrangement, however, and continued the effort for an independent cabinet level department to deal with natural resources. During the Nixon administration, this effort increasingly took focus around a proposed Department of Natural Resources (DNR) which would be concerned with the social costs of mining (particularly pollution and strip mining, see below),

the coordination of state policies and outlays in the area of mineral resources, and the impending balance of payments deficit in minerals (E&MJ, February 1970:15; May 1972:9; June 1972:111; and December 1973:9). Although the DNR remains an unrealized goal, Nixon took an important interim step in early 1973 when he created a super cabinet position, a Counsellor for Natural Resources, and appointed Earl Butz to the post (E&MJ, February 1973:13). Mining capital was well on the way to the creation of a new structure of state and capital in the pursuit of rationalization and surplus value.

State expenditures on human capital have also been integral to the diversification efforts of mining capital in general and big copper in particular. Here I will sketch three examples of this process, two of which involve cooperation between state agencies and Kennecott and the third with Anaconda. The second project involving Kennecott again demonstrates the strategic concerns of the state for an adequate and secure source of raw materials and can be considered a synthesis between state and the copper industry as a whole in an effort to boost U.S. copper reserves.

Even prior to World War II titanium was believed to have great potential in several areas. In fact, it has the reputation as almost a "super metal": lighter than aluminum, stronger than steel, so corrosive resistent as to be almost immune even to salt water (see United States, Bureau of Mines, any issue for a discussion of the metal). However,

there is no economically feasible method for producing titanium in a pure form and no single corporation was able or willing to make the R & D investment required when there was no guarantee of a return. Thus the task fell to the USBM which carried out research for a decade. In 1946, the agency perfected the Kroll Process for the production of titanium and made it available to private capital. In that same year, Kennecott, which had already been prospecting for titanium, discovered the world's richest mine in the form of an iron-titanium deposit in Quebec. Over half a million dollars were spent simple to explore and measure the extent of the mine (Kennecott Annual Reports; Fortune, 1951b).

To develop the property, Kennecott acquired knowledge of the Kroll Process, complementing their own constant capital outlays in the new metal with the social constant capital expenditures of the USBM. Kennecott then formed a joint venture with New Jersey Zinc which had developed a smelting technique capable of recovering both iron and titanium. The resulting Quebec Iron and Titanium Corporation (Q.I.T.), planned on a state market for the metal, particularly because of military interest. The state market was to be the floor on which the new metal was launched, eventually supplemented by rising civilian demand. This same projection of product demand growth brought other monopoly sector corporations--DuPont, National Lead, Alleghany Ludlum--into the field. While titanium powder rapidly found

a secure market in paints, the state induced investment in the metal created an overcrowded market situation during most of the 1955-1965 period. However, demand picked up in the latter 1960's and by 1970 Kennecott's Q.I.T. (they own two-thirds) produced 65 percent more titanium slag than in 1966 (Kennecott Annual Reports; United States, Bureau of Mines, 1970 and 1971; Fortune, 1951b).

While Kennecott was appropriating the socialized research expenditure of the USBM, Anaconda had cultivated a similar relationship with the AEC. Once again it was the case of a new material, uranium, where the technology and markets were developed by and located within the state. After the AEC had perfected the process of uranium extraction, it was made available to private capital, and corporate involvement in uranium production was encouraged. As in the case of Kennecott's titanium, this encouragement took the form of a state market, this time a guaranteed one. The AEC offered long term cost plus contracts for uranium from private corporations. A further inducement was also added. Since the military was clearly the only immediately available market for uranium, tax relief was given for capital expenditures incurred in its production on the grounds of national defense needs (E&MJ, various years; United States, Bureau of Mines, selected years).

Anaconda, which was straddled with relatively high cost domestic mines, over half its copper output from foreign sources, and a slower gross revenue growth rate than

either Kennecott or Phelps Dodge during the 1940's, had already moved into the production of minerals other than copper. The company was the second largest producer and largest processor of zinc in the U.S., the source of 60 percent of U.S. manganese output, and the largest domestic silver producer (Fortune, 1955:92-93). Thus Anaconda responded quickly to the social constant capital expenditures of the AEC in uranium R & D, investing $12 million in Grants, New Mexico facilities. By the latter 1950's Anaconda regularly ranked first or second in U.S. uranium production and thus among uranium producers in the capitalist world (E&MJ, March 1952:137 and June 1959:354; Anaconda Annual Reports). Again, however, the private sector market for state induced production was slower in developing than predicted. While Anaconda and others had processing facilities by the end of the 1950's, market demand was insufficient to utilize the capacity available and the state was called to the rescue. The AEC responded by signing stretch out contracts with the companies throughout most of the 1960's. Under these contracts the uranium quotas of the firms could be supplied over a longer period of time, allowing demand in the private economy to gradually take up the slack (E&MJ, December 1960:18 and January 1964:17). The uranium connection proved fruitful for future efforts of Anaconda towards diversification. In 1960 the company began development of the largest desseminated beryllium deposit in the U.S. for the AEC. (Beryllium is a very

light, heat resistent metal used in aerospace, computers, and electronics.) State investment in constant capital had already devised the flotation process necessary for the ores involved (E&MJ, January 1960:116; July 1960:21; December 1960:41).

The third example of state expenditures geared to the increase of labor productivity through investment in human capital also involves the AEC but this time in conjunction with Kennecott. That company's announced intention to prospect for future deposits only in politically secure areas (E&MJ, July 1962:109) was undoubtedly important in orienting Kennecott towards a project designed to increase U.S. copper reserves. However, in this instance it is also the larger concerns of the state for economic orchestration--predictability of mineral access--that coincided with Kennecott's own private rationality to produce Project Sloop. The larger forces at work are simply stated. On the one hand, the U.S. is faced with declining ore content of domestic reserves. This decline is occurring in the context of rising third world nationalism which is often directed against foreign ownership of raw materials. The multinationals and the metropole states have, on the whole, been successful in the goal of maintaining the pre-World War II status quo of world distribution of raw material ownership (Girvan and Jefferson, 1971:267-268; Tanzer, 1970: 9-20). However, this success has been largely predicated on a U.S. hegemony which has been eroded during the latter

1960's and early 1970's. The world is entering a period of both inter-imperial rivalry and the maturation of China as a third, noncapitalist, super power. Each of these trends decreases the economic, political, and military power that the U.S. state can bring to bear against nationalization. While a metropole state may be induced to accept a nationalization which provides for continued access to the raw material in question even if "its own" capital receives a poor financial deal, a potential conflict over access still exists (Girvan, 1971a:234-236). In short, there are strong political-economic forces propelling the U.S. state towards a policy of self sufficiency in raw materials.

One response to the coming U.S. crisis in raw materials has been state social constant capital expenditures in physical capital to stimulate exploration and development of new reserves. A second effort has focused on investment in human capital, an attempt to achieve a technological advance which would make economically rational the mining of the lower grade ores which are still plentiful in the U.S. Project Sloop was part of this latter effort. The concept is simple: to apply the technology of the nuclear age to the ancient problem of mineral extraction. In 1967 Kennecott and the AEC began work on the design of a nuclear blast to be set off at a Nevada Kennecott property. The blast had two goals. First, ores with copper content as low as .4 percent could be mined (the use of ores under .7-.8 percent is unusual and considered extremely costly with current

mining technology). Second, copper mining through nuclear explosives would eliminate an entire stage in copper processing. Current mining techniques require the newly extracted ore to be concentrated, a physical operation which eliminates much of the non-copper bearing material and raises the ore content of the remainder to 20-30 percent. Project Sloop would concentrate the ore in place, using sulphuric acid on the ore "mined" by the explosion (E&MJ, March 1967:13 and April 1967:7). Both the ability to profitably mine the lower metal content ores, which now have to be discarded as waste, and the elimination of one state in processing would increase the amount of surplus value extracted from a given amount of labor power. When the final design for the project was announced in 1969, it was slated to cost $13.2 million, a small outlay for a project which would increase U.S. copper reserves by more than half (E&MJ, December 1968 and June 1969:186; Kennecott Annual Report, 1969).

Project Sloop would have required Kennecott and the AEC to request congressional authorization for a nuclear blast at a time when concern about the destruction of the environment was escalating rapidly. That is to say that Kennecott would have emerged as the grand daddy of strip miners. Largely for these reasons, the project was shelved. The idea of bringing copper into the atomic age through the use of state social constant capital outlays was not forgotten, however. In April of 1973, E&MJ announced that Kennecott

and the AEC had contracted to study in situ leaching techniques for a nuclear fractured orebody under the AEC's Plowshare Program for peaceful uses of nuclear explosives. This time the contract includes studies by Kennecott's Lexington, Massachusetts and the AEC's California and Nevada labs on the environmental impact of such a project (E&MJ, April 1973:26).

Kennecott's interest in accumulating surplus value in a manner befitting the atomic age underlines the political nature of the modern corporation. Here I shall point out only two ramifications of these plans, one domestic and one international in scope. Domestically, the Kennecott/AEC proposal involves three political forces: the strategic interests of the state in secure and adequate supplies of needed raw materials, Kennecott's imperative for the accumulation of capital, and the resistence of the underlying population to the social costs of capitalist growth. Internationally, the implications for the world political economic struggle over raw materials are immense. It again appears that the technological monopoly of the capitalist world metropoles can be used to udnercut the rising bargaining power of the hinterlands of world capitalism. In fact, if nuclear mining technology were to be adopted on a large scale, the dependence of the latter on the former for future mineral development would be heightened. Kennecott thus emerges as a significant participant in the drama of the world conflict between rich and poor, as a political

actor of the first magnitude. (For discussions from widely divergent viewpoints that emphasize the role of technology in the current relationship between metropoles and hinterlands, see Frank, 1969:296-318 and Vernon, 1971:65-77.)

The training of scientific and technical labor power is perhaps the major state social constant capital investment in human capital (see the discussion in O'Connor, 1974: 111-117). While most expenditures of this type are geared towards the needs of monopoly capital as a class, some can be tied directly to mining and even to copper. The new technologies and production processes developed by the USBM for private capital require new and altered skills from the labor force. The costs of this additional training are socialized in the tax supported curriculum of mining schools, the state financed purchase of new lab equipment by these schools, and the production of research articles on these topics. The increased productivity of labor power which results is appropriated privately through capital's relentless thurst for surplus value.

At the level of the individual states, big copper has used the principle of tied aid and the ability of the corporation to channel external economies to insure continued social constant capital expendutures in its favor. Kennecott has provided major grants to both the University of Utah and Utah State and later established a research facility at the former school to serve the firm's entire western operations. Anaconda, which has moved into Arizona copper mines in the last three decades, has attempted to maximize

the economies of location by establishing a research facility at Tucson in cooperation with the University of Arizona. Kennecott's grants were tied to research on the improvement of prospecting techniques and the development of new uses for mineral products (E&MJ, March 1946:125, May 1953:163, and November 1965:127).

The close links between the research labs and the universities draw scholars, students, and funding to the latter as a result of the opportunities for scientific work and the prestige accruing. The labs themselves, nominally part of the operations of private capital, in effect canalize the socialized state expenditures on salaries for professors, clerical workers, and maintenance personnel to the benefit of capital. Meanwhile, graduate students, many supported by state scholarships, are oriented towards a future with big copper. What has happened is that the philanthropic actions of big copper--the grants and the locations of the labs on or near the campuses--have taken the (supposed) social rationality of state legislatures and pbulic universities and rechanneled it along the direction of its own private rationality, creating friends and political allies in the process. Once again it is a case of the "private appropriation of state power for particularistic ends." The relationship involved is not unlike that prevailing between the suburb and the city in which the dominant partner redirects the structure of the political economy along paths which are favorable to its own growth and expansion

(see O'Connor, 1974:125-129). In the case of big copper, the interpenetration of the state and capital through socialized costs and private appropriation of profits becomes so total as to almost defy analytic efforts at separation. Surely Marx's comment on the joint stock company, that it "represents social production within the shell of private property," is even more applicable today than in his own lifetime.

## State Social Consumption

Social capital outlays for social consumption, that is state social variable capital expenditures that lower the costs of reproducing labor power, are difficult to link specifically to the dynamics of copper. Most of these budget categories--urban renewal, unemployment insurance, workmen's compensation--are grounded in the universalistic legal criteria of capitalism rather than the particularistic requirements of any given segment of capital. This feature of these state outlays rebounds to the benefit of capital since the free mobility of labor means that the reproduction costs of labor power in general should be lowered rather than the labor power employed by a particular capital. However, copper, along with other mineral industries, is intertwined with the state in specific and somewhat unique ways. The demand for copper is concentrated in the most volatile element of the business cycle, the producer goods industries. Thus, the yearly fluctuations of copper output are considerably greater than those of the GNP growth rate. This

dynamic plus the tendency of monopoly sector output to grow through productivity gains rather than through labor force growth creates employment fluctuations in copper which greatly exceed those for the total political economy.

While GNP growth has been negative only once in the post World War II era (1949; in constant dollars 1954, 1958, and 1970 were all years of negative GNP growth), copper output has shown no such stability. Declines were registered in domestic mine production in more than half of the 1944-1973 years despite an overall increase in output. Similarly, although total U.S. nonagricultural employment showed a negative growth rate in only 1949, 1954, 1958, and 1961, employment in copper declined in these four years and in 1952, 1956, 1957, 1962, 1964, 1967, 1969, and 1970 as well. As a result, the state is forced to make greater outlays for unemployment insurance per number of employees in the copper industry than in the economy as a whole. Analogously, the accident rate is higher in mining than in most other occupations, requiring greater workmen's compensation payments per hours worked to copper than in most manufacturing and service industries. (Data for this paragraph from Economic Report of the President, 1973; United States, Dept. of Commerce, n.d.:selected issues.)

# CHAPTER 5

# THE STATE AS STRUCTURE: SOCIAL EXPENSES

## The Domestic Costs of Capital Accumulation

> There is nothing to be gained by finding fault with any of this business-like enterprise that is bent on getting something for nothing at any cost. After all, it is safe and sane business, sound and legitimate, and carried on blamelessly within the rules of the game. One may also dutifully believe that there is no harm done, or at least that it might have been worse.
>
> --Thorstein Veblen, The Vested Interests and the Common Man

The business of getting something for nothing, that is the drive of capital to use labor power as a means to surplus value rather than as the end of social production, is an integral feature of the accumulation of capital. Populations, communities, and regions are foced to bear the social costs of the expansion of capital while the gains are appropriated privately (Gorz, 1971). This ability of capital to externalize the diseconomies and internalize the economies of growth necessitates considerable outlays for legitimation, for "the collective welfare," on the part of the state. Of course, the ever-expanding economy--the growth and well being of monopoly capital--is the key element in the state's conception of the collective welfare. Nonetheless, these social expenses represent the state's

effort to integrate the private rationality of individual capitals, the interest group consciousness of industry associations, and the functional prerequisites of capital as a system. To carry out this task, the state requires a conception of the collective welfare which, like the conception of the strategic interest which informs the decisions on social investment, transcends the needs, and may at times clash with the interests of, any given capital. While this type of outlay does not increase surplus value, it becomes the basis of the security--"protection from the political attacks latent in any formally democratic structure"--which provides the political environment within which monopoly capital can function.

Here I consider big copper and state social expenses under two headings: the question of present and future access to mineral lands and the problem of air pollution. While the latter issue has generated more visible political conflict, the former goes to the roots of the rules of the capitalist game as practiced in the U.S. Just as capital in general seeks to create and maintain the option of expansion abroad, so the mineral industry in general and big copper in particular are vitally interested in continued access to potential mineral lands for expansion at home. Thus, the political conflict over the future of public lands brought out the mineral industry as a political bloc. The struggle around the issue of air pollution was fought along more particularistic lines. For copper, this latter

issue turned on the level of sulphur emissions allowable from copper, lead, and zinc smelters. In each case, copper, the state, and ecology groups are involved. Each brings a somewhat different conception about how the costs and benefits of capitalist development should be distributed. Neither issue has reached final settlement at this writing. However, state social expense outlays have already emerged as an important element in state efforts to mediate the conflicting interests.

The most immediately obvious social cost of copper mining is the destruction of the land. From an ecological point of view, an open pit copper mine is simply a large--and growing--hole in the ground. This is necessarily the case for two reasons flowing from the nature of copper mineralization. On the one hand, copper deposits are below the surface of the earth. Thus, if open pit mining is to be used, and this method is the cheapest and safest available, the overburden (the land above the copper deposit) must be stripped and discarded. Second, the ore to metal ratio in copper mining is among the highest in the mineral industries. It is usual to remove more than a hundred tons of earth to obtain one ton of metal. In fact, copper mining removes more earth than virtually any other human activity (see Minerals Yearbook or Mineral Facts and Problems for statistical information on these relationships). In cases where the size of the deposit is large enough to insure more or less continuous usage, e.g., as at Kennecott's

Bingham Canyon, the problems of what to do with the exhausted mine and where to mine next do not arise. However, most copper deposits, including most of those owned by big copper, do come to an end and all companies are constantly involved in the search for new deposits, the struggle of mining capital to achieve control over sufficient raw materials for long term planning. (See companies' annual reports for the emphasis on exploration and development.)

The drive of mining capital to obtain assured future profits has meant intimate involvement with the politics of public lands. In the 1960's this involvement produced several conflicts between big copper and the ecology movement over the use of these lands. Within the state as structure this conflict was manifested in the Department of the Interior which is responsible both for supervising mineral exploration and development and for the creation and administration of national parks and recreation areas. In fact, this dual responsibility is one of the reasons that mineral interests mounted the political push (discussed above) for a Department of Natural Resources during the last decade. An early conflict between big copper and groups attempting to limit the environmental impact of mining occurred over Washington's Glacier Peak area. Kennecott had located a copper deposit in the region but announced in 1961 that operations had to be curtailed due to "uncertainties" over the creation of a Glacier Peak Wilderness Area (E&MJ, June 1961:19). As noted previously, it was also

during this same period that both Kennecott and Anaconda testified against the reclassification of land near Anaconda, Montana as a wilderness area (E&MJ, April 1962:136) and against the creation of a national park near Wheeler Peak, Nevada where Anaconda was developing its beryllium mine for the AEC (E&MJ, July 1962:118; see company reports for the concern over the issue of public lands).

The initial response of the state to these conflicts was an attempt at rationalization of land access and use through the establishment of the Public Land Law Review Commission. The commission heard evidence and arguments from the several interests concerned with the use of public lands, including big copper. Kennecott suggested that the commission include in its task the study of the use of public lands and policies for the development of these lands (E&MJ, May 1966:28). Four years later, the commission released a report which was welcomed by E&MJ as a boost to the mining industry and a recognition of national priorities. The key section of the report called for mineral development to take preference over "some or all" alternative uses of public lands. Further, the state was to conduct a thorough study to determine the mineral value of these lands before a decision on their allocation was made (E&MJ, July 1970: 16). This latter concern, the need for a national inventory of mineral resources, has also been echoed by the Secretary of the Interior in his reports under the Mining and Minerals Policy Act of 1970.

The release of the commission's report signaled the beginning of a political debate over the relationship between mining capital and the state. There is widespread feeling that the existing relationship, represented by the mining code of 1872, needs to--and would be--altered (cf company reports during 1971-1973). In an October 1972 speech before the New York Mining Club, a Kennecott vice president summarized big copper's view of the issues involved. The shift from rural to urban political dominance, the rising concern with the social costs of pollution and surface mining, and the high accident rate in mining all pointed towards new actions on the part of the state. Mining capital itself was concerned with incentives for development of the remaining mineral resources of the nation and the problem of security of tenure. The task facing the mining industry is to outline, both for itself and the public, a consistent role for the state, particularly in the areas of regulation and foreign vs. domestic sources of mineral growth (E&MJ, December 1972:59). By December of that year, Interior was calling for industry to talk about how the 1872 code should be altered (E&MJ, December 1972:21). No final action has been taken at the time of this writing. However, it is already clear that the distribution of the social costs of mining and the role of state social expense outlays have emerged as key issues. Proposed revisions revolve around the questions of control over subsoil rights, royalties to support state policies, the costs of land reclamation, and

incentives to allow the generally high cost U.S. mine industry to expand domestic production, etc. (E&MJ, January 1972: 126, August 1972:23, and December 1973:9).

Smelter pollution has been the social cost of capital accumulation by big copper which has had the greatest political visibility during the last five years. Overall, about 12 percent of the sulphur oxide omissions in the U.S. atmosphere is sulphur dioxide ($SO_2$) given off by copper, lead, and zinc smelters. While heating with coal and petroleum produces about four times as much sulphur oxide emissions, copper, lead, and zinc smelters--often the same facility--are a concentrated source of such pollution (E&MJ, August 1970:95-97). This is particularly the case since these smelters are not distributed throughout the U.S. Instead, 85 percent of U.S. copper smelter capacity is located in six states: Arizona, Montana, Nevada, New Mexico, Utah, and Washington (McMahon, 1965:256). In these states the smelters are often a major source of sulphur oxide emissions: in 1970 Kennecott's Garfield smelter was identified as the single largest source of $SO_2$ in Utah (E&MJ, July 1970:98).

While the conflicts which developed around the issue of smelter pollution during 1969-1973 often found big copper pitted against the ecology movement and state agencies, this is too simple an interpretation of the interests involved. Monopoly capital is not opposed to environmental and conservation measures and, in fact, class conscious members of the capitalist class recognize the necessity of such measures.

Indeed, as a part of the rationalization function of political capitalism, such measures may even serve the long term interests of capital, regulating cutthroat competition that threatens to exhaust resources and absorbing political attacks arising from discontent over the social costs of capital accumulation. Thus, as early as 1959, E&MJ responded to Arizona's concern over smelter pollution with an article calling for industry to act on the problem (E&MJ, March 1959:120 and July 1959:65-74; in 1973 the magazine did, however, quote an official of big copper to the effect that the ecology movement "got things moving" E&MJ, April 1973:50E).

Monopoly capital in general and big copper in particular do, however, have two overriding interests in the question of pollution control. First, no one firm or industry can afford the expenses of pollution control and still remain competitive (O'Connor, 1974:176-177). Thus, anti-pollution programs necessitate an expanded role for the state and increased state social expense outlays. In fact, if possible, the control of pollution by industry should become a further means of capital accumulation, i.e., state social expense outlays should be turned into state social investment expenditures. This will only happen if the second interest of monopoly capital is realized. Any expanded state program which involves new state agencies requires a new synthesis of state and capital. Thus, big copper struggled to make the new anti-pollution bureaucracies responsive not only to the legitimation function of the state, but also

to the state's capital accumulation function. The monopoly of expertise within big copper and state agencies, such as the USBM, which were part of the pre-existing synthesis of state and capital was a key factor in the outcome of this struggle. In sum, rather than fighting anti-pollution policies as a whole, big copper focused on the qeustions of who would make policy and who would finance the implementation of policy (cf Weinstein, 1968 for a discussion of earlier political economic struggles involving the social costs of capital accumulation).

The answer to the question "who will pay" came first. In 1968 the state released a report which pegged the cost of treatment of mining wastes to meet proposed state standards at $1.5 billion, double that for any other industry (E&MJ, March 1968:17). In 1969 monopoly capital obtained passage of legislation providing for tax breaks on the cost of pollution control equipment, i.e., state social expense outlays were to socialize the costs of capital accumulation (E&MJ, July 1969:15). A year later President Nixon further encouraged the socialization of the costs of accumulation, arguing that "the price of goods should be made to include the costs of producing and disposing of them without damage to the environment" (quoted in E&MJ, February 1970:16). Big copper's stake in the issue was recognized that same year when Kennecott president Frank Milliken was appointed to Nixon's 55 member industrial pollution control council. The council was to advise the president and the new environ-

mental control agencies of the state on the environmental priorities and programs of capital (E&MJ, May 1970:17).

It was also in 1970 that the conflict over the control of smelter pollution, particularly the allowable level of $SO_2$ emissions, began in earnest. In the previous year, the Arthur G. McKee Company had submitted a report to the National Air Pollution Administration (an EPA forerunner) which recommended a cut back of 90 percent in the level of $SO_2$ emissions from smelters. This 90 percent recommendation was supplementary to the ambient air standards also drawn up by the state and which required implementation plans to be submitted by the individual states (E&MJ, July 1971: 61-62). In 1970 and early 1971 all six copper states moved to shift the social cost of smelter pollution to capital by adopting, or taking steps towards the adoption of, the 90 percent control of $SO_2$ recommendation (E&MJ, August 1970: 98-99). Big copper proclaimed its willingness to meet the ambient air standards but resisted making the investment necessary for existing smelters to meet the 90 percent standard (E&MJ, July 1971:63).

In the ensuing political economic battle big copper had two major disadvantages. First, they were dealing either with new state agencies such as the EPA and various pollution control commissions or with agencies such as boards of health without established links to mining capital. Thus, the synthesis of state and capital in these new regulatory agencies was as yet unstructured. Second, big

copper was basically arguing from the position of its own narrow profit interests against the state's conception of the collective welfare. Big copper was not, however, lacking in political economic counters to these disadvantages. The ideology of national security, the existing synthesis of state and mining capital, and two organizational features of copper as a monopoly sector industry were used to good advantage in big copper's efforts to shift the social costs of pollution to state social expense outlays.

The demands of national security and the need for international economic competitiveness were the major political arguments mounted by big copper and ably seconded by the state agencies linked to copper. The period 1969-1973 was both the crest of the ecology movement as a political force and a time of mounting state concern over mineral shortages. Big copper argued that "unreasonable" environmental controls, such as the 90 percent $SO_2$ requirement, prevented the investment of capital necessary to prevent increased dependence on foreign supplies. As early as October 1970 Anaconda announced that its copper production was down due to air quality controls on custom smelters (E&MJ, August 1970:99 and October 1970:126). Further, since copper is a world commodity, capital said that pollution control in the U.S. would hurt the metropole's competitive position in world markets, worsening the already negative mineral balance of payments (E&MJ, July 1971:64). The Department of Interior and the USBM, both part of the preexisting synthesis of state and capital, used their expertise

to impress the importance of continued profitable capital accumulation on the new anti-pollution agencies. Interior Secretary C. B. Morton and Assistant Secretaries Dole and Wakefield repeatedly expressed concern over the influence of the ecology movement, arguing that their demands would entail a decline in U.S. mineral output and increase dependence on other nations (see e.g., First and Second Annual Reports of the Secretary of the Interior under the Mining and Minerals Policy Act of 1970; E&MJ, September 1972:13 and December 1973:9). In 1971, the USBM released its own study of the costs of pollution control. The results supported the estimates of big copper against the lower estimates of the EPA and backed the argument of capital that existing technology could not be expected to do the job (E&MJ, December 1971:78).

The organizational flexibility of monopoly capital was also used to make big copper's political economic point. The internationalization of capital in the copper industry coupled with the geographical concentration of domestic smelting employment gave the companies a maneuverability denied to the individual states. Thus, big copper threatened, and in a few cases actually did, cut back smelter operations in the U.S., shipping ores and concentrates abroad for smelting. The matte (smelted metal) was then imported for refining and fabricating with the claim that the additional costs of pollution control made this the cheaper method of operation. This action demonstrated that

not only can international capital shift production to maximize profits, it can also redistribute the social costs of capital accumulation during periods of political reform in one country or another. It thus appears that one tragic result of the demands for increased participation in mineral processing by hinterland nations may be the export of pollution to these nations. This will also enable international capital to prolong the life of equipment that no longer meets the pollution control standards of the metropole. In the metropole itself, the threat by big copper to export smelter operations maximized the geographical impact of their political economic power: Arizona, with 30 percent of U.S. smelter capacity, was faced with the loss of jobs and tax revenues during a recession and the spector of foreign competition. This international dialectic is captured in the first response of big copper to Arizona pressure on smelter pollution: the idea of a free zone for smelting in Mexico (E&MJ, February 1967:196).

An important step in big copper's struggle to shape anti-pollution policy was the creation of sources of expertise sympathetic to the needs of big copper for capital accumulation. Here big copper relied on already established educational and administrative ties. The Arizona Mining Association (which included Kennecott's Ray Mines Division) granted the University of Arizona $545,000 to establish an atmospheric analysis lab (E&MJ, July 1971:66). Kennecott, which owns the only Utah copper smelter, commissioned that

University to study the effects of $SO_2$. In 1971, Anaconda, Kennecott, Phelps Dodge, and five smaller copper producers established a research consortium on the problems of $SO_2$ and particulate emissions by copper smelters. The consortium, called the Smelter Control Research Association (SCRA), was headed by a Kennecott vice president. Although the Justice Department expressed concern that the SCRA might violate anti-trust laws, the EPA took the side of capital and the consortium was allowed to continue (E&MJ, March 1971:9 and June 1971:7). Big copper was thus able to pool their resources in the conflict over expertise and policy.

The division of labor within the pollution control agencies of the state graphically demonstrates the way in which the state as structure reflects the political economic power of monopoly capital. When smelter pollution first emerged as a political issue, big copper complained of the multiplicity of state agencies and laws concerned with the issue (E&MJ, August 1970:101; company reports). The demand was for the creation of a centralized state regulatory agency, a function fulfilled by the newly created EPA. On the other hand, big copper could bring the most effective political pressure on the details of pollution control plans at the level of the individual copper states. The EPA's decision to establish general guidelines but to invest responsibility for implementation plans to meet these guidelines in the states was thus ideal from the perspective of big copper. The workings of this set up can best be seen

through a sketch of events in Arizona and Montana during the clash over the distribution of the social costs of smelter operations.

When Arizona and Montana first proposed the 90 percent reduction in $SO_2$ emissions, big copper went to court, forcing open hearings on the issue. It was then more than a year before the Arizona Board of Health presented an implementation plan to the EPA. Hearings revealed that secret negotiations between big copper and the Arizona Board of Health had produced an agreement to allow the state health commissioner to gradually reduce pollution regulations. The EPA rejected the plan (E&MJ, February 1972:10). Under mounting pressure from a variety of interests, the Arizona board then decided to send in a plan without enforcement powers, forcing the EPA to write these with the belief that ones satisfactory to capital would be adopted (E&MJ, April 1972:162). This decision had been taken in the absence of the board's chairperson, however. Finally, the Board of Health submitted relaxed standards and, by the end of 1972, Kennecott and other copper companies had gone to court supporting the board's proposals which had been rejected by the EPA (E&MJ, October 1972:34). The case was decided in favor of Kennecott in 1973 although the EPA planned an appeal.

Montana presented a different set of problems. Only one smelter, Anaconda's million ton giant, is located in the state. Despite open hearings, the Montana Board of Health stuck by its 90 percent $SO_2$ proposal. After the

December 1971 hearings, big copper--Anaconda, Kennecott, and Phelps Dodge--turned to the executive arm of the federal state for political support, going directly to the White House. It is interesting to note that while the Montana regulations presented only Anaconda with a problem, big copper evidently felt the need for a united opposition. Perhaps the perception of a domestic domino effect was involved. Whatever the case, capital succeeded in getting representation from the state: White House aide Peter M. Flanigan (a partner in the investment banking house of Dillon, Read) persuaded the Denver EPA office to send a letter to the Montana Board of Health asking for "clarification" of their 90 percent $SO_2$ reduction standard and requesting a new hearing (E&MJ, March 1972 and April 1972:42). Despite these efforts, Anaconda had to go to court against Montana and the EPA in a case also decided in favor of capital in 1973.

Although the conflict over the distribution of the social costs of smelter pollution had not been fully resolved by the end of 1973, the climate had certainly changed from two years earlier. State social expense outlays were integral to the shift. The USBM, which had spent several million dollars on smelter pollution research, announced the development of a pollution free process for copper smelting (E&MJ, May 1973:32). The SCRA had been given state sanction--and state social expense funds--through a USBM contract to study the economic feasibility of a $SO_2$ control method for existing smelters (E&MJ, December 1973:9). By

March of 1973 the EPA was putting distance between itself and the 90 percent standard: in an interview with E&MJ, a senior EPA administrator claimed that some "very junior" people were responsible for it originally (E&MJ, April 1973 50E-F). In September, the EPA recognized the need of continued profitable capital accumulation by big copper, accepting the SCRA's proposed closed loop control process as an interim method (E&MJ, October 1973:13). Tow years earlier, Anaconda had already begun the conversion of the social costs of development into further capital accumulation by announcing that its Chase Brass subsidiary was expanding into water pollution control (E&MJ, July 1971:70). A new synthesis of state and capital was emerging around the volume and distribution of state expense outlays for the social costs of capital accumulation in copper.

## The Management of External Relations

> The dominant fact which emerges from all discussions of the raw material position of the United States is the nation's increasing dependence on foreign sources of supply.
>
> --Percy W. Bidwell, Raw Materials: A Study of American Policy

> Anaconda is all over the map expanding its copper output.
>
> --Anaconda advertisement in the mid-1960's showing map of Western Hemisphere indicating Anaconda facilities

Anaconda makes it in America.

--Anaconda advertisement in 1971, post nationalization, showing map of U.S. indicating Anaconda facilities

The social relations of capital as a system are international is scope. However, from the perspective of any given capital, the world remains a patchwork of differing legal and political systems. These differing state frameworks represent both obstacles and opportunities in capital's thurst for surplus value. Thus, while expanding capital may penetrate the jurisdiction of other nation states, reliance upon its own state for military protection, diplomatic representation, and economic aid remains fundamental. Metropole based capital in particular tends to see the function of the state in the management of external relations as the creation of a "political and financial climate both here and abroad...conducive to overseas investment" (Augustus C. Long, Chmn. Texaco, June 1957, quoted in Engler, 1961:190). On the one hand, then, there is a "blending of public and private" (Engler, 1961), a synthesis of state and capital abroad, arising from the perception of mutual needs, a shared conceptual framework of free enterprise and private property, and a two way flow of personnel (Engler, 1961: 247-247; Miliband, 1969:83-87; Murray, 1971:96-99; Tanzer, 1970:55). Nowhere is this identity of the state and its own capital closer than when it is a question of the survival of the latter. Both capital and the kapitalistate

find nationalization (the expropriation of the expropriators) repugnant, particularly if "prompt, adequate, and just" (the phrase of former Secretary of State John Foster Dulles) compensation is not forthcoming.

On the other hand, the state is not simply the servant of capital in the expansionary dynamic of the latter. As I argued in the theoretical discussion of the state and the changing nature of liberal doctrine, and as I tried to demonstrate in the empirical discussion of stockpiling, the state has its own strategic interests. In turn, these are part of a larger conception of national interest. Thus, state action in regards to a particular corporation, commodity, or hinterland may conflict with the narrow profit needs of any given capital (Girvan, 1971a:36-37; Warren, 1971). The size of the capital in question, its role in the total foreign investment stake of national capital, and the impact of a given capital on the national balance of payments are all part of the parameters within which the state acts (Tanzer, 1970:52-54). Further, we must also consider the relative power of the states involved: metropole and hinterland states are not equal participants in the system of world capitalism. Finally, while metropole capital may dominate a hinterland state, this is not the case with a metropole state. Here the very process of the internationalization of capital may strengthen the state and the resources which the latter can bring to bear in the pursuit of its, admittedly imperfect, perception of the interests of the system as a whole (Warren, 1971:86-87).

The attempt to realize both its particular definition of the national interest and the demands of expanding capital require large, and growing, state outlays which may be classified as social expenses. That is to say that these outlays are neither directly nor indirectly productive. Once again, unproductive must not be confused with unnecessary: without the maintenance of the option of expansion, it is unlikely that the system of capital could survive (Magdoff, 1969:14, 20-21; Williams, 1964:Chapter 2). The root cause of these social expense outlays is the international uneven development and social disruption which have been part and parcel of the expansionary dynamic of capital. Of course, as outlines in Part II, uneven development also manifests itself on the national level. However, the vertical integration of monopoly capital across national boundaries means that the backwash effects of expansion are concentrated in the hinterlands of world capitalism while the spread effects are canalized to the benefit of capital in particular and the metropole regions as a whole in general (Meeropol, 1972:78-80; Myrdal, 1971:26-33; see Beckford, 1972 for a brilliant analysis of this process). Thus uneven development is more marked on the international level (as the UN puts it, the gap between the rich and poor nations increases) than on the national level. The outcome of this cumulative inequality has been growing efforts by hinterland states to alter this dynamic.

The efforts of hinterland states to counter the international dynamics of uneven development have repeatedly conflicted with the interests of metropole capital and/or state. For big copper, it has been the efforts of the Chilean state to obtain a greater "take" from the copper mining and processing investments of Anaconda and Kennecott which has been the focus of the external relations function of the U.S. state during the last three decades. In the 1950's the struggle turned on the issues of prices and markets; in the 1960's the question of control was posed in terms of participation through "Chileanization"; and, as the 1970's began, the stakes were raised to nationalization. None of these conflicts have occurred solely between the Chilean state and U.S. capital. At each juncture the U.S. state has been involved, acting on a particular definition of strategic and national interests and using social expense outlays in an attempt to resolve the conflicts.

During the Second World War the U.S. state froze the price of copper at 12¢ per pound and allocated U.S. output entirely to war needs. Both the freeze and the allocation applied not only to domestically mined copper but to foreign produced copper under the control of U.S. capital as well. When copper prices were decontrolled at the end of the war, the price per pound quickly rose to over 20¢. Thus Chile paid--one estimate friendly to the U.S. suggests $120 to $500 million--for the U.S. war effort (Reynolds, 1965: 240). Shortly after the Korean War began, the U.S. state

again attempted to freeze copper prices, this time at 24.5¢/lb. However, several political groups in Chile had profited from the WWII experience and pressured the Chilean state to demand higher prices. Unlike WWII, the London Metals Exchange (LME) continued to function and shipping lanes to West European and Japanese markets remained open. Thus, the Chilean state had increased room for maneuver. The first response of the U.S. state to Chilean demands for greater returns was the May 1951 Washington Conference. The state agreed on a 3¢/lb. premium for Chilean copper entering the U.S. Big copper was close to the negotiations and Kennecott, through its Chilean subsidiary Braden Copper Company, agreed to loan Chile the money to modernize the port of San Antonio, the chief shipping and receiving center for Braden (E&MJ, June 1951:138; Gedicks, 1973:6-7). In return, the Chilean state agreed to restrict copper exports to the capitalist world and to cut its growing exports of semi-manufactures. A maximum of 20 percent of the output of U.S. owned mines would go for domestic Chilean consumption and semi-manufactured exports under the control of the state (E&MJ, February 1952:79-81; Girvan, 1972:19).

Even at the time of the Washington Conference Chile was able to sell the state marketed 20 percent at a price double the 27.5¢/lb. the U.S. was paying. This wide and growing world/U.S. gap continued to exert pressure on the Chilean state to realize greater returns from copper and in May of 1952 Chile repudiated the Washington Conference price

agreements. After meetings with representatives of the U.S. state, the Chilean state pegged copper prices to the LME, took over the marketing of copper, and authorized the executive to determine the proportion of exports in refined form. The Chilean Central Bank purchased the copper from the companies at the official U.S. price and sold it on the world market, the difference accruing to the Chilean state (E&MJ, June 1952:104; NACLA, 1972:113-114). The U.S. state allocated the higher priced Chilean copper entering the U.S. to all fabricators on a percentage basis, including those who were part of integrated producers and thus able to supply their needs with lower priced copper.

The entry of the Chilean state into the marketing of copper in the capitalist world was a threat to the strategic interests of the U.S. state and to the efforts of the companies to subsume the vagaries of the market. State and capital responded by undercutting the Chilean market venture in several ways: (1) production in Chile was cut back by 15 percent; (2) investment plans in U.S. mine expansion were accelerated; (3) disinvestment occurred in the companies' Chilean properties; (4) state stockpiles were used as market leverage; and (5) the U.S. state manipulated the international control structure for non-ferrous metals (Baklanoff, 1966:33; Girvan, 1972:19-20; NACLA, 1972:113-114; Reynolds, 1965:247). Despite these efforts, the results of the first year of the Chilean state market monopoly were spectacular--a gain of $100 million for Chile, considerably in excess of the companies' payment of direct taxes

(Girvan, 1972:20). However, as the Korean War came to an end and capitalist world copper demand slackened, the combined efforts of metropole state and capital began to be felt and problems mounted for Chile.

First, the hinterland state had little knowledge of the ins and outs of the copper market, knowledge which Anaconda and Kennecott, like all international capital, had always considered the preserve of private capital. Second, most of Chile's potential customers were already integrated through formal and informal ties with major suppliers. Third, to lessen the squeeze between the frozen U.S. price and the higher cost of Chilean copper entering the metropole at the world price, the U.S. state released some stockpiled copper. In addition, the accumulating Chilean stocks were rejected as a possible source of stockpile copper. Fourth, working through the International Materials Conference, the U.S. state got purchases of Chilean copper by the United Nations allies deducted from their quotas at the lower ceiling price (E&MJ, February 1953:78 and December 1953:169; Gedicks, 1973:7-8; Girvan, 1972:24).

As long as Chile honored the 1951 agreement not to sell outside the capitalist world, the hinterland state was caught in a bind. In 1953 sales declined drastically, exports falling to a level below any year since the 1930's. As copper stocks accumulated, the Chilean senate announced (1) that copper should not be sold at less than 30¢/lb.; (2) if the metal was not of sufficient strategic significance

for the U.S. state to purchase it for stockpiling, it was not of enough strategic importance for sales to be limited to the capitalist world; and (3) the senate would be willing to consider any legislation designed to stimulate investment and increase output. The combined threat of sales to the U.S.S.R. and the virtual promise of new tax and incentive policies more to the liking of capital brought the U.S. state back into negotiations (Gedicks, 1973:9; Girvan, 1972: 24-25). In March of 1954 agreement was reached on the purchase of 100,000 tons by the U.S. state at the Chilean price for stockpiling. Within a year, the "New Deal for Copper"--lower taxes, more favorable exchange rates, tax deductions for processing investments--was enacted by the Chilean senate (E&MJ, May 1954:107; Mikesall, 1971a:372, Reynolds, 1965:249-250). State expenditures for legitimation in the management of external relations had reintegrated a dependent political economy on terms satisfactory to the capital accumulation interests of big capital and the national interests of the metropole state.

The Chilean political groups who had supported the New Deal for Copper had done so in the belief that the result would be greater investment, output, and processing in Chile, and an increased take for the Chilean state. Although one new mine was brought on stream--El Salvador had already been planned as a replacement for the exhausted Potretillos, however--the rise in investment after 1955 was shortlived (Baklanoff, 1966:335; Mamalakis, 1971:413). The

proportion of exports refined in Chile actually declined between 1955 and 1964, government revenues from copper fell since the increased output was not sufficient to compensate for the lowered tax rates, and Chile's share of capitalist world copper production continued its post WWII downward trend (Mikesall, 1971a:373; NACLA, 1972:114; Reynolds, 1965: 253-254). Finally, the New Deal "failed to make a major dent in the outflow of foreign earned income from Chile" Mamalakis, 1971:413). Chilean unhappiness with the results of the New Deal ran so deep that when big copper proposed new investments in 1960 in return for tax concessions and a twenty year guarantee of the continuation of the New Deal policies, the Chilean legislature rejected the proposal and passed a surtax instead (Baklanoff, 1966:337-338; Mikesall, 1971a:374). By the 1964 presidential elections, copper was again the major issue.

The pivot of the Chilean political debate over copper had shifted in the intervening years, however. Now the issues were no longer prices and markets but participation and control. The left proposed nationalization and the center participation through Chileanization--state "purchase of 25 percent or more of the stock in established companies and 49 percent equity in new companies" (Edwards, T., 1972: 7). Metropole state social expense outlays in support of the centrist candidate Eduardo Frei began well before the election: when it comes to the sanctity of private property metropole capital and its state have a common set of

assumptions. In May of 1964, four months prior to the election, discussions between big copper and Frei's representatives began in New York. During the same period, Frei's prospective cabinet met with policy makers of the U.S. state in Washington (E&MJ, November 1964:23; Mikesall, 1971a:375). The USIA cooperated with big copper in an "educational campaign" contrasting Frei and Allende which U.S. officials later credited with an important role in Frei's victory. The metropole state was also able to mobilize the support of private "non-political" groups such as CARE in the struggle to elect Frei: CARE packages were distributed in the neighborhoods of the urban poor as the election approached with suitable reminders of the connection to the good will of the U.S. and the election of Frei. Overall, a former U.S. official estimated that it cost the metropole state $20 million to defeat Allenda (CALA; Wolpin, 1969). On a per capita basis this social expense outlay compares quite favorably with the cost of U.S. presidential elections.

While the Chileanization agreements themselves involved big copper and the Chilean state, the U.S. state was never far from the scene. Kennecott offered, and Chile accepted, a 51 percent interest in Braden, the subsidiary which owns El Teniente, and the two also worked out an expansion program to be completed in 1970. The program, which was to raise El Teniente's output from 180,000 tons per year to 280,000 tons per year, would cost $230 million, financed as follows: $27.5 million from the Chilean state's copper

corporation (CODELCO), a $92.7 million loan from Kennecott, and the remaining $110.0 million from the U.S. through its Export-Import Bank (Edwards, T., 1972:17-19; Girvan, 1972: 30: Mikesall, 1971a:376). In fact, Kennecott had taken the socialization of costs to a fine art. After receiving $81.6 million from the Chilean state for a 51 percent share in a mine whose total book value had been listed at $65.7 million, Kennecott turned around and loaned this sum as the bulk of its $92.7 million contribution to the mine expansion--at 5.95 percent interest! Tax rates on Kennecott's remaining 49 percent interest in Braden were reduced to the level that returns to Kennecott exceeded those prior to Chileanization (NACLA, 1972:115; Gedicks, 1973:13; Girvan, 1972: 57-58). As a New York security analyst for the company explained it: "The beauty of the deal is that the Chileans are happy, and Kennecott is getting a bigger share of a bigger pie without any big outlay of new money from the states" (Business Week, December 7, 1969). Except, of course, the social expense outlays of the metropole state itself to finance the mine expansion and those which could be predicted as the nature of the deal dawned on the Chileans over the succeeding years.

Under the Chileanization agreements Anaconda did not sell any of its existing property but did agree to a joint venture in a new company and an expansion of output at Chuquicamata and El Salvador. Once again the U.S. state footed part of the bill with a $58.7 million loan from the

Export-Import Bank for mine expansion (Edwards, T., 1972: 17-19; Mikesall, 1971a:376-378). In both of the Chileanization agreements capital had managed to tie the interests of the U.S. state to the stability of the Chilean government and its continued willingness to meet its external financial obligations. State outlays were also involved in the conflict over copper prices which developed during the Frei administration. In 1965, when the U.S. state was attempting to control the price of copper, the Chilean state saw the widening U.S./LME price gap as an opportunity to gain increased revenues. In October of that year Chile raised the price of its copper to 38¢/lb. but when U.S. producers followed, the metropole state announced the release of 200,000 tons from the stockpile and forced a price rollback in the U.S. The U.S. state then negotiated a 100,000 ton purchase for defense purposes from Chile at the 36¢/lb. price. In return, Chile was granted a $10 million, 40 year low interest loan through AID to meet the rising cost of mine expansion. By the end of 1966 Chile had shifted to LME prices and the state began allowing Anaconda's Chilean production to enter the U.S. at these prices and allocated it to fabricators on a percentage basis, regardless of the ability of integrated capital to supply its own needs (E&MJ, February 1966:25 and January 1967:21; Mikesall, 1971a:382-383). In each of these cases, state social expense outlays were required to reintegrate the triangle of metropole state, hinterland state, and capital.

The hopes for Chileanization were only partially realized. Although refined exports increased as a percentage of total copper exports, total output of the Gran Mineria--the large mines of U.S. capital--was less in 1970 than in 1963. The rhetoric and partial reality of land reform under Frei radicalized large segments of the rural population (Petras and LaPorte, 1973:Chapter 5). Opposition politicians increasingly called into question the cost/benefit ratio of the Chileanization program. Finally, the intervention of Alliance for Progress programs and priorities in Chilean politics alienated much of the traditional support for the U.S. copper companies (Moran, 1972). Despite Frei's belated 1969 "impacted nationalization," copper was again an issue in the 1970 election. The Unidad Popular's Allende, who advocated immediate nationalization, received a plurality of the vote and was confirmed as president by the legislature. In 1971, the Chilean senate voted unanimously for Allende's nationalization proposal. After deductions for excess profits, depreciation, and failure to maintain facilities, the Comptroller General announced that not only did Chile not owe compensation to big copper, in fact big copper was in debt to Chile.

There was a time when such an action would have stimulated an almost automatic response from the U.S. state: the marines. However, the 1970's are not the 1920's or even the 1950's. There are at least three factors which imposed important restraints on action by the metropole state in

pursuit of national interest. First, Latin American nationalism precluded any significant hemispheric support for another Playa Giron. Second, Indochina was still an albatross around the neck of U.S. foreign policy. State strategic and national interests in one part of the world blocked immediate and decisive action in another. Finally, related to the second point, the disaster of Indochina had discredited imperial adventures among the underlying metropole population. Instead, the metropole state relied on the political forces set in motion by the social expenses of legitimation to undermine the Unidad Popular government abroad while social expenses at home partially compensated capital for its loss.

Military aid is a major component in the total social expenses involved in the management of external relations (O'Connor, 1974:151-158). Among Latin American nations Chile had received the highest per capita level of this aid from the U.S. state since WWII, a sum amounting to 10 percent of the Chilean defense budget. These funds were concentrated in the areas of force modernization and weapons acquisition, the dynamic sectors of any military establishment, thus committing future resources to the directions marked out by the giver of aid. Nor were technology, replacement parts, and organizational conceptions the only links between the U.S. state and the Chilean military. More than 4,000 officers of the Chilean armed forces, including future coup leader Gen. Pinochet, had been trained

by the U.S. military and joint naval operations were conducted each year. Although all other forms of state outlays for Chile were ended with the leection of Allenda, military aid continued at double the 1967-1970 rate. These increased social expenses incurred by the state included the low cost sale of sophisticated aircraft, a move which required the waiver of congressional restrictions on arms sales to hinterland nations (Burns, 1973:424-425; Klare, 1972:280-281, 292-302; NACLA, 1973:8-9, 12). The Chilean military, bolstered by metropole state social expenses, emerged as the major actor in the counterrevolution which began in September of 1973.

Other agencies of the U.S. state carried on the counterrevolutionary struggle in their own way. As the $2 billion in loans that Frei had negotiated came due, representatives of the U.S. state at the Parid debt renegotiations pushed a hard line. State Department spokesperson Charles Bray said that compensation to big copper was the key issue (E&MJ, August 1972:15). Loans from the IMF and the IBRD were cut off under U.S. pressure with one exception: a World Bank loan to the Catholic University TV station which opposed Allende. The espionage arm of the state supported at least ten CIA operatives in the Santiago embassy at one time or another during Allende's tenure in office. The embassy itself was placed under the direction of Nathaniel Davis, an ambassador with long time Central Intelligence Agency connections. Finally, an inflow of U.S. dollars the week before

the coup was indicated by the sharp fall of the dollar on the black market while interviews with striking truckers revealed claims of external financial support. As in the case of the military, the social expenses necessary for the management of external relations were directed towards the strengthening of the hinterland counterrevolutionary forces (Burns, 1973:424-425; NACLA, 1972:179-208).

The total social expense outlays of the metropole state in the struggle to reverse the nationalization of big copper in Chile do not stop here, however. The upsurge of hinterland nationalism during the last two decades has resulted in a metropole state financed program of insurance for foreign investments (Multinational Corporations and United States Foreign Policy, 1974). Operated originally by AID and now by the Overseas Private Investment Corporation (OPIC), the policies cover war, revolution, natural disaster, and currency inconvertibility. Chile, with less than 1.5 percent of U.S. capital's direct private foreign investment, accounted for 19.8 percent of OPIC's coverage at the end of 1968 (Multinational Corporations and United States Foreign Policy, 1974:448). Both Anaconda and Kennecott had purchased policies from OPIC and both companies cashed the policies after nationalization and the rejection of their protests in Chilean courts: capital turned state expenditures for social expenses into social investment for capital accumulation. OPIC paid Anaconda's $11.89 million claim on the new La Exotica mine and $66.9 million on the

$92.7 million loan Kennecott had made to Chile for expansion at El Teniente. (Chilean repayments had already reduced the debt to $74.7 million.) However, OPIC refused to grant Anaconda's $154 million claim on Chuquicamata and El Salvador. Anaconda had saved $4 million on insurance by carrying only standby coverage on these properties at the time of Frei's 1969 impacted nationalization and OPIC had refused requests to transfer to full coverage after that date on the grounds that nationalization had already occurred. After all, $154 million on top of $78.79 million of social expenses would be a significant contribution to the fiscal crisis of the state (E&MJ, December 1971:76; November 1972: 262; and February 1973:123).

The immediate outcome of the Unidad Popular's project of socialist transformation in Chile has been the counterrevolution of September 1973. Social expense outlays of the metropole state were critical in the success of that struggle against the course of history. Both the counterrevolution and the state social expenses involved are also part of a larger project whose outlines were articulated by "Copper Man of the Year," Kennecott's president Frank Milliken, at a speech before the Copper Club in March 1973. The

> time has come when we must take some initiative to create business conditions. With the help of host governments in underdeveloped areas...the support of our government..and with the cooperation and expertise of international organizations such as the World Bank and the International Arbitration Commission, we need to create a new order and stability for foreign investment"

(Quoted in E&MJ, April 1973:169, emphasis added). This "new order" is, in fact, the continuation of an old status quo, the structure of capitalist metropole and hinterland in the modern world, the political economy of dependency. I have looked at the metropole side of that relationship in the last several chapters. I now turn to a consideration of the changing forms which the Chilean hinterland has undergone in the twentieth century.

I think that it's not asking too much to have our little region over here which has never bothered anybody.

--Sec. of War Henry L. Stimson to Asst. Sec. Of War John J. McCloy, 1945

The produce of the earth--all that is derived from its surface by the united application of labor, machinery, and capital is divided among three classes of the community, namely the proprietor of the land, the owner of the stock of capital necessary for its cultivation, and the laborers by whose industry it is cultivated.

But in different stages of society, the proportions of the whole produce of the earth which will be allotted to each of these classes, under the names of rent, profit, and wages, will be essentially different...To determine the laws which regulate this distribution is the principal problem in Political Economy.

--David Ricardo, The Principles of Political Economy and Taxation

# CHAPTER 6

# THE ROOTS OF CHILEAN DEPENDENCY

## I

The colonial heritage of Spanish America produced the time of troubles which followed the wars of independence of 1810-1822. Competitive with each other in their exports, regionally fragmented as a result of Spanish political control, and ruled by classes whose orientation remained largely West European, the new nations found stability and national integration, much less Latin unity, to be elusive (Furtado, 1970:2). Chile, almost alone, was an exception; and by 1830, under the leadership of Diego Portales, the country had achieved a considerable degree of political and economic stability (Pike, 1963:1). This achievement was not, however, based on a social structure likely to evolve into an industrial society in the twentieth century, but rather was founded on what Claudio Veliz has called the three legged table of Chilean society:

> In the period between independence from Spain and the depression of 1929, the Chilean economy was dominated by three legs of the national economic table. In the first place, there were the mining exporters of the north of the country; then there were the agricultural and livestock exporters of the south; and finally there were the large import firms which were usually located in the center, in Santiago and Valparaiso, but which operated in the whole country. These three pressure

groups were in entire agreement about what economic policy the country should follow. There was no other group which was able to challenge their economic, political and social power, and the three totally dominated national life, from the municipal councils to diplomatic representation, economic legislation and the horse races...

The mining exporters of the north of the country were free traders. This policy was not fundamentally due to reasons of doctrine--though they also had these--but rather to the simple reason that these gentlemen were blessed with common sense. They exported copper, silver, nitrates, and other minerals of lesser importance to Europe and the United States, where they were paid in pounds sterling or dollars. With this money they bought equipment, machinery, manufactures, or high quality consumer goods at very low prices. It is hard to conceive of an altruism or a far-sighted or a prophetic vision which would lead these exporters to pay export and import duties with a view to the possible industrialization of the country. Tied to the liberal ideas of the era, they would have argued that if it were really worthwhile developing Chilean industry, this should at least be efficient enough to compete with European industry which had to pay high freight charges before getting to our shores...

The agricultural and livestock exporters of the South were also emphatically free traders. They sent their wheat and flour to Europe, California, and Australia. They clothed their cowboys with ponchos of English Flannel, rode in saddles made by the best harnessmakers of London, drank authentic champagne and lighted their mansions with Florentine lamps. At night they slept in beds made by excellent English cabinet makers, between sheets of Irish linen and covered by blankets of English wool. Their silk shirts came from Italy and their wives jewels from London, Paris and Rome. For these hacendados, who were paid in pounds sterling, the idea of taxing the export of wheat or of imposing protective duties on imports was simply insanity. If Chile wanted its own industry to produce ponchos, very well, let it--as long as it could produce cloth of as good a quality and low a price as the English. Otherwise, the proposal was a swindle. For these simple and undoubtedly solid reasons, the mining exporter of the North and the agricultural exporter of the South both put pressure on the government to keep an economic policy of free trade.

> The big import houses of Valparaiso and Santiago also were free traders. Could anyone imagine an import firm supporting the establishment of high import duties to protect national industry! (Quoted in Frank, 1969:89-90).

Three legged tables are notoriously unsteady and, eventually, this proved the case for the Chilean one also. Despite some early wobbles, it remained upright for over a century, however, and its construction dictated certain limitations and determined certain options for Chilean development. This was particularly true in regard to the mining export sector. Thus, it is worth examining the legs in some detail. Of the three legs, the fate of one was obviously dependent on the other two: import firms do not operate on a large scale unless the class structure of a nation organizes the productive factors towards foreign exchange earning exports. No export sales means low effective demand for imports. While the export of agricultural goods, particularly wheat, retained regional significance for central Chile, these exports declined relative to mineral exports. It was the latter which provided most of the basis for Chilean prosperity and growth in the nineteenth century (Pendle, 1960:144-149).

In this respect, the years after independence differed little from the colonial period when the desert North and Araucanian resistance in the South fed the Spanish "disease of the heart for which gold [was] the specific remedy." While gold mining in colonial Chile never reached the level of San Luis Potosi or the placer mines of New Granada, gold

was Chile's leading export by value. Almost half of total Chilean gold production of 1545-1958 occurred prior to independence and, at its 1801-1820 peak, Chile produced 17.5 percent of the world's gold (Pederson, 1966:6,166). In addition, the Indians of pre-Conquest Chile had mined and worked copper as well as gold, and the Spanish continued to extract copper from the same mines. Most Chilean copper, beginning as early as 1715, was exported to the Viceroyalty of Peru, and copper mining remained important in Coquimbo province through the latter part of the 1700's (Pederson, 1966:6).

After independence, the mineral rich Chilean earth yielded silver, a mineral little worked in the colonial era. The first big strike was at Chanarcillo in 1832 and this mine remained the most productive one throughout the nineteenth century. Between 1832 and the last important find at Caracoles in 1870, numerous smaller deposits were discovered. Silver production multiplied six times between 1840 and 1855 (Frank, 1969:60-61) and Chile was third in world production at the 1887 peak (Pederson, 1966:8). The decline was rapid, however, and silver was not the major vein in the third leg of the Chilean table. That role was held by copper until the last two decades of the century. Under Spanish rule, Chilean copper output reached 46 metric tons per year in the 1600's and jumped to 622 metric tons per year in the eighteenth century (United States, Dept. of Commerce, 1960:8). As Table 5 indicates, however, it was

Table 5. Chilean Copper Production in the Nineteenth Century

| Period | Annual Average Output in Metric Tons (Copper Content) | Chilean Production as % of World Production |
|---|---|---|
| 1801-1810 | 1,489 | 9% |
| 1811-1820 | 1,542 | 9% |
| 1821-1830 | 2,735 | 11% |
| 1831-1840 | 4,638 | 14% |
| 1841-1850 | 8,973 | 20% |
| 1851-1860 | 22,082 | 32% |
| 1861-1870 | 45,974 | 44% |
| 1871-1880 | 46,595 | 36% |
| 1881-1890 | 36,198 | 16% |
| 1891-1900 | 22,633 | 6% |

Source: Calculated from Skelton (1937:392).

not until the middle of the nineteenth century that Chile emerged as an important producer of copper on a world scale. The discovery of the Tamaya mines in 1833 began the rapid rise. By 1851, Chile was the leading copper producing country, replacing the United Kingdom. Chile retained this position until 1883 when the United States moved into first place (United States, Dept. of Commerce, 1960:87; NACLA, 1972:94; Wideman, 1965:263).

As if to mirror the present and foreshadow the future configurations of world power, the old metropole, England, the underdeveloping hinterland, Chile, and the future metropole, the United States, were already linked through the commodity copper. Swansea in Wales was the world center for refining and technological innovation in copper throughout most of the 1800's. Much of the copper mined in the United States and Chile was exported to Swansea, smelted

and/or refined, and re-exported. Thus, the social relations of copper appeared as market relations in an international division of labor, a division which concentrated the latter stages of processing, the labor requiring technical skills and administrative abilities, and the accumulation of surplus in a capitalist metropole. While the emergence of a domestic market, the availability of financing, and the wealth of its copper deposits enabled the United States to break out of this pattern of the international division of labor, Chile merely exchanged one metropole for another (Pederson, 1966: 200-201; Richter, 1927a:159-161).

In Chile, as elsewhere, the expanding production of copper during the nineteenth century was based on discovery of new mines with very high copper content in the ores. At the beginning of the nineteenth century, the copper content of Chilean ore probably ran as high as 50 percent, i.e., two tons of ore yielded one ton of metal; the industry was labor intensive, and remained so despite a continuous decline in ore content over the course of the century to a level of 10-25 percent. While the large mines worked sulfide ores with methods equivalent to those found in Europe and the United States, steam power, blasting powder, and pneumatic drills found limited application. Furthermore, the proliferation of small claims made consolidation for the mining of low grade ores difficult (Pederson, 1966: 191-199). Nevertheless, the industry was developed through the processing level of smelting, and controlled by Chileans.

In 1876, the peak year of Chilean copper production in the nineteenth century, 90 percent of the copper output was from Chilean owned mines (NACLA, 1972:95; Reynolds, 1965: 221). By the end of the 1890's, however, the declining copper content of Chilean ores had relegated Chile to the position of a marginal producer at the same time that the new uses of copper, as a conductor of electricity and in the manufacture of automobiles, were radically increasing metropolitan demand for the metal (Reynolds, 1965:211-212).

Yet the three legged table did not collapse, for Chile was blessed with still another mineral--nitrate. In fact, it can be argued that the very abundance of minerals in Chile probably made it easier to ignore the decline of copper and the exhaustion of the silver mines. Chilean and Peruvian capital had developed the nitrate deposits after the 1830's when the value of nitrate as a fertilizer became widely known. As the figures in Table 6 indicate, nitrate production increased rapidly thereafter. While there is a scarcity of information on the percentage of world nitrate production supplied by Chile, the proportion must have been extremely high since Chilean nitrate was a truly unique resource. These deposits are the only naturally occurring ones of any great size and the Haber process for mass production of synthetic nitrates was not developed until World War I (Levin, 1960:108-110). Even as late as the early twentieth century, Chile accounted for more than two-thirds of world nitrate production.

Table 6. Chilean Nitrate Production, Selected Years and Share of Nitrate Taxation in Government Revenue

| Year | Production (000 Metric Tons) | Year | % Contribution of Nitrate Industry to Ordinary Revenues of Chile |
|---|---|---|---|
| 1840* | 40 | | |
| 1850* | 30 | | |
| 1869* | 100 | | |
| 1880 | 223 | 1880 | 5% |
| | | 1885 | 28% |
| 1890 | 670 | 1890 | 48% |
| | | 1895 | 56% |
| 1900 | 1,643 | 1900 | 49% |

*Pre-1880 nitrate production not Chilean.

Source: United States, Dept. of Commerce, 1960:98; Reynolds, 1965:33.

The benefits accruing to Chile from its nitrate wealth were somewhat less than might be expected, however. Most of the nitrate lands, which lie in the present-day provinces of Tarapaca and Antofagasta, originally belonged to Peru and Bolivia, a division reaffirmed by an 1866 treaty with the latter nation. In the War of the Pacific (1879-1883) Chile defeated these two nations and acquired the nitrate deposits in the peace settlement. During the war, however, the bonds of the Chilean and Peruvian companies who owned the nitrate concessions were purchased at depressed prices by British investors. After the war, Chile operated the deposits through a state company for eight months but then returned the mines to private control, honoring the British

bondholders' claims. As a result, a substantial portion of potential nitrate revenues left the country and the nitrate deposits were integrated into the Chilean political economy only through wage payments to Chileans and via government taxation. The latter linkage was by far the most significant and its contribution to government revenues is summarized in Table 6. Of perhaps greatest importance, this structure of incomplete integration of a mineral sector largely under foreign control established a pattern which was to be repeated in the twentieth century in the case of copper (Frank, 1969:73-85; Pike, 1963:4-5). Even at the level of day-to-day life the parallels are striking. In the nitrate towns as in the copper mining camps of the future, "everything...was imported--building materials... furniture and clothing, diamond jewelry, champagne, and cigars" (Pendle, 1960:148). In the nitrate enclaves, the pleasures of the day flowed in while the wealth of the future flowed out.

The dominance of mineral export and finished goods import in the three legged Chilean table produced a class structure and a set of political forces which the re-emergence of copper in the twentieth century modified but also strengthened. It took an external crisis, the depression of the 1930's and the collapse of Chilean exports to topple the table (Sunkel, 1965:121-122; Pinto, 1965:9-12). The existence of the Chilean mineral wealth in nineteenth century made possible the absorption and consolidation of

new upper class elements during the 1830-1860 period, a process which contributed greatly to the relative stability of Chilean society when compared to other nations of Spanish America (Pike, 1963:5-6). Thus, the division in the ruling class between Pipiolos and Pelucones (liberals and conservatives) which defined Chilean politics into the twentieth century did not prevent most presidents from completing their ten year terms. At the same time, the stability and flexibility provided by mineral export earnings was an important source of elite hegemony and confidence in their ability to govern which later facilitated the emergence of a greater degree of formal democracy.

By the end of the 1800's, Chilean prosperity had also begun to create a middle class, and the old elite/mass model of society was no longer applicable (Huelin, 1968:468-470). It was not, however, the middle class which formed the industrial bourgeoisie in Western Europe or the United States but instead was based on international commerce, the import and export of goods and services. That is to say that it was a pre-industrial middle class, one dependent on the continued success of Chilean mineral exports. This dependence was often direct, through employment as clerks, accountants, or supervisory personnel (empleados) in the mineral industries themselves or at one step removed, through positions in the import/export firms centered in Santiago and Valparaiso. The mineral industry was also the basis of a middle sector whose dependence was indirect but no less

real. As the revenue figures in Table 6 suggest, the state bureaucracy was increasingly financed through taxation of nitrate exports. In sum, while the origins of a pre-industrial urban middle class in Chile lie in the mineral economy and metropole oriented social structure of the colonial period, the expansion of silver, copper, and nitrate production in the nineteenth century facilitated the growth of this class and firmly tied its interests to commercial and state activities (Petras, 1970:25-30; Veliz, 1965:3-4; Veliz, 1969:9-10). By the late 1880's, Chile had the highest per capita income in Latin America, a mineral base to provide a surplus for investment, a rising middle class with some reform interests, and a ruling class with the self confidence necessary for national progress. From at least one angle of vision, Chile appeared to be on the way to national stability, economic growth, and political autonomy.

Yet there were some clouds in the horizon, some aspects of Chilean history already manifest by the end of the nineteenth century which suggest the contradictions in the Chilean path of development, contradictions which were the roots of stagnation in the next century. First, there was the question of industrial development. While it is often suggested that Latin American efforts at industrialization took the form of "forced" import substitution as a result of the 1930's depression, Chile's first attempts occurred a half century earlier. In the 1880's, concern over the drastic ups and downs of an "outward developing" economy

spurred efforts by several groups within Chile to implement "spontaneous" (indigenously induced) import substitution industrialization (ECLA, 1966:7-8). Import substitution in this period was organized around the production of foodstuffs, textiles, and export linked industries. President Jose Manual Balmaceda's attempt to carry out a national industrialization program in the early 1890's represents the culmination of these first efforts. His overthrow in 1893 by the three legs of the Chilean table indicates that the structuring of underdevelopment had already begun in Chilean society. That is to say that the internal structural obstacles to development were already aligned with the external restraints on development (Frank, 1969:73-82; ECLA, 1966c:8).

Second, and inseparable from the above, there was the problem of Chile's place in the world economy. The country was already strongly tied to a single metropole, Britain, which had replaced Spain soon after independence (Pike, 1963: 7). Sources of export earnings remained the crucial determinant of Chilean well-being, and the important nitrate deposits had come under British control after being developed by Chileans. Copper, the other major mineral resource, was declining and already vulnerable to foreign penetration.

Third, there was the problem of the relationship between the mineral export sector and the rest of Chilean society. As noted above, the revenues from government taxation and the wages of employees were the chief linkages

between nitrate mining and Chile, and, while the revenues from exports rose, the revenues from taxation on the latifundios was falling. The government's ability to tax some of the earnings of the export sector lessened the political will to tax the classes which held power internally. Since nitrate extraction was actually organized across national economies, or more correctly as a part of the international political economy of Britain rather than along the lines of the Chilean political economy, many of the forward and backward linkages which might have been established were not. The middle class created on this export basis proved too weak to fulfill the role of innovating entrepreneurs and instead preferred to emulate the import-dependent consumption standards of the upper class. They also found a political alliance with the old ruling class more to their taste than the socially disruptive task of import substitution industrialization. Chile, then, despite appearances of well being in the statistics of the world market, was, in terms of the international class relations, actually well down the path of dependence, a

> situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected. The relation of interdependence between two or more economies, and between these and world trade, assumes the form of dependence when some countries (the dominant ones) can expand and be self starting, while other countries (the dependent ones) can do this only as a reflection of that expansion, which can have either a positive or a negative effect on their immediate development (Dos Santos, 1971:226).

## II

> Immediately before us, at exactly the right time, just as we are ready for it, great opportunities for peaceful commercial and industrial expansion to the South are presented. Other investing nations are already in the field--England, France, Germany, Italy, Spain; but the field is so vast, the new demands are so great, the progress so rapid, that what other nations have done up to this time is but a slight advance in the race for the grand total...
>
> The investment of American capital in South America under the direction of American exports should be promoted, not merely upon simple investment grounds, but as a means of creating and enlarging trade...
>
> --William Howard Taft, 1906

The opening years of the twentieth century marked a period of transition for Chilean copper, a transition shaped and directed by an accelerating and structurally changing demand for copper in the capitalist metropoles. This new demand for copper was not experienced directly by Chile, however, but was mediated through the expansion of metropole-based mining corporations. The political economy of Chilean copper which emerged from this period has remained a major, perhaps the major, determinant of Chilean underdevelopment for more than five decades.

One way of summarizing this transition is as follows: during the 1871-1880 decade Chile reached its nineteenth century peak in copper production, averaging 47.8 thousand metric tons per year (MT/Y), 36 percent of a world average of 129.4 thousand MT/Y. Chile's share was considerably more than the 15 percent each provided by Spain and the U.S., the second leading producers. Approximately 90 percent

of Chilean production during this decade came from several dozen Chilean owned mines. Three decades later, Chile's copper production had fallen by a third, averaging 32.5 thousand MT/Y while world production had increased over 450 percent to 727.3 thousand MT/Y. Chile's share of world output was less than 5 percent during this 1901-1910 decade. In 1918, Chile's copper production was 115.3 thousand MT/Y, more than double the nineteenth century peak, and represented 8 percent of world output of 1,420.0 thousand MT/Y. The latter was already twice the average of a decade earlier. In this same year 87 percent of Chilean production was from foreign owned mines and fully 71 percent came from the two mines owned by subsidiaries of the U.S. based multinationals, Anaconda Company and Kennecott Copper Corporation. By the early 1920's, approximately 70 percent of the copper consumed in the United States (which is broadly representative of world consumption) went to uses unknown during Chile's peak production years of the preceding century. The chief sources of this new demand were the electrical industry, which accounted for 50 percent, and the automobile industry which consumed another 10-12 percent (particularly in radiators). In these same years, Chile's share of world production rose to around 15 percent, making her the second largest producer after the United States; and 90 percent of her output came from the mines of Anaconda and Kennecott. In the decades between the 1870's and World War I, the world copper industry had been reorganized under the direction of

a handful of multinational corporations which mined, milled, smelted, refined, fabricated, and sold copper, along with a good half dozen by-product metals. United States based firms occupied a dominant position in this new international political economy of copper, accounting for over three-fourths of world production by the end of World War I (ECLA, 1951:380; Reynolds, 1965:259; Skelton, 1937:385, 401, 405).

To understand this reorganization of the Chilean copper industry, a closer look at copper in the country which displaced Chile as the leading producer, the United States, is in order. The major problem facing Chilean and United States copper miners at the end of the nineteenth century was similar, the declining copper content of ores with the exhaustion of mines based on veins or native copper. By 1900, the copper content of United States ores was down to less than 5 percent while few new deposits had been discovered since the rapid succession of major finds in the 1870's and 1880's (Bidwell, 1958:116). Technological advances in processing such as the convertor and the reverberatory furnace had already been introduced into United States mining practice, but these did not give United States miners a decisive lead over other producing areas (Davis, 1924:115-124). The big breakthrough in copper mining came in two stages: (1) the rise of electricity as an energy source and the subsequent development of electrolytic refining, and (2) the application of mass mining techniques to previously uneconomic deposits.

The theoretical basis for the use of electricity as an energy source extends back into the 1700's and Faraday's experiments date from 1830, but it was not until Edison lit up a part of New York City in 1882 that the potential of electricity began to unfold. The first commercial generating stations were opened in London, Milan and New York City in the 1880's; in 1892 copper wire linked New York and Chicago, signaling the displacement of steel as a conductor; in the same year, the General Electric Corporation was organized. Anaconda's construction of an electrolytic refinery, also in 1892, at Great Falls, Montana, was a crucial step in freeing the United States producers from dependence on Swansea as a smelting and refining center. Two years later, the United States exported more refined than unrefined copper (McMahon, 1965:31; May, 1937:539-541; Richter, 1927a:265-266, and 1927b:690-693). As copper stimulated electrification, so electricity aided in the production of copper. It required the electrolytic refining process, developed during the 1870 and 1880's to produce copper of sufficient purity--over 99.9 percent--from low grade deposits to meet the demands of new industrial uses. At this level of purity, only one metal, aluminum, is superior for conducting electric current.

Electricity was only a part of the new technology of physics and chemistry developed in the last third of the 1800's which dramatically widened the metropole/hinterland gap in the capitalist world. While disparities in standards

of living had existed in the past in conjunction with power differentials, by the end of the 1800's, the size of this gap was unprecedented (Rosenstein-Rodan, 1972:29-30). Hinterland nations such as Chile failed to assimilate these new technologies not because of "traditionalistic value patterns," nor simply because of inadequate market size. There were, instead, two other reasons for Chile's failure to apply the new technologies to retain control over and develop their mineral resources, reasons which are typical of the fate of hinterland nations during this era. First was the structure of dependency shaped by the colonial past. The three legged table of Chilean society would have toppled if the institutional changes required for the absorption of metropolitan technology had occurred. Equally important, however, was the fact that the new technologies of potential abundance were implemented through the corporate economic form of the metropole. Thus, the "transfer of technology" occurred by way of an organizational structure which integrated the hinterland nations into the world economy in a subordinate role (Furtado, 1970:79-83; Skelton, 1937:379-380).

As this suggests, the solution to the problems of declining ore content in the United States copper mining industry was not simply technological. To make use of the new technologies required organization, markets, and financing on a scale hitherto unimagined outside of the railroads. In the capitalist metropoles, of course, this was

carried out under private auspices (although with state aid) and it is in the business organizations of this period that the roots of the modern multinational corporation can be found. The millions needed came from the great financiers of the day--the Morgans, Guggenheims, Harrimans-- while organizational changes in the corporation required increasing separation of administrative and operating functions within the firm (Chandler, 1961:1-18). During these same years, the metropole state financed the transportation networks which integrated national metropolitan markets and without which the corporation would have been unable to fulfill its potential for the emancipation of space-bound and time-bound people.

For copper, these general developments were brought together and applied by a United States mining engineer, Daniel C. Jackling. A failure in an earlier attempt at gold mining and a success as a metallurgist, Jackling got banker Charles Hayden and his Guggenheim associates to invest ten million dollars in the development of the Bingham Canyon mine near Garfield, Utah. No new invention was involved, simply the organization of existing mining techniques on a mass basis, particularly the use of the steam shovel to remove the large amounts of ore and overburden found in all porphyry deposits.[1] The mine came onstream in 1907 and the dividends had exceeded $204 million by 1930 (Fortune, 1930: 73-74; Pan American Union, 1952:3-4; Richter, 1927a:266-267; Wideman, 1965:265).

Yet the same pattern of business expansion which made possible production and sales for a national market also meant growth beyond national boundaries and the need to produce for, and secure raw materials from, the world at large (Monthly Review, 1969, Part I:12-13). A transportation network that integrated national markets was extended to organize international markets which focused on the capitalist metropoles. For copper, as for trade in many other raw materials, it was the advances in steel production and shipbuilding which solved the technological obstacles to the integration of raw material producing hinterlands into the world economy (Furtado, 1970:79-83; Magdoff, 1968:33). In sum, in the last forty years of the nineteenth century there was created a

> new pattern of economic relations in the world capitalist system. During the period from 1860 to 1900, three changes in the economic relations between nations are notable: (1) the number of commodities entering international trade on a large scale multiplied greatly; (2) competition between many widely separated regions of the world first appeared or grew more intense; and (3) the standard of living of workers and the profitability of industry in European nations came to depend on the maintenance of overseas supplies, while the standard of living of the producers of raw materials came to depend on market fluctuations occurring sometimes on the other side of the world (Magdoff, 1969:32).

It was in this context that United States entrepreneurs turned to Chile and acquired at extremely low cost, the most productive of the Chilean copper mines.

Boston had been the financial center of the early development of the U.S. copper industry, particularly the

Michigan deposits and it was two Bostonians, William Braden and A. C. Burrage, who brought Chilean copper under United States control. Using Guggenheim money, Braden acquired the Chilean mine El Teniente in 1904 and organized almost 100 claims into the Braden Copper Company incorporated the same year in Maine. In 1909 the Braden Copper Mines Company was organized in Delaware to be the sole stockholder of Braden Copper Company, now with 173 claims. Braden himself and four directors of the Kennecott Mines Company, including two Guggenheims, were on the board of directors. The mine came onstream in 1912, using the mass mining techniques developed in the United States, and in 1915 the newly organized Kennecott Copper Corporation acquired about 99 percent of Braden Copper Company along with several Alaskan properties including the Kennecott mine. Guggenheim and Morgan interests have been represented on the board of Kennecott throughout its 58 years of operation as they were on the board of its predecessor. In 1916, El Teniente was estimated to contain 219.7 million tons of 2.19 percent copper ore. Today, El Teniente is the largest underground copper mine in the world and yearly output is exceeded only by two open pit mines, Bingham Canyon in Utah, also a Kennecott property, and Chuquicamata in Chile. A significant amount of gold, silver and molybdenum are extracted as by-products from El Teniente. In the mid 1960's, reserves were reported in excess of 1,700 million tons of 1.2 percent copper ore, although Kennecott mined ore throughout the decade which ran

between 1.7 percent and 1.9 percent (ECLA, 1970:146-148; Kennecott Annual Report, 1970:15; Moody's Manual of Railroads and Corporation Securities, 1911:3598; Moody's Manual of Railroads and Corporation Securities, 1917:2411-2413; Richter, 1927b:706; Skelton, 1937:404; TNEC, 1940:453, 1008-1009).

During these same years, A. C. Burrage, a director of Amalgamated Copper Company which then had controlling interest in Anaconda Copper Mining Company, acquired an option on the largest Chilean mine and the largest copper mine in the world, Chuquicamata. Also working with Guggenheim money, he organized the Chile Exploration Company (incorporated in Delaware in 1911) and, after an investment of $100 million, production began in 1915. By 1918, Chuqui (as the mine is known in copper circles) had surpassed the total Chilean output in the 1876 peak year of the nineteenth century. Six members of the Guggenheim family, four Burrages, and a representative of the Loeb banking family were among the directors during the years when a 1920 estimate gave Chuqui 690 million tons of 2.12 percent copper ore. With control divided and with extensive interests in other mineral ventures, the Guggenheims decided to put their controlling interest up for sale in the early 1920's. The result was consternation in the U.S. copper industry which at that time controlled three-fourths of world production. Cornelius Kelley and John D. Ryan, the two key figures in the consolidation of Anaconda Company and the absorption of its Amalgamated Copper parent, went to Washington to discuss

the purchase of Chuqui. Ryan and Kelley argued that (1) domestic ores could not be expected to last forever and (2) that British interests would buy the mine if Americans failed to do so. The United States government agreed and Washington helped obtain the services of J. P. Morgan and Company as negotiator for the sale. In 1923, the Chile Exploration Company, then valued at $180 million, was sold to Anaconda "at a tremendous profit" (Skelton, 1937:404). Anaconda, which has remained loosly associated with Rockefeller interests, completed acquisition of Chile Exploration Company by 1929 in a series of questionable maneuverings later investigated by the TNEC (Fortune, 1936a:91, 212, 214; Hendricks, 1922; Kolko, 1963:50-51; Poor's and Moody's Manual Consolidated, 1921:1775-1776; Moody's Industrials, 1926: 1971; Reynolds, 1965:217; TNEC, 1940:393, 700-701). After 42 years of output, in 1957, 686.2 million tons of ore had been removed; in the mid 1960's reserves were reported at another 2,000 million tons of 1.25 percent copper ore. In addition to being the world's largest copper mine in terms of output, Chuqui is also a major producer of sulfides, gold, and some silver (Davis, 1924:75, 79; ECLA, 1970:146-148; Pan American Union, 1952:8-9).

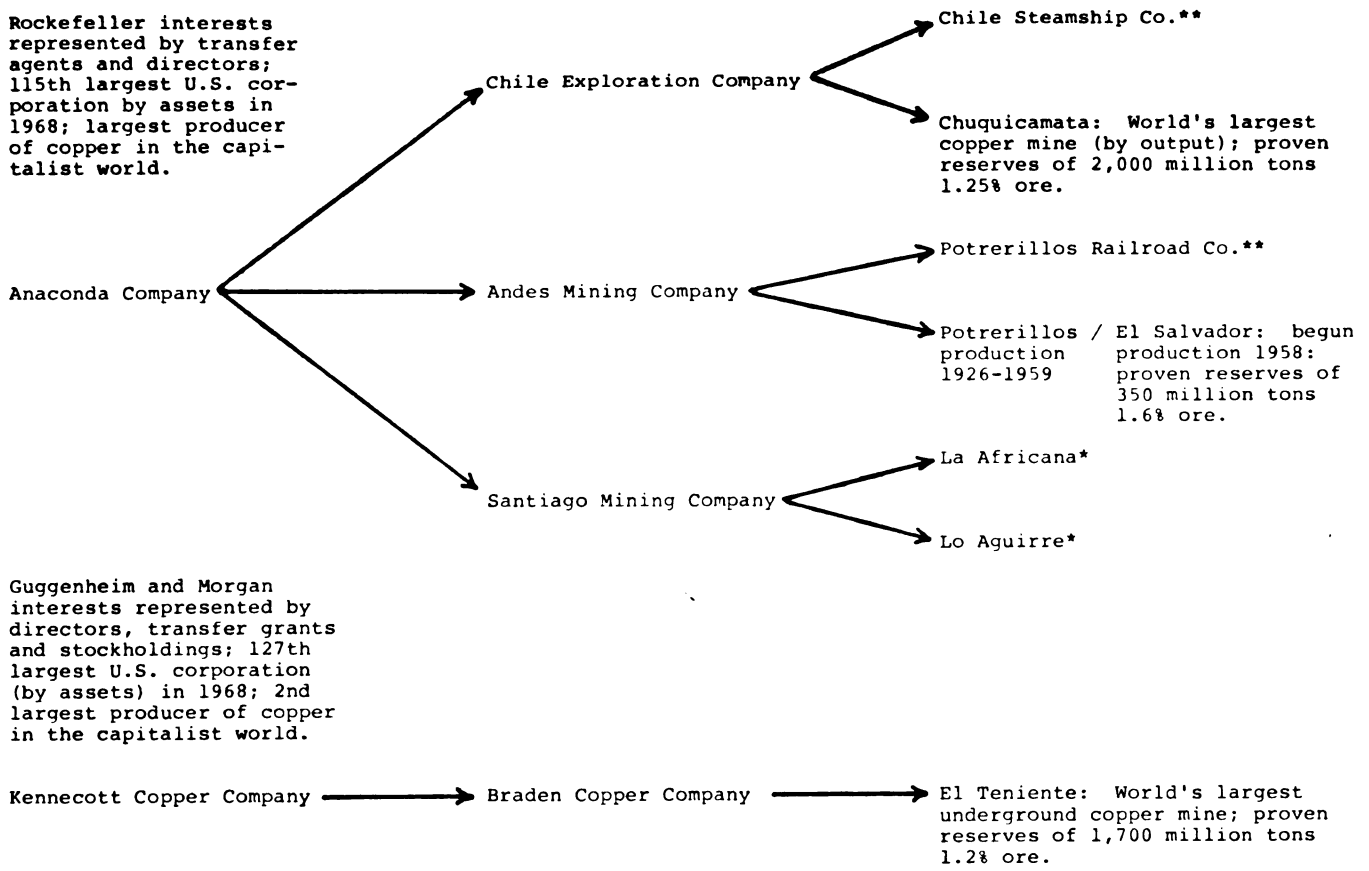
The third mine in the Gran Mineria has actually been operated as two separate mines. Among William Braden's 173 claims were several acquired in 1913 around Potrerillos, including a concession from the Chilean government for the construction of a railroad. In 1916, Anaconda organized

the Andes Copper Company (also incorporated in Delaware) to acquire these rights. The demand for copper during World War I stimulated an initial investment of $60 million and production from sulfide ores began in 1926 and from oxide ores in 1928. The mine was estimated to contain 128.3 million tons of 1.49 percent copper ore at that time. By 1958, 200 million tons of ore had been removed. The oxide ores were exhausted in 1949 and the sulfide ores had only a decade of productive life remaining. In 1955, Andes acquired the adjacent Indio Muerto property and began an investment of $100.7 million in a mine called, appropriately enough, El Salvador. While a new crushing plant had to be constructed, El Salvador was close enough to Potrerillos for Andes to use most of the same railroad, the smelter, etc. Production began in 1959 and soon surpassed that of Potrerillos at its peak. The same mid 1960's survey estimated El Salvador to have 350 million tons of 1.6 percent copper ore. Like the rest of the Gran Mineria, Potrerillos and El Salvador produce significant amounts of gold, silver, and molybdenum as by-products (ECLA, 1970:147; Griffin, 1966: 153-156; United States, Dept. of Commerce, 1960:90; Moody's Manual of Railroads and Corporation Securities, 1917:2136; Poor's and Moody's Manual Consolidated, 1921:1059-1060; Moody's Industrials, 1936:662-663; Moody's Industrial Manual, 1956:2747).

Taken together, these three mines compose the Gran Mineria, defined in 1955 as those mines producing 25,000

MT/Y or more and in 1966 as those producing at least 75,000 MT/Y. The Gran Mineria has accounted for over 85 percent, and often in excess of 95 percent, of Chilean copper production and all the production under foreign control since World War I. Chile Exploration Company and Andes Mining Company, the largest and smallest of the three respectively, account for 60-65 percent of the Gran Mineria output, while Braden Copper Company provides the remaining 35-40 percent. Figure 1 summarizes the international linkages in Chilean copper which existed prior to Chileanization in the late 1960's and/or nationalization in 1971.

In concluding this section, I would like to point out some of the implications of the acquisition of Chilean copper properties by United States multinationals for a recurring debate over the role of foreign capital in raw material producing hinterlands. Those who argue that foreign sources of capital can make an important contribution to "economic development" often base their claim on the assumption that "capital expenditures for exploration and development in mining and petroleum are large, have a long gestation period, and involve a high degree of risk" (Mikesall, 1971b:26). Private investors from metropoles are seen as best able to assume this risk while hinterland governments are asked to limit themselves to infrastructural investment and administrative efforts. An alternative perspective suggests that it is at the level of finance and market access and control, rather than any ability to take risks, which




* Not part of the Gran Mineria.
**Chile Steamship Co. and Potrerillos Railroad Co.: Potrerillos Railroad runs to Pueblo Hundido and carries concentrated ore for smelting. Chile Steamship Co. transports fuel oil, consumption goods, equipment, and copper between the port of Antofagasta and Anaconda's refinery in Perth Amboy, N.J. and docks in New York City harbor.

Figure 1. The Gran Mineria

metropole based multinationals defeated their hinterland rivals (Girvan, 1970:492). This perspective goes on to argue that, since foreign control produces distorted growth and a drain of surplus for investment, hinterland government would be well advised to develop their own mineral resources and attempt integration through several processing levels. While the second issue in the debate cannot be answered at this point, it is clear that, whatever may be the general case (and many more specific studies need to be done) the case of copper certainly supports the latter position and Chile is perhaps the strongest example.

By the end of the nineteenth century, the location of all the major porphyry deposits of copper in the western hemisphere were well known. Only the low ore content made these deposits uneconomical for working by the labor intensive methods in use at the time. The rich surface veins of El Teniente, for example, had been worked since the eighteenth century when it was supposedly discovered by a Spanish lieutenant (hence the name El Teniente). The mine was a major producer from 1819 until 1897 when the decline in ore content forced a cessation of operations. The same was also true for Chuquicamata, worked even in pre-conquest times. Thus, William Braden and A. C. Burrage did not "explore," invest "risk" capital and reap the rewards due the private investor who defeats his competitors in open competition.

As was the case for the huge Bingham Canyon porphyry deposit in Utah, successful development required no new inventions. All that was needed was the coordination of existing mining techniques and the use of steam power on the scale necessary to remove the vast amounts of ore--often 100 tons for every 1 ton of copper--and overburden found in porphyry deposits. This meant, first and foremost, access to vast accumulations of capital, provided at first by the commercial banks and later generated internally by the mining companies themselves. Second, there was the necessity of a large and growing market which could absorb the large output necessary to make a profit beyond the high overhead expenses of prophyry mining. This was made possible by the electrification and automobilization of the metropoles (Fortune, 1930:3-4; Herfindahl, 1959:213ff; May, 1937:541-550; Reynolds, 1965:215-216: Richter, 1927b:705).

Nor do our protagonists fit the mold of the small risk-taking entrepreneurs of classical economics. The copper industry was already fairly concentrated and the leading firms established. Anaconda and Kennecott, or their predecessors, have been the two largest producers in the world every year from 1912 to the present. Their share of world production has fluctuated between 27 percent and 41 percent (Herfindahl, 1959:165). Anaconda had already been the major factor in one effort at monopolization of the industry on a world scale, the Amalgamated Pool of 1899-1901, an attempt by Standard Oil and U.S. Steel interests to create a parallel firm in the copper industry. Even as early as the

collapse of the Secretan Corner of 1887-1889, Anaconda, along with Calumet and Hecla, was strong enough to force European bankers to unload their accumulated copper stock slowly enough to prevent disruption of the market. Similarly, by no stretch of the imagination can the Guggenheims or the Morgans be seen as sources of risk capital for independent small investors. Thus, the achievement of control over Chilean copper can best be described as the accumulation of advantages on the part of oligopolistic corporations which were already beginning to integrate across processing levels and political boundaries. In addition, it required state action to make the acquisitions economically viable. Without the United States-instigated Panamanian "revolution" and the completion of the Panama Canal in 1914, Chilean copper would have been a much less desirable investment for metropole firms. The Canal cut the distance to the companies' refineries on the East Coast of the U.S. by 40 percent and the distance to West European ports by one-third. In an era when the copper consumption of the United States, Germany, France and the United Kingdom was over 75 percent of the world total, this was a significant saving. The possibility of State action of this nature ane state social investment on this scale was of course, limited to a very few metropole governments. In this hemisphere, only Washington was capable of such a venture. In sum, less elegantly but more eloquently, the success of Anaconda and Kennecott is simply a case of "them that as, gets" (May, 1937:547-549; McMahon, 1965: 32-33; Moon, 1926:424-428; Skelton, 1937:395-398, 505).

# NOTES

[1] Porphyry copper deposits are large bodies of ore with low, usually less than 3-4 percent, copper content in which the copper is evenly distributed throughout rather than appearing in the form of veins or as native metal. These deposits constitute the basic resource of the twentieth century copper industry.

# CHAPTER 7

## THE APPROPRIATION OF ACTUAL ECONOMIC SURPLUS

> Underdevelopment is an unemployed worker looking through a glass store window at a television set showing an airline commercial.
>
> --Salvador Allende, 1970

In this section, I analyze the mechanisms by which the copper mining multinationals appropriate the actual economic surplus generated by the Chilean economy. For a variety of reasons, it is difficult, if not impossible, to arrive at definitive figures for the amounts involved, and in some cases any pretense at exactness is simply wishful thinking. It would be helpful to have unrestricted access to company records for comparison with official data, but such is not likely to occur. In several cases I have been forced to rely on descriptive material. Thus, the conclusions arrived at in this section are subject to revision. There is, however, sufficient information available to sketch the outlines of the international relationships of surplus appropriation within the copper industry. Even with the above limitations, the results are both startling and sobering.

Before examining these mechanisms at length, however, it is necessary to outline, in greater detail than was possible in the introduction, the reasons for focusing on

copper in any analysis of the Chilean path of development in the twentieth century. Although it is an accepted fact that copper has an important place in the Chilean economy, many writers propose a national, or internal, explanation for Chilean stagnation. Those who take this approach often go on to argue that, while copper is not the key sector in Chilean development, its contribution has been positive, largely as a result of the policies of the copper companies and despite misguided nationalism on the part of Chilean administrations. The following points form the core of this argument: (1) The size of the mining sector as a whole and the employment it generated made it the key factor in Chilean development until the end of the 1920's when mineral exports amounted to 23 percent of GDP. Since that time, however, depression-induced import substitution industrialization has made industry the leading sector while agriculture is a retarding sector. This has also meant that (2) mining and quarrying, which includes coal, nitrate, and copper mines not part of the Gran Mineria, has declined as a portion of GDP. (3) The labor force in mining has also declined in relative terms and employment in the large copper companies has declined in absolute terms. (4) Further, while the profits of the copper companies have risen in recent years, they do not amount to a substantial portion of Chilean GDP; therefore (5) Chile should avoid over-taxing the Gran Mineria, which discourages reinvestment and increased output, and (6) should concentrate on policies which

provide incentives for the companies to establish linkages with the Chilean economy through their purchasing policies. Finally (7) copper mining cannot be counted on to have a large impact on national integration and growth since it fails to do so even in areas such as Utah and Montana in the United States (Amunategue, 1968; Mamalakis, 1971; Mikesall, 1971a; and Silvert, 1965 all make one or more of these points).

In a nutshell, my response to these arguments is as follows: While there is some validity to these points taken separately, as a whole they obscure and/or deny the most significant facts about Chilean copper: its unique potential as a source of actual (and potential) economic surplus for Chilean development, and the loss of that surplus through the international organization of the industry. (1) While it is true that the mining sector has declined as a proportion of GDP and a source of employment, the use of these figures alone understates copper's significance even in statistical terms. Past government policies have produced some linkages, albeit limited ones, between copper and the rest of the economy. Therefore, some employment and output in manufacturing and agriculture along with a considerable portion of commerce and transportation are dependent on the Gran Mineria. (2) Further, the linking of the Gran Mineria to the Chilean political economy largely through taxation means that a substantial portion of the state based middle class owes its well being to the Gran

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Mineria. Thus, import substitution industrialization, which has progressed little since the mid 1950's anyway (Furtado, 1970:86-87), has simply made more complex the ties of dependence but has not broken them. (3) Since copper continues to provide an increasing portion of export earnings (manufactured exports are declining) and thus serves as a "substitute" for a capital goods sector (Mamalakis, 1971), further progress in industrialization remains heavily dependent on copper earnings. In a dependent, export-oriented society, there is a fairly inflexible structure of necessary imports if import substitution industrialization is to continue. (4) As suggested in the second point, copper is an important source of government revenue. Thus, a government not beholden to the state-based middle class for political support could potentially use these revenues for the type of social consumption and investment expenditures that would socialize both the hardships and the benefits of the developmental process. The hardships, as is characteristic of capitalist development, have long been socialized but not so the benefits. (5) The high labor productivity of the work force in the Gran Mineria, anywhere from two to four times that of other sectors (Weaver, 1968:133-134), means that it must continue to provide a major share of surplus for investment. (6) The international organization of the Chilean copper industry in the form of the multinationals means an appreciable loss of this surplus. (7) Finally, copper mining can and should make an important

contribution to national integration and growth through extensive linkages. The correct comparison here is not copper in Chile with employment, taxes, and linkages of copper in Utah or Southwest Montana but rather with copper in the United States. Non-ferrous metals rank high in terms of linkages in the latter case (OECD, 1969:17). Table 7, on the following page, presents some of the important historical data on the place of mining, copper, and the Gran Mineria in the Chilean political economy.

This debate raises several issues, one of the most important of which is the problem of comparison. To what should the amount of actual economic surplus extracted by the copper companies be compared in order to assess the significance of the sums involved? Since the question is one of Chilean growth, actual and potential, the relevant numerator is not the total gross national (or domestic) product or total national income. Rather, the actual economic surplus appropriated should be juxtaposed with the amount of actual economic surplus available for investment by Chileans. It is the latter, as argued in Chapter 1, rather than the size of GNP, GDP, NI, etc. which is the key to growth. Actual economic surplus available for investment can be approximated by net private and public capital formation, gross domestic capital formation financed through savings, or the total after tax returns to corporate capital plus central government revenues. Each of these measures has some advantages and disadvantages. Generally, however,

Table 7. Selected Measures on the Role of Chilean Mining, Copper, and the Gran Mineria 1910-1970

| Year | Copper Production (000 Metric Tons) | Chilean Copper as % of Capitalist World Copper Output | % Chilean Output From Gran Mineria | Mining and Quarrying as a % of Chilean GDP | % Labor Force in Mining | Value of Gran Mineria Production as % of GDP | Copper (All Forms) as % Chilean Exports |
|---|---|---|---|---|---|---|---|
| 1910 | 38 | | 0.0 | | | | |
| 1915 | 52 | 4[1] | 37.8 | | | | |
| 1920 | 99 | | 80.8 | | | | |
| 1925 | 192 | 14[1] | 88.0[2] | 20.5 | | 7.1 | 39[5] |
| 1930 | 320 | | 88.4 | 17.7 | 5.9 | 8.6 | |
| 1935 | 267 | 19[1] | 92.9 | 14.9 | | 6.3 | 51[6] |
| 1940 | 363 | | 92.0 | 16.7 | 5.5 | 11.8 | |
| 1945 | 470 | 21[1] | 98.5 | 16.2 | | 9.8 | 57[7] |
| 1950 | 363 | | 95.3 | 13.5 | 4.1[4] | 8.6 | 51 |
| 1955 | 433 | 15[1] | 90.9 | 9.0 | | 12.4 | 72 |
| 1960 | 532 | 15 | 90.1 | 9.6 | 3.8 | 11.0 | 72 |
| 1965 | 584 | 13 | 83.4 | 10.4 | | 8.9 | 69 |
| 1970 | 687 | 13 | 78.7 | 11.6 | 3.0 | 9.7 | 80 |

[1] = five year averages; [2] = 1924; [3] = 1949; [4] = 1952; [5] = 1925-1929 average; [6] = 1938; [7] = 1945-1949 average.

Sources:
- Col. 1: 1910-1945: ECLA, 1951:380-381; 1950-1955: ECLA, 1965:259-260; 1960-1965: ECLA, 1970: 146-148; 1970: CORFO, Chile Economic Notes, No. 95.
- Col. 2: 1915-1955: Herfindahl, 1959:159; 1960-1970 calculated from relevant issues of Copper.
- Col. 3: 1910-1940: Calculated from Col. 1 and selected issues of Moody's; 1945-1965 from Griffin, 1969:152; 1970: CORFO, Chile Economic Notes, No. 95.
- Col. 4: 1925-1950: Calculated from ECLA, 1951:281; 1955ff: Calculated from United Nations, Yearbook of National Account Statistics.
- Col. 5: 1930-1940: Calculated from ECLA, 1951:270; 1950ff: Calculated from ILO, Yearbook of International Labor Statistics.
- Col. 6: U.S. producer's price of copper multiplied by absolute values of Col. 1 x Col. 3.
- Col. 7: 1925 and 1945: ECLA, 1959:378; 1935 and 1950ff: United Nations, Yearbook of International Trade Statistics.

statistics for gross domestic capital formation financed through savings are the most readily available and thus I will use these in most instances.

One final point: when making comparisons of this sort, it is all too easy to forget that while, in and of themselves, numbers are neutral, each statistic is an expression of some facet of many lives. Lives which might be different--better nourished, more healthy, happier--if less of the fruits of Chilean labor were appropriated by United States multinationals. Simply as a reminder of this reality, Table 8 is included to suggest some of the dimensions of Chilean underdevelopment and stagnation. Again, there is the problem of what to compare with Table 8. Rather than debate this issue at length, I will leave it with this: in 1970, the president of Anaconda, Frank Milliken, received $225,000 in salary alone. From all reports, Mr. Milliken and his family appear in good health--no distended bellies, no children dying in infancy--and probably consume the United States average of over 3,100 calories a day, an average that includes an amount of animal protein which, by itself, exceeds the total Chilean protein consumption per day. Finally, most of the directors of Anaconda have already outlived the Chilean life expectancy of 50-55 years.

Drawing on studies of multinational corporations in general and of mining multinationals in particular, I have been able to identify four primary mechanisms by which multinationals appropriate the actual economic surplus generated

Table 8. Some Measures of Chilean "Underdevelopment"

Income Distribution: Chile

| 1948 % Population | 1948 % Income | 1960 % Population | 1960 % Income |
|---|---|---|---|
| 33.4 | 5.8 | 31.7 | 5.6 |
| 12.6 | 5.4 | 18.3 | 10.0 |
| 42.5 | 46.6 | 37.3 | 40.8 |
| 9.1 | 25.4 | 10.7 | 29.9 |
| 2.4 | 16.8 | 2.0 | 13.7 |

Average Annual Increase in Cost of Living: Chile

| 1940-1944 | 1945-1949 | 1950-1954 | 1955-1959 | 1960-1964 | 1965-1969 |
|---|---|---|---|---|---|
| 16.3% | 18.6% | 31.2% | 45.8% | 24.7% | 25.4% |

Infant Mortality Rate

| | 1948 | 1956 | 1963 | 1966 |
|---|---|---|---|---|
| Chile | 147.0 | 112.3 | 105.4 | 127.5 |

Food Production Per Capita: Chile (1952-1956=100)

| 1953 | 1955 | 1960 | 1963 | 1966 | 1969 |
|---|---|---|---|---|---|
| 99 | 103 | 97 | 100 | 92 | 90 |

Daily Per Capita Calories: Chile

| Pre-WWII | 1954-1956 | 1964-1966 |
|---|---|---|
| 2,250 | 2,540 | 2,520 |

Grammes of Protein Per Day: Chile

| Pre-WWII | 1964-1966 |
|---|---|
| 69.6 | 65.4 |

Sources: Income distribution 1948 and 1960 from ECLA, 1966a.
Infant mortality rates from United Nations, 1958 and 1968.
Food production per capita from FAO, 1970.
Calories and protein per capita from FAO, 1962 and 1971.
Cost of living from United States, Dept. of Commerce, 1960; Furtado, 1970; ECLA, 1970.

by hinterland economies. Some of these mechanisms have application chiefly to mining multinationals but in all cases it is the integration of the multinational corporation which makes surplus appropriation possible. This integration takes two forms, (1) vertical, i.e., across levels of processing and manufacture, and (2) geographical, i.e., across national boundaries. In the first case, the outcome is the internalization of profits from different stages of production and the resulting difficulty of national efforts at regulation, taxation, and control of multinationals. In the second case, the result is a class between national priorities in factor organization and the profit priorities of the multinational corporation which organizes factors across several nations. In short, a national political economy versus the political economy of a multinational corporation (Girvan, 1970; O'Connor, 1970a; Penrose, 1971b; Rollins, 1970).

The most obvious form of surplus appropriation arises from the geographical integration of the multinational and appears in the statistics of international capital flows between parent and branches or subsidiaries. Thus, United States based multinationals have produced a net inflow of private capital in every year since World War II, while multiplying the book value of their assets by a factor of 10 during the same period. (See relevant issues of U.S., Dept. of Commerce, Survey of Current Business.) Of particular significance here is the fact that, when disaggregated by metropole and hinterland nations, there is a net outflow

to the former and a net inflow from the latter great enough to produce an overall net inflow despite the greater book value of United States investments in other metropoles. By the end of the 1960's this surplus on the private account had become the largest single positive contribution to U.S. balance of payments (Ackerman and MacEwan, 1972:31; Multinational Corporation and the World Economy, 1973:33). For an individual hinterland nation, unless new foreign investment continues indefinately at an accelerating rate, a very unlikely occurrence, the outflow in repatriated profits on any given amount of foreign investment will eventually exceed the gains from foreign exchange, savings through decreased imports, and increased exports, government taxation, etc. (Zweig, 1973).

It has proved impossible to obtain data on capital flows between the U.S. and Chile for the copper companies alone. There are some general indicators of magnitude however: A source sympathetic to the companies states that Anaconda's net investment in Chuquicamata and the Potrerillos/El Salvador complex amounted to $93 million between 1930 and 1965, while the profits between 1945 and 1969 were $810 million on Chuquicamata alone (Gall, 1972:1). Another source reports that U.S. mineral multinationals--copper, iron, and nitrate--have received $10.8 billion in earnings on their Chilean operations during the 1910-1970 decades (NACLA, 1972:107). This sum exceeded the total Chilean GNP in 1970 by approximately 35 percent. This outflow has meant

increasing balance of payments pressures on Chile, particularly during the 1960's. During 1965-1969, the yearly deficit for "compensation for employees and property and entrepreneurial income" (most of which represented payments to the copper multinationals and their employees) in the external transactions of the Chilean economy was greater than the total yearly deficit on current transactions for the same years (UN, Yearbook of National Accounts Statistics, 1970:209). Chile ended the decade with one of the highest per capita levels of external debt in the world, debt incurred at least partially to finance these balance of payments deficits. During the 1958-1968 decade, service payments on foreign capital averaged 45 percent of export income and exceeded 50 percent for 1963-1965 and 1968 (ECLA, 1972:84-85).

Although figures are not available for the copper companies alone, there are yearly statistics on capital flows for all United States companies with investments in mining and smelting in Chile. Table 9, on the next page, presents the information for 1950-1970. An examination of Moody's, company reports, and assorted documents indicates that the investments of Anaconda Company and Kennecott Copper Corporation represent at least 90 percent of the total U.S. investment in mining and smelting. Thus, these figures closely approximate the operations of the copper multinationals. Chile appears as a paradigm case of the general tendency outlined previously. In all years except 1953, the profit

Table 9. U.S. Direct Long Term Investment in Mining and Smelting in Chile (All figures in million $) * = $500,000

| Year | Year End Book Value: All Industries | Year End Book Value: Mining & Smelting | Capital Flow From Parent to Subsidiary | Reinvested Earnings | Profits From Subsidiary To Parent |
|---|---|---|---|---|---|
| 1970 | 748 | 445 | 25 | -22 | 62 |
| 1969 | 847 | 452 | -142 | 26 | 108 |
| 1968 | 964 | 586 | 78 | -8 | 131 |
| 1967 | 878 | 517 | 17 | -4 | 129 |
| 1966 | 844 | 494 | -14 | -1 | 98 |
| 1965 | 829 | 509 | 9 | * | 56 |
| 1964 | 788 | 499 | -5 | 1 | 60 |
| 1963 | 768 | 503 | -1 | * | 48 |
| 1962 | 768 | 504 | 4 | 1 | 52 |
| 1961 | 725 | 503 | -14 | * | 43 |
| 1960 | 738 | 517 | -10 | * | 58 |
| 1959 | 729 | 526 | 29 | 3 | 63 |
| 1958 | 687 | 498 | 24 | 4 | 32 |
| 1957 | 666 | 483 | 27 | 3 | 41 |
| 1956 | 682 | 454 | 31 | 2 | 83 |
| 1955 | 643 | 421 | 2 | 1 | 61 |
| 1954 | 635 | 418 | -34 | * | 31 |
| 1953 | 660 | 452 | 26 | 2 | 17 |
| 1952 | 626 | 423 | 39 | 2 | 43 |
| 1951 | 585 | 382 | 30 | 2 | 45 |
| 1950 | 540 | 351 | 17 | 1 | 33 |
| | 1950-1970 totals: | | 138 | 15.5 | 1,294 |
| | 1960-1970 totals: | | -53 | -5 | 845 |

Total net transfer of funds from Chile to the U.S., 1950-1970: 1,173.5

Sources: 1961-1970 from United States, Dept. of Commerce, Survey of Current Business.
1950-1960 from United States, Dept. of Commerce, 1963.

flow from subsidiary to parent exceeded both the reverse flow and the sum of the reverse flow plus reinvested earnings. In 18 of the 21 years, repatriated profits were at least 50 percent greater than the sum of reinvested earnings and capital flows from parent to subsidiary while in 14 of the years, repatriated profits were at least double the latter sum.

There are also some other interesting patterns. First, the rate of reinvestment is incredibly low, a fact admitted by even those writers sympathetic to the companies (Mamalakis, 1971:413). While the investments of U.S. multinationals in mining and smelting accounted for more than 85 percent of the repatriated profits during the 1950-1970 period, they provided less than 70 percent of the capital flow from parent to subsidiary and less than 10 percent of the reinvested earnings during the same years. Despite this low rate, the book value of United States investment in mining and smelting increased by over 60 percent between 1950-1968. The type of investment which did occur was generally geared towards a quick recovery of capital in a national political environment which seemed increasingly threatening to foreign control of the Gran Mineria. During 1969 and 1970, the book value of U.S. investment in mining and smelting fell by almost a quarter. Anaconda and Kennecott were evidently worried about the 1970 elections and the threat of a leftist victory. In fact, in 1969, the companies removed $224 million, an amount equal to a per capital contribution of over $22 by Chileans to the U.S.

A second striking fact is the tremendous drain on the Chilean economy which occurred throughout the 1960-1970 years. Total reinvested earnings are negative for this period as is the flow from parent to subsidiary. On the average, over $85 million was extracted each year, more than $10 a year on a per capita basis for the entire period. This pattern of surplus appropriation during the 1960's raises some fascinating questions which are not answerable from publicly available information. Did the companies resent Frei's Chileanization program and, despite their greater fear of a U.P. nationalization effort, attempt to sabatoge it in the hope of a reversal by a future rightist government? Had they simply decided to write off Chile as a long term investment and attempted to take out as much as possible as quickly as possible? Or were their investments in Chilean copper so fabulously profitable that, once the replacement and modernization investment foregone during World War II had occurred, the rates of return in the 1960's could be expected to continue indefinitely? Whatever the case may be, the behavior of the copper companies differed from that of other U.S. investors. In sectors other than mining and smelting, repatriated profits exceeded reinvested earnings plus new capital flows by "only" 15 percent, a gap which shows no variation between the two decades.

How do these absolute figures compare to the actual economic surplus available to Chile for investment? Two ways of approaching this question are summarized in Table 10.

Table 10. Two Measures of Chilean Loss of Actual Economic Surplus Through U.S. Investment in Mining and Smelting (Million $)

| Year | Net Transfer of Funds from Chile to U.S. | Funds Transferred as a % of Gross Private Fixed Investment | Funds Transferred as % of Gross Domestic Investment from Govt., Public & Private Corporations Savings |
|---|---|---|---|
| 1950 | 15 | 14.0 | 54.0 |
| 1951 | 13 | 12.3 | 40.2 |
| 1952 | 2 | 2.0 | 8.6 |
| 1953 | -11 | ---- | negative savings |
| 1954 | 64.5 | 70.4 | negative savings |
| 1955 | 58 | 65.0 | 48.7 |
| 1956 | 50 | 33.3 | 36.8 |
| 1957 | 11 | 6.8 | 3.5 |
| 1958 | 4 | 2.8 | 3.8 |
| 1959 | 31 | 13.9 | 11.4 |
| 1960 | 67.5 | 31.6 | 28.8 |
| 1961 | 56.5 | 23.3 | 17.5 |
| 1962 | 47 | 37.1 | 40.3 |
| 1963 | 48.5 | 32.5 | 23.5 |
| 1964 | 64 | 30.3 | 20.9 |
| 1965 | 46.5 | 20.2 | 13.4 |
| 1966 | 113 | 41.8 | 23.7 |
| 1967 | 116 | 43.8 | 25.5 |
| 1968 | 61 | 22.2 | 12.9 |
| 1969 | 224 | 74.1 | 37.0 |
| 1970 | 57 | 16.4 | 10.4 |
| | Average 1950-1970: | 28.3 | Average 1950-1970: 24.2 |
| | 1950-1959: | 22.0 | 1950-1959: 25.9 |
| | 1960-1970: | 33.9 | 1960-1970: 23.1 |

Sources: Col. 1: Calculated from Table 9 by adding Col. 3-5.
Col. 2: Col. 1 and ECLA's five year averages.
Col. 3: Calculated from Col. 1 and Pan American Union, America en Cifras.

In this table I have used the net flow of capital between Chile and the United States (from Chile to the U.S. in all years except 1953) since this amount represents the actual loss of surplus. (In terms of loss of control over the actual economic surplus, however, a case can be made for including repatriated profits, reinvested earnings, and net capital flows from subsidiary to parent.) The first measure in the table compares the amount of repatriated profits with the total gross private fixed investment and shows the same pattern noted in Table 9 of a discontinuity between the 1950's and the 1960's. While the overall average was 28.3 percent, during 1960-1970 Chile could have increased her gross private investment by one-third if she controlled the profits from the Gran Mineria. This comparison understates the impact for two reasons: (1) some of the private fixed investment that did occur was done by Andes, Braden, and Chile Exploration Company and thus the comparison between surplus lost and Chilean private fixed investment is understated; (2) more importantly, gross private fixed investment includes both net investment and replacement but it is only the former which can legitimately be considered part of the surplus. If figures for net private fixed investment were available, the percentage lost through capital flows to U.S. mining multinationals would be much greater, perhaps well over 50 percent.

As in most dependent capitalist societies, the Chilean state has been increasingly important as a source of investment; thus, a comparison with private investment, gross or

net, does not include all investment. In the Chilean case, private investment has accounted for only about 50 percent of gross domestic capital formation since 1950 (ECLA, 1951, 1965, 1966b, 1967, and 1970). Using figures for gross domestic capital formation would again involve double counting since some portion of the depreciation financed investment would come from the copper companies. Figures are available on the total gross domestic capital formation financed by public and private savings, however, and they are the basis for the second measure in Table 10. Savings by private households have been excluded since, with the exception of 1950 and 1953, there has been dissaving in this sector. While the yearly rates of surplus loss on this measure fluctuate, in each decade investment could have been increased by about a quarter. Once again there is some understatement involved since part of the saving represents that of Andes, Braden and Chile Exploration Company. Even with these rough measures, it is clear that the potential gain to Chile through control over the surplus generated by the Gran Mineria is considerable. During the pre-WWII period, when taxation on the Gran Mineria was lower (between 1913 and 1924, Braden Copper Company returned only 0.8 percent of its total sales by way of taxation to the Chilean government) and the Chilean surplus was smaller, the proportion of surplus lost through capital flows to the U.S. must have been considerably greater.

Despite their impressive size, the statistics of capital flows from Chile to the U.S. represent only a part of

the loss of Chilean surplus. A second mechanism of surplus appropriation is rooted in the division of labor within the multinational corporation. To grasp this requires a recognition of the ideological function of the word "multinational," a term which evokes an image of an equal partnership among several nations. Despite this label, however, almost all the major multinationals are controlled by stockholders/management/directors in the nation where their headquarters are located (Monthly Review, 1969, Part I:3-4). Virtually the only exceptions to this rule are Royal Dutch Shell and Unilever, where control is truly shared between Dutch and British capital. These two corporations are among the earliest multinationals, however, and their example has not been widely followed. It is also worth pointing out that these two firms are binational between two of the oldest capitalist metropoles. There is still no publicly known example of a multinational where control is shared between metropole and hinterland nationals. Since the headquarters of multinational corporations are not randomly distributed throughout the capitalist world (I have seen no list of multinationals which includes any from Latin America, Asia except Japan, or Africa except South Africa), control is thus concentrated in the capitalist metropoles. The result is a structure in which the functional division of labor is organized on a national basis (Chandler and Redlich, 1961: 115-120; Hymer, 1972b:122-125). The head offices in the metropole administer the operational units in the hinterlands. The tasks of administration include the allocation

of financial resources, the determination of output, the raising of additional capital through sales of stocks and bonds, the determination of what technical expertise should be developed for the operation of the corporation, and control over its distribution and use at the various levels of the firm.

The appropriation of Chilean surplus as a result of this structure is probably impossible to quantify, therefore, I shall use examples in order to demonstrate this mechanism. As a first case, for a Chilean national to acquire stock in one of the copper companies whose actions were so crucial to the Chilean nation involved a transfer of funds out of Chile to the U.S. Andes Copper Company, Braden Copper Company, and Chile Exploration Company were all at least 99 percent owned by Anaconda or Kennecott, leaving little room for any influence from Chilean stockholders. Furthermore, Andes and Chile were each listed on the New York but not the Santiago stock exchange. Similarly, the two parent corporations, in which there is a large amount of public stock trading, were listed on the New York and San Francisco exchanges and sold informally in other major U.S. cities, but again, were not available on the Santiago exchange. Thus, Chileans who wished to purchase stock in these companies had to go through a U.S. stock exchange which meant fees to U.S. brokers and transfer agents, all of which involved payments to U.S. nationals and which represented an outflow of funds from Chile. This outflow

was a drain on Chilean surplus since money invested in U.S. stock could hardly be expected to further Chilean development, nor would that paid to U.S. brokers.

The sums involved would undoubtedly be small when compared to the repatriation of profits; however, total U.S. receipt of royalties and fees during the 1960-1970 period amounted to $17 billion, ten times the U.S. outflow on this item. In 1970, the U.S. received a $2.5 billion contribution to its balance of payments in the form of royalties and fees (Multinational Corporation: A Compendium of Papers, 1973:37-38). None of this is to argue that it would have been a social benefit to Chile for Anaconda and Kennecott to have been listed on the Santiago Stock Exchange, thus encouraging stockholding in the copper companies by the Chilean ruling class. This "reform," along with analogous ones such as the promotion of indigenous managers to the head office (Turgenhadt, 1971:193-202), would simply represent a neo-colonial consolidation of the alliance between metropole and hinterland ruling classes (Galtung, 1970:81). Nonetheless, while the benefits from these reforms would have been class linked, the losses from the actual situation were socialized through the appropriation of the Chilean surplus by the mining multinationals.

The international division of labor along functional lines which is internal to the multinational also delineated channels of actual economic surplus appropriation which did not appear in the national accounts but were instead entered

as costs of production for the Chilean subsidiaries of Anaconda and Kennecott. For example, since the higher level of skilled personnel are concentrated in the metropole, the operation of the Chilean mines remained dependent on metropole technological expertise. Thus, when significant botlenecks or breakdowns occurred at Chuqui, engineers were flown from New York City to handle the problems. The expense incurred was entered as an overhead cost for the Chile Exploration Company and they had to repay the amount involved to Anaconda (Gall, 1972:7-8). This repayment would not, of course, appear under remitted profits. A cost it was, but hardly a socially necessary one. Instead this is a striking example of an international class structure in which surplus is appropriated from the productive facilities of the hinterland to support the creation of a professional class in the metropole. Indeed, this international class structure received explicit recognition in the wage and salary pattern of the Chilean subsidiaries. Each of these companies had what was known as a "gold roll," professional and technical contract employees who earned their salaries in dollars (Gall, 1972:2). These employees numbered over 1,000 by the early 1960's when they constituted about 6 percent of the labor force in the Gran Mineria. They were also the personnel who could hope for a future, and whose loyalty lay, with Anaconda and Kennecott, not just Andes, Braden, or Chile. Payment in dollars oriented them towards this future, gave them privileged access to imported consumer goods

(avoiding the discriminatory exchange rates designed to retain some of the surplus in Chile), and thus served as a further drain on the Chilean surplus. Evidently, one of the responses of the copper multinationals to the efforts of nationalists to control their operations was to expand this miniature center in the hinterland since the gold roll proportion of the Gran Mineria labor force doubled between 1940 and 1960. As all class structures, this one also socialized its members, which, in the case of the Chileans on the gold roll, meant "metropolitanization." Thus, when nationalization, with its threat to their standards of consumption, came in 1971, many gold roll Chilean employees left along with their U.S. counterparts (Gall, 1972:7; Reynolds, 1965:390-391).

The multinationals' vertical integration which locates successive stages of production in different nation-states makes possible a third mechanism of surplus appropriation, the allocation of costs, tax burdens, and profits in a manner which maximizes the total returns to the multinational. International transactions that were measured at the points of exit and entry to the national economy in the days when national firms were the dominant organizational form, are now intra-firm and thus measured only by the information provided by the accounting departments of the multinational corporations. Within this system, transfer pricing can concentrate profits in the processing stage and the nation with the most favorable tax structure; operations at an early

stage of processing that are marginal or even losing propositions in and of themselves can produce a profit for the multinational as a result of control over a later stage of processing. The shifting of costs, taxes, and profits affects not only the interests of the hinterland nations. The U.S. allows corporations to claim as tax credit against U.S. taxes on foreign earned income any taxes "paid or deemed paid" to foreign governments and grants generous depletion allowances to extractive industries. As a result, U.S. mining multinationals paid no taxes to the U.S. government on the $1.3 and $1.2 billion they remitted from foreign earnings in 1968 and 1970 respectively (Multinational Corporation and the World Economy, 1973:17). This is likely to be a continuing pattern since hinterland nations that "possess" mineral and petroleum resources worked by multinationals are making increased efforts to link the export economy based on these resources to the national political economy through taxation. This is a defensive form of national integration, but probably the only path open to them short of nationalization.

Again illustrative material provides the best evidence of this loss of surplus to Chile, although access to corporate accounts would make possible some efforts at measurement. Both Anaconda and Kennecott supported their sales operations in Western Europe and Japan in part by overhead charges on their Chilean subsidiaries (NACLA, 1972:112). Presumably this was because a substantial portion of Chilean

copper was sold in these nations during recent years. It might be argued that under Chilean ownership there would also be selling costs, and this is undoubtedly true. However, there would be no need to support the competing marketing organizations of both Anaconda and Kennecott as was the case prior to 1971. The organization of Chilean copper through the two U.S. based multinationals also produced duplication and surplus loss at earlier processing stages. Smelting and refining operations require 100,000 tons of copper per year to maximize economies of scale although smaller operations are sometimes undertaken. Since the Potrerillos/El Salvador complex seldom reached that level of output, until the mid 1960's most of Andes copper output was exported prior to the refining stage on "freighters bring[ing] machinery, timber, cement, equipment, and consumer goods and carry[ing] away bars of blister copper for refining at Perth Amboy, New Jersey" (Pederson:236). Similarly, for many years, the output from the small and medium sized mines was exported as ores and concentrates because the low production levels of each mine meant that none could support a smelter or refinery. Nor did they have reliable access to the smelters and refineries of the Gran Mineria. In the early 1950's, the Chilean government built a smelting and refining complex at Las Venturas in an effort to capture some portion of the surplus loss to Chile from this pattern (UNIDO, 1969:47-48; United States, Dept. of Commerce, 1960:88). Even the, the new complex was smaller than was economically desirable

because of the low total output of the mines outside of the Gran Mineria. Had the Chilean copper industry been integrated in terms of the Chilean national political economy, the multiplication of smelting and refining facilities within the Gran Mineria on the one hand, and the lack of access of small producers to these facilities on the other, could have been avoided. The problem of maximizing economies of scale at the refinery level is particularly important since it is at this and later stages that most profits are made and can be made even with high cost mines such as the smaller Chilean mines (Fortune, January 1955:93-94).

The very nature of copper deposits also puts the companies in a position to appropriate part of the Chilean surplus through shifts in costs and profits. In most cases, other minerals are found with copper in porphyry deposits. (In fact, some of the major Canadian copper mines actually produce as much lead or zinc as copper.) Gold, silver and molybdenum are particularly common with 25-35 percent of U.S. production of each of these metals coming from copper mines. As an example, Kennecott's Bingham Canyon mine is the second largest producer of gold in the Western Hemisphere. The mines of the Gran Mineria in Chile also contain substantial amounts of these metals, accounting for all of Chilean molybdenum output, one-third of the gold output and three-fourths of silver output. Because of chemical bonding, these metals are not separated until the electrolytic refining stage and thus, in exports of blister copper, their

value for tax purposes must be estimated. This enables the companies to circumvent the regulatory efforts of the Chilean state while at the same time appropriating a portion of the Chilean surplus. This is particularly true for Braden Copper Company which has always exported most of its output in fire refined form, much of which is later electrolytically refined on a toll basis by ASARCO, a closely linked company since the days of the Guggenheims. As a hypothetical example of the amounts involved, one ounce of gold recovered from a ton of 99 percent blister copper selling at 35¢ per pound (a high price until the late 1960's) would increase the revenues from that ton by over 5 percent. Since all three companies export some blister copper, and at times in the past even some ores and concentrates, this is probably a significant loss of Chilean surplus. The recovery of precious metals at metropole refiners also reduces the cost per pound of U.S. copper mining, making it more competitive with output from other areas. In addition, the combining of blister copper from different sources enables U.S. refineries to achieve an optimum mix which lowers the cost per unit. Since the cost per pound of copper in the United States is greater than any other major producer, these benefits from the geographical and vertical integration of the multinationals are significant in terms of additional profits. Thus, the appropriation of Chilean surplus feeds the growth of metropolitan industry (Brudenius, 1969:191-192; McMahon, 1965:3-4; OECD, 1969:85-86; Wideman, 1965:277-279).

The final mechanism of actual surplus appropriation is largely the result of the mineral extractive nature of the multinationals in Chile. This mechanism has usually been analyzed as the enclave effect (Levin, 1960). Most of the loss of surplus that results from the enclave structure of the Gran Mineria falls under the heading of potential surplus, particularly the failure to establish forward and backward linkages between copper and the remainder of the Chilean economy. However, the question in the Gran Mineria can fruitfully be analyzed as an appropriation of actual surplus by the mining multinationals.

The issue of the benefits to Chile through wage and salary payments by the large copper companies is a complex one: On the one hand, the wage rate is considerably above the national average, yet at the same time the number of employees has remained fairly constant for several decades. The Gran Mineria has become increasingly capital-intensive and input-saving in general. Perhaps the best way to approach the issue and to understand the enclave aspect of Chilean copper is by considering the geographical situation of the copper towns and the multifaceted activities of the copper companies. For example, the El Teniente mine area covers 300 square miles at altitudes between 8 and 10 thousand feet, and since it is located in an otherwise infertile region, is fairly isolated from any other population centers. Braden (Kennecott) built and operated a railroad which moved the ore from Sewell (the mining town) to

Caletones for concentration and smelting in company-owned plants. The town of Sewell was built from scratch by Braden, and, as at Chiquicamata, a somewhat less isolated area, much of the food and consumer goods were imported on the multinational's ships and delivered to the towns via their railroads and trucks. Nor is this pattern, which strongly resembles the earlier nitrate towns, a thing of the past. In the 1960's, the Chile Exploration Company described its activities as the mining, smelting and refining of ore; the operation of power plants, water and telephone systems, railroads, foundaries, and warehouses; and the ownership of houses, hospitals, schools, stores, bakeries, clubs and "other service facilities for employees" (Moody's Industrial Manual, 1966:1014). Andes Copper Company carried out similar activities and, in a parallel to United Fruit's Puerto Barrios in Guatemala, owns and operates the port of Barquito (Davis, 1924:85-90; Gall, 1972:2-4, United States, Dept. of Commerce, 1960:89-90).

Within this setting, it may be useful to look at the miners and their families in much the same way that theorists of internal colonialism are beginning to examine the ghetto, and particularly the welfare recipients within the ghetto. To a large extent, it appears that the inhabitants of the company mining towns may simply serve as conduits for the copper companies. The relatively high wages (by Chilean standards) paid to both the miners and supervisory personnel are largely returned as income to company stores, housing

agencies, and utilities. Thus the insulation of the mining towns from the rest of the Chilean political economy gives the high wages a very limited multiplier effect, further supporting the argument that government taxation is the major link between the mineral producing multinationals and the national economy (Girvan, 1970:517-518; Rollins, 1970: 189-193). Instead, the potential multiplier effect is transferred via the geographical integration of the multinationals and stimulates the production of manufactured goods in the metropole.

The enclave structure of the Gran Mineria also alters the Chilean class structure. Through the relatively high wages and the importation of metropolitan consumer goods to the mining towns, the multinationals create what might be called a labor aristocracy (Sunkel, 1965:129) with an orientation towards the metropolis. In this case, the international demonstration effect is transferred via the geographical integration of the multinational and penetrates the hinterland through a portion of the working class (Pinto, 1965:45-46). This economic fragmentation of the Chilean class structure as a result of the international mechanisms of surplus appropriation has its political reflection. While copper miners, as is almost universally true for mining areas, have a long tradition of radicalism and were important in the successful early emergence of the Chilean left, there are some interesting differences between voting patterns in copper towns and other mining

towns. The contrast is particularly marked in the case of coal miners who work in Chilean-owned mines and are not tied to the international class structure which shapes the lives of the copper miners. Thus, while the latter gave Allende over 40 percent of their vote in 1970, more than 10 percent above the national average, the coal mining towns voted over 75 percent for the U.P., double the national average. This pattern has existed for several decades as Petras and Zeitlin's analysis of earlier elections demonstrates (1968:238).

In sum, the political economy of international copper creates a strata which is both a labor aristocracy within the hinterland and, at the same time, is linked, through the mechanisms of appropriation of actual economic surplus by the copper multinationals, to the metropole. Once again, the amount involved is difficult to calculate, but some orders of magnitude can be suggested. The copper Gran Mineria employs between one-fifth and one-fourth of the labor force in mining and quarrying and probably accounts for at least one-third of the wages, salaries and income of business enterprises in this sector. In recent years, around 9 percent of the national income has gone to mining which would indicate about 3 percent to the Gran Mineria. While further calculations become increasingly speculative at this point, if as much as 1 percent of the national income is lost through the enclave structure of the Gran Mineria, this would amount to about 20 percent of the average

Chilean savings rate during the 1960's and increase the proportion of surplus appropriated to total savings in Table 10 accordingly.

To conclude this section, when the amounts involved in the four mechanisms of surplus appropriation are added, a conservative estimate of the results suggests that there would be an increase of at least a half in the amount of savings available for net investment during the 1950's and 1960's. Since many of the linkages which retain part of the actual surplus in Chile have been established since World War II, the loss was probably greater during previous years. Whatever the exact percentages involved, the loss of actual surplus only scratches the surface. As I shall try to make clear, although only in outline form, it is through the loss of potential economic surplus that Chile has suffered the most extensive damage and through the control over this potential economic surplus that the multinational mining corporations have realized the biggest gains.

# CHAPTER 8

## THE LOSS OF POTENTIAL ECONOMIC SURPLUS

> When I speak of the Pacific Rim, I am putting the broadest possible construction on the term--the western coasts of South America, Central America, and our own continent, and extending beyond Australia and the Far East to India. There is no more vast or rich area for resource development or trade growth in the world today than this immense region and it is virtually our own front yard...I emphasize that this is a largely underdeveloped area, yet an area rich in an immense variety of resources and potential capabilities.
>
> --Rudolph A. Peterson
> President of Bank of America, 1968

The mechanisms of appropriation and control over the potential economic surplus--that amount beyond essential consumption which an economy could produce with its natural and technological environment and its employable productive resources--are rooted in the political economy of international copper organized by the multinational corporation. Here I will discuss the two most substantial losses of potential economic surplus: (1) the increasing gap between Chile's proportion of capitalist world copper reserves and her proportion of capitalist world output since World War II; and (2) the locational decisions by the multinationals over the distribution of the facilities which are necessary for the processing and fabricating of copper and the resulting employment and profit flows. This second mechanism

of potential surplus loss also touches on the question of linkages between copper and the larger political economy in the metropole and hinterland. What follows is only a sketch of the research I have undertaken on these questions. Here as elsewhere, my analysis is limited to the production and marketing within the capitalist world since this has been the limits of Chile's markets and the multinationals' operations through 1970.

While the proved and probable reserves and the actual copper production of the major producing regions in the capitalist world have all increased since World War II, there has been no major development of new copper deposits since the rise of the African copper belt in the 1920's. Nor, as thoroughly as the multinationals have prospected "the three of the four quarters of the globe where exploration is possible" (Kennecott Copper Corporation, 1951:7), is such a discovery likely in the foreseeable future. Thus, over 80 percent of capitalist world reserves have remained concentrated in just six nations: Chile, Peru, U.S., Canada, Zambia, and Zaire. The five nations which led the capitalist world in copper output in 1970 also did so throughout the 1930's, 1940's, 1950's, and 1960's. Peru is the only newcomer to the top six nations during this period, but the Peruvian deposits were also known much earlier (Herfindahl, 1959:159; Wideman, 1965:286-287; Copper, 1970 Annual Statistical Supplement).

This geographical concentration is reflected in the corporate concentration of copper production. Prior to

the 1970's, ten multinational mining corporations based in four countries own over 70 percent of the capitalist world reserves: Anaconda, Kennecott, ASARCO, Newmont Mining (U.S.); Noranda, International Nickel (Canada); Anglo American Corporation, Phodesian Selection Trust (Britain); and the Belgium firm which was the copper industry in Zaire through 1970, the Union Miniere du Haut Katanga. Pre-1970 Anaconda, estimated to own more than 30 percent of these reserves, was the giant among giants (O'Hanlon, 1966:117; Hardy, 1969:35).

As Anaconda was the richest corporation, so Chile had the richest copper resources. Throughout the last quarter of a century, over 20 percent of world copper reserves and more than a quarter of capitalist world reserves have been located in Chile. This cornucopian abundance of copper deposits comes in a form which makes United States domestic mine owners green with envy. Chilean ore content runs between 1.5 percent and 2.25 percent, double the less than 1 percent average for the U.S. and higher than Canada's 1 to 1.5 percent or Peru's 1-2 percent (McMahon, 1965:55-63). Only the African copper belt, with several mines of 2.5 percent or more copper, has an overall ore content greater than Chile's; however, the lack of adequate transportation facilities raises the price of African copper. While Chile's mines are all located within 100 miles of the coast and linked to Chilean ports by railroads, the major African mines are more than 1,000 miles from ports, a

journey which involved both rail and river transport until the mid 1960's. In sum, industry studies show Chile as having one of the lowest costs per pound of copper produced, considerably below that of the U.S. mines of Anaconda or Kennecott and easily competitive with the African copper mines (Griffin, 1969:129; O'Hanlon, 1966:121; "Mining in Latin America," 1969:85-86).

Despite these advantages, Chile's share of capitalist world output has not matched her proportion of reserves at any time since World War II. Supplying about 18 percent of capitalist world copper production in the late 1940's, Chile's share has steadily declined falling to only 13 percent by 1970 and averaging 15 percent for the entire quarter century. In fact, during the 1944-1954 period, Chile's output fell over 25 percent in absolute terms and the 1944 peak was not surpassed until 1959. Since the foreign-owned Gran Mineria accounted for over 90 percent of Chilean copper production through 1960, and at least 79 percent during the next decade, the failure of Chile to realize her potential output lies in the failure of the multinationals to expand production in Chile as rapidly as capitalist world production increased (Copper, relevant issues; Griffin, 1969: 125-135; United States, Bureau of Mines, relevant issues).

Thus, had Chilean copper production matched her share of capitalist world copper reserves and the returns to Chile per pound of copper produced remained constant, the amount of surplus accruing to Chile from the Gran Mineria would

have been greater by 65-70 percent. Once in power, it was, of course, difficult for the Unidad Popular government to rapidly increase Chile's share, since the U.S. market, almost one-third of the total, was eliminated. Further, and most importantly, any gains on the part of Chile would probably have meant losses, not to the U.S. as the leading producer, but to other hinterland nations. This latter situation was structured into Frei's Chileanization program, drawn up in a manner which gave Chile less than 40 percent of the benefits at the prevailing prices and more than 50 percent of the benefits from price increases. Thus, Chile would have gained from political or economic instability in Zambia, Zaire, or Peru (Griffin, 1969:163).

What were the gains to the U.S. multinationals from this loss of potential Chilean surplus? Their most important benefits were: (1) the ability to keep some portion of their copper production capacity in areas of proven political stability; (2) the accumulation of capital for diversification into other raw materials including a competing metal, aluminum; and (3) political leverage in bargaining with the Chilean government. To briefly elaborate: (1) the majority of Kennecott's production of copper comes from U.S. mines, several of which would be quite marginal and perhaps losing propositions if the price of copper were to fall to the level which "free competition" would dictate. While Anaconda was dependent on Chile for two-thirds of its copper production, their largest U.S. mine at Butte,

Montana would also be a marginal producer in direct competition with other areas of the world (Griffin, 1969:127-128; Mikesall, 1971a:370). (2) While Anaconda and Kennecott have long been vertically integrated and thus supplied much of their own fuel, transportation, and chemicals used in processing, each diversified industrially during the post World War II period. By 1970, they were less dependent than Chile on copper, a development financed in part by Chilean earnings. Anaconda has emerged as the fourth largest producer of aluminum in the U.S., a metal which has displaced copper in several areas including high voltage overhead lines. Anaconda's joint venture with Reynolds and Kaiser in Jamaican aluminum provides a classic example, with a cross elasticity twist, of the competition between hinterland nations within the framework of the multinational corporation. Kennecott's efforts at diversification have included (a) the acquisition of a substantial interest in Kaiser Aluminum; (b) a controlling interest in a Nigerian tin venture; (c) investments, later liquidated, in South African gold mines; and (d) a controlling interest in a joint venture with New Jersey Zinc in a Canadian iron-titanium deposit, the largest in the world. In 1968, Kennecott capped their diversification efforts with the purchase of Peabody Coal Company, a major factor in the U.S. coal industry with 10-15 percent of the total output. Once a strip miner, always a strip miner (Copper, relevant issues; Moody's Industrials 1956, 1961, 1966, and 1971; OECD, 1969:58; company reports); (3)

the Chilean government has repeatedly attempted to expand the Chilean share of the capitalist world copper market, sometimes through marketing controls and sometimes through incentives to the companies. The companies have equally repeatedly responded by demanding tax concessions and legal guarantees and have expanded output only when these were provided. Twice during the 1950's the multinationals increased their investment in marginal U.S. mines after considering and rejecting the option of increased output from their Chilean properties. Even during the Chileanization period, the companies refused to increase their output despite the agreements with the government. Thus, over 90 percent of the increase in Chilean production in 1966-1970 came from the small and medium mines not part of the Gran Mineria. Evidently the companies were awaiting the outcome of the 1970 elections (ECLA, 1969 and 1971; Griffin, 1969: 155-163; Mikesall, 1971a).

The second mechanism of potential surplus appropriation is rooted in the international vertical integration of the copper multinationals. This integration gives them considerable choice in their locational decisions concerning the facilities for the processing of copper. The result, as Galtung (1970:85, 87) suggests, is a vertical interaction relation, "interaction between metropole and hinterland across processing levels." That is to say that it cannot be stressed enough that Anaconda and Kennecott did not just mine Chilean copper--they also milled Chilean copper, smelted

Chilean copper, refined Chilean copper, fabricated Chilean copper, and sold Chilean copper--but not always or even primarily in Chile. Nor was Chile their only source of copper. Kennecott owns four of the dozen most productive mines in the U.S. and Anaconda another two. Anaconda also has another source of foreign copper, Greene Cananea, a Mexican mine whose output is similar to that of the old Potrerillos property. Once again, raw material producing regions and nations compete with each other through the framework of the multinational corporation.

For a grasp of the flows of raw materials and output determination instructions which are created by the vertical integration of the multinationals, Girvan's model of the division between administrative and operational functions in the mineral extracting multinational is suggestive (Girvan, 1970:409-504). It needs to be modified to fit the specificity of copper processing, however, While, as noted previously, copper passes through several stages of processing, it is only economical to transport copper long distances between the smelting and refining stages and between the refining and fabricating states. (In the past, however, and at times even today, large volumes of copper may be transported between the concentrating and the smelting stages.) This is because, by weight, the ore is only 1-3 percent copper while the matte (copper after it is concentrated) is 25-50 percent copper. However, after smelting, the blister is 99 percent copper. The technological

imperatives of copper processing placed in the organizational shell of the multinational corporation means that the flow of material for processing is not determined solely by "market" considerations, nor by what would be least costly and most beneficial to national political economies. Instead, it is the economic and political priorities of the multinational--what areas are politically secure, where does an investment stake already exist, where are the most profitable markets--that are decisive. Figure 2 depicts the structure that emerges.

The results of these decisions for the political economy of Chilean copper are summarized in the statistics of Table 11 (page 271). The most striking fact about the figures in the table is the decline, beginning in the early 1950's, in both the proportion and the absolute amount of copper exported in refined form. Throughout the whole period covered, the proportion refined was never as great as during the 1926-1933 period and in the year 1953-1962 and 1964-1965, the absolute amount refined was less than the pre-depression peak year of 1929. The fall in refined exports also took place during the same years that the Chilean government constructed a smelter and refinery to handle the output of the small and medium sized mines. Thus, the decline of refined exports from the Gran Mineria must have been even greater than the overall figures suggest. Throughout these years, the U.S. continued to be the leading producer of refined copper in the capitalist world with about

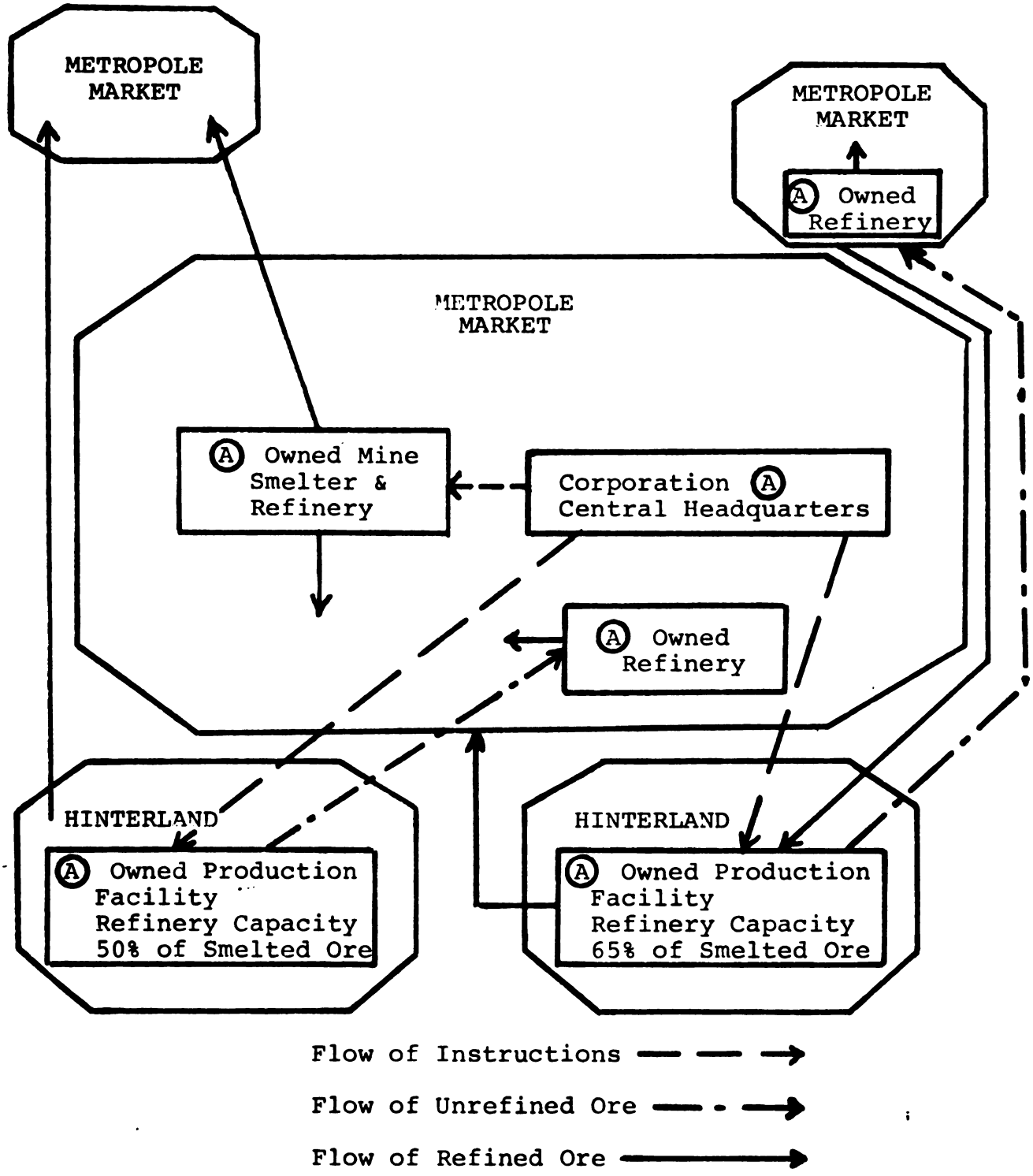


Figure 2: Hypothetical Structure of a Copper Multinational

Table 11. Chilean Copper: 1948-1970 (all amounts in 000 metric tons)

| Year | Copper Produced | Copper Exported | Exported % of Production | Refined Exports Amt. | Refined Exports % of Exports | Production of Gran Mineria Amt. | Production of Gran Mineria % of Total |
|---|---|---|---|---|---|---|---|
| 1948 | 445.1 | 434.7 | 97.7 | 298.2 | 68.6 | 425.9 | 95.7 |
| 1949 | 371.2 | 374.2 | 100.8 | 265.7 | 71.0 | 331.5 | 94.7 |
| 1950 | 362.8 | 339.5 | 93.6 | 249.9 | 73.6 | 345.8 | 95.3 |
| 1951 | 380.7 | 329.4 | 86.5 | 246.4 | 74.8 | 361.0 | 94.8 |
| 1952 | 408.6 | 378.9 | 92.7 | 280.4 | 74.0 | 374.8 | 91.7 |
| 1953 | 363.2 | 320.0 | 88.1 | 165.4 | 51.7 | 325.8 | 89.7 |
| 1954 | 363.6 | 376.7 | 103.6 | 195.1 | 51.8 | 323.1 | 88.9 |
| 1955 | 433.5 | 413.4 | 95.4 | 210.4 | 50.9 | 394.0 | 90.9 |
| 1956 | 489.7 | 447.2 | 91.3 | 213.8 | 47.8 | 444.8 | 90.8 |
| 1957 | 484.3 | 477.8 | 98.6 | 216.4 | 45.3 | 436.9 | 90.2 |
| 1958 | 462.2 | 432.5 | 93.6 | 156.1 | 36.1 | 418.4 | 90.5 |
| 1959 | 544.9 | 504.2 | 92.5 | 219.8 | 43.6 | 498.6 | 91.5 |
| 1960 | 531.9 | 512.8 | 96.4 | 213.1 | 41.6 | 479.2 | 90.1 |
| 1961 | 545.9 | 541.8 | 99.2 | 216.9 | 40.0 | 481.1 | 88.7 |
| 1962 | 585.7 | 562.6 | 96.6 | 240.2 | 42.7 | 510.2 | 87.1 |
| 1963 | 601.1 | 584.6 | 97.2 | 245.9 | 42.1 | 567.4 | 84.4 |
| 1964 | 622.3 | 557.6 | 89.6 | 213.2 | 38.2 | 527.8 | 84.8 |
| 1965 | 583.6 | 518.7 | 88.9 | 216.8 | 41.8 | 487.2 | 83.4 |
| 1966 | 637.2 | 582.9 | 91.6 | 317.1 | 54.4 | 536.8 | 84.2 |
| 1967 | 660.2 | 631.8 | 95.7 | 361.3 | 57.2 | 536.4 | 81.2 |
| 1968 | 658.2 | 637.2 | 96.8 | 377.8 | 59.3 | 519.2 | 78.9 |
| 1969 | 689.5 | 657.9 | 95.4 | 429.2 | 65.2 | 538.8 | 78.1 |
| 1970 | 687.2 | 670.4 | 97.6 | 441.0 | 65.8 | 540.6 | 78.7 |

Sources: Cols. 1-6 for 1948-1959: Calculated from ECLA, Economic Survey of Latin America, 1964, pp. 259-260; and Griffin, p. 152.

Cols. 1-6 for 1960-1968: Calculated from ECLA, Economic Survey of Latin America, 1969, p. 147.

Cols. 1-6 for 1969-1970: Calculated from CORFO, Chile Economic Notes, No. 95; and Copper 17:3 and 17:4.

one-third of the total while mining about one-fourth of the copper in the capitalist world. Chile was the leading supplier of unrefined imports to the U.S., providing over a third of the total during the 1948-1970 years. Further, despite consumption in excess of mine production throughout these years, the U.S. remained one of the leading exporters of refined copper. By the 1960's, as Brazil and Argentina became two of the five largest customers for the U.S. refined exports, Chilean copper was reaching these Latin American nations via U.S. East Coast refineries. Even more incredible, throughout the 1950's, copper wire and cable was exported to Chile from U.S. fabricating plants! (Copper, selected issues; Skelton, 1937:401 and 405; and sources cited in Table 11).

It was the decisions of the copper multinationals, Anaconda and Kennecott, which shaped this structure of Chile's international copper trade. During Chile's peak copper producing years of World War II, when the price of copper was frozen in the U.S. at 12¢ per pound, the companies refined as much as 85 percent of their Chilean output in Chile. However, when the Chilean government attempted to assert control over the copper industry in the early 1950's, through increased control over marketing, higher rates of taxation, and exchange rates designed to maximize the returns to Chile, the companies shifted more of the refining to their U.S. facilities. In 1953, the Chilean government tried to establish a price for refined copper 3¢/lb.

above the 24.5¢/lb. set by the U.S. government during the Korean War. In that same year, the proportion of Chilean exports in refined form fell from 74 percent to 52 percent. This drop in refined exports was also reflected in U.S. import statistics. Refined imports from Chile fell from 85 percent of the U.S. total in 1952 to 54 percent in 1953 while Chile's share of U.S. unrefined imports rose from 25 percent to 34 percent in these two years. (In fact, Chile even lost ground in capitalist world smelter production, going from over 20 percent of the total in 1946 to only 14 percent in 1955 and 12 percent in 1970.) Interestingly enough, the decline in refined production in Chile occurred despite the existence of over 500,000 MT/Y refinery capacity in the Gran Mineria by the 1950's. Although by the end of that decade these refineries were evidently operating at no more than 50 percent of capacity, Kennecott completed a 198,000 ton electrolytic refinery at Baltimore, Maryland in 1959. Much of the ore which went to this refinery came from El Teniente. Anaconda expanded and modernized their Perth Amboy refinery during this same period. While the U.S. tariff on unrefined copper was not in effect between 1947-1963, during 1932-1947 and 1963-1966 when the tariff was in effect, ores, concentrates, scrap and blister copper were not dutiable when they were imported for smelting and/or refining and re-export. Even with the tariff, the cost per pound of Chilean copper evidently made it profitable for import, refining and consumption (Bidwell, 1958:103, 108; Copper, relevant issues; Company reports).

The failure of Braden Copper Company to expand refined production from El Teniente provides a particularly instructive example of the determination of hinterland political economy by the multinational political economy. Until the early 1950's, Kennecott did not even own an electrolytic refinery in the U.S. although it did have a fabricating subsidiary. Kennecott's mine and smelter production was refined on a toll basis by ASARCO (formerly American Smelting and Refining Company) to which Kennecott had been linked by stockholdings and directors since the days of the Guggenheim Exploration Company. Thus, Braden also owned no electrolytic refining facilities and much of Braden's blister and fire refined copper[1] went to ASARCO's Baltimore and Perth Amboy refineries for further processing. The loss of potential Chilean surplus was converted into a profitable metropolitan relationship (Kennecott Copper Corporation, relevant years).

The total loss to Chile from this structure of international copper is difficult to determine with any precision but some rough indicators are available. First, refining of Chilean copper in the U.S. certainly entailed an export of jobs to the U.S. Total U.S. employment in mining and quarrying of copper is divided approximately 50 percent in mining, 16.7 percent in smelting, and 33.3 percent in refining. The latter percentage has tended to rise slightly during the post World War II years, reflecting both increased productivity in mining and continued imports of

unrefined ore from hinterland nations (Copper, Spring 1957: 14; McMahon, 1965:299-201; Wideman, 1965:292). Since Chile refined an average of only 54 percent of her copper exports in the years 1948-1970, employment in copper refining could have been nearly doubled if refining had taken place in Chile. This would have provided more jobs, a higher level of average income and greatly increased the multiplier effect of copper wages since the refineries were located in less isolated towns where the enclave structure of the Gran Mineria was not as limiting. Other indicators of the loss to Chile are more indeterminate. If refinery production had remained at even the 1948 level, of 300,000 MT/Y (an output not reached again until 1966), the pressure for the realization of potential forward and backward linkages with the rest of the Chilean economy might have been greater. For example, it was not until the Chileanization program of the 1960's that the copper companies agreed to increase their use of Chilean coal as an energy source. In the interim, Chile continued to give up vital foreign exchange for the import of petroleum for use in the Gran Mineria, despite an increase in Chilean petroleum output of over 2,000 percent between 1950 and 1969 (United States, Dept. of Commerce, 1960:188; Griffin, 1969:154-155).

There is one facet of copper processing that Table 11 says nothing about. To have use value, copper must go beyond the refined stage and be fabricated into the shapes, sizes, and dimensions needed by other industries. It is

the fabrication of copper and the sales of fabricators to the electrical, automobile, and aerospace industries that provides the linkages which are important spin offs of the copper industry and are the basis of much of its potential in the process of economic growth (OECD, 1969:17; UNIDO, 1972:20-25). The multinational copper corporations have never produced any fabricated copper in Chile despite the fact that each is integrated through the fabricating stage and is a major factor in the U.S. fabricating industry. Technological difficulties are not the issue since fabrication is considered relatively simple in terms of the technological sophistication required. In addition, experience in the fabrication of one non-ferrous metal is readily generalizable to others (Richter, 1927a:714). Even under the Chileanization program of the 1960's, the best that could be done was to get a commitment from Anaconda to "consider" the possibility of establishing a fabricating plant for export. The Chilean government did make one past effort at developing its own fabricating products for export. Limited success was achieved for a few years during the early 1960's when there was a general shortage of copper in the capitalist world, but Chile was unable to compete with the vertically integrated multinationals and the tariff barriers to metropole markets. By the end of the 1960's, semi-fabricated copper exports had fallen to less than 2 percent of the total copper exports (UNIDO, 1969:74; UNIDO, 1972:125). (Under the Unidad Popular, Chile reached an agreement with

Romania to develop a fabricating industry which would market much of its output in the socialist nations.)

The loss to Chile through the refusal of the multinationals to develop a fabricating industry in Chile has been immense. Without including the question of spin offs from such an industry, the following statistics suggest the dimensions of the loss: The 1947, 1956, and 1967 U.S. Census of Manufacturing and Mineral Industries report employment in copper rolling and drawing establishments alone to be double that in the mining of copper, six times the employment in the smelting of copper and three times the employment in copper refining. Employment in wire and cable mills and bronze and brass mills was again greater than employment in mining and smelting. Value added in the stages of processing beyond copper refining was more than three times that in mining, smelting, and refining. In this area alone, then, the contribution of the Gran Mineria to Chilean development was less than half of what it could have been. In sum, for Chile as for most of the remainder of the third world, the most enduring legacy of the capitalist metropoles has been the loss of potential economic surplus, a potential which has been absorbed in the development of those metropoles.

# NOTES

[1] Fire refined copper is acceptable for some industrial uses. While over 99 percent copper by weight, it is not as pure as electrolytic copper and sells at a slight discount. Electrolytic refining is necessary to recover precious metals such as gold and silver, however. All copper used in the electrical industry which accounts for 50 percent of the total market is electrolytic copper.

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