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**FROM PATRON TO MANAGER: THE CANADIAN STATE
AND HIGHER EDUCATION IN THE POST-WAR PERIOD**

by

Imelda Mulvihill, B.A. Hon., B.Ed.

A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of
Master of Arts

Department of Sociology and Anthropology

Carleton University
Ottawa, Ontario

April 24, 1987

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Thesis Supervisor

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May 19, 1987

ABSTRACT

This thesis argues that "social demand" is not the primary dynamic within the post-war expansion and subsequent contraction of Canadian higher education. Instead, these are viewed as state-orchestrated processes, requiring an exploration of the nature of state action within a changing political economy enveloping both state and academy.

The theoretical framework for this thesis has been taken from neo-Marxist state theories and neo-Marxist analyses of the Canadian state and of state policy formation. The shift from Keynesian to post-Keynesian modes of state action is used as the organizing principle for the analysis. Hence it is argued that expansion can be more adequately understood as a Keynesian intervention by the state arising out of its own expanded role in the "production" of knowledge. For its part, contraction can more sensibly be seen as the consolidation and intensification of the "managerial" mode of state intervention.

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TABLE OF CONTENTS

Title Page	i
Acceptance Sheet	ii
Abstract	iii
Acknowledgements	iv
Table of Contents	v
List of Tables and Figures	ix
 Introduction	 1
 Chapter One: Prevailing Schools of Thought on the Post-War Politics of Canadian, American, and British Systems of Higher Education	 12
Readings of the Canadian Case:	
Social Demand and the Realities of Economic Growth	13
The Dependency Thesis	18
Limitations of the Readings of the Canadian Case	22
Readings of the American and British Cases:	
Functional and Dysfunctional Tensions Between Public and Private Criteria	24
A Crisis of Credential Inflation	32
The Incorporation of White-Collar Workers into the Wage-Labour System and the Displacement of Class Class Conflict from the Production Site	41
Limitations of the American and British Readings	46
Intimations of a More Adequate Theoretical Framework	47
 Chapter Two: An Alternative Theoretical Framework: Materialist Interpretations of the State and State Action	 49
Classical Marxist Starting Points	50
Neo-Marxist Theories of the State	55

	Structuralism: The Matrix of Objective Forces	57
	The German Debate	62
	The Further Elaboration of the State and Ideology .	69
	Conclusion	77
Chapter Three:	The Specificity of the Canadian State	79
	Materialist Conceptions of the Canadian State:	
	A Striking Lack of Relative Autonomy and the Importance of Provincial State Power: Panitch	80
	Toryism and Private Enterprise at Public Expense: Whitaker	85
	The Absence of a Dominant National Bourgeoisie, the Regional Character of the Economy, and the Erosion of Federal State Power: Stevenson	90
	Provincial State Power: The Political Action of Elites within a Hinterland Economy: Pratt	97
	Policy Formation within the Canadian State:	
	State Power, Structured Inequality, and Policy Formation: Mahon	98
	The Class Character of Canadian Social Policy Formation: Swartz, Walters, and Cuneo	102
	Conclusion	105
Chapter Four:	Revisiting the Empirical Record: The Expansion and Contraction of Canadian Higher Education	109
	A Closer Look at the "Decade of Delay" in the Expansion Of Canadian Higher Education.	110
	1968-72: A Pattern of Precipitate State Intervention	114
	The Logic of Expansion: The Commodification and Politicization of Knowledge	124

	Knowledge as a Classical Factor of Production: The Theory behind the Economics of Education and Research	127
Chapter Five:	The Keynesian Revolution in the Relations between State and Academy: Harnessing Higher Education and Research to National Economic Goals.	137
	A New Stratum of Occupationally Oriented Higher Education: The Expansion of the Community College System	141
	The Keynesian State and Science: Reshaping the Research Sector to Serve National Interests	145
Chapter Six:	The Dynamics of Contraction: Phase I: The Breakup of the Keynesian Consensus — 1969 to 1975	157
	The Breakup of the Keynesian Strategy of Economic Growth through Human-Capital Investment	160
	The First Countervailing Force within a Changing Political Economy: The Truncation of the Manufacturing Sector of Hinterland Economies	161
	The Second Countervailing Force: Credentialism and Occupational Licensing	168
	The Third Countervailing Force: The De-Skilling of Labour and the New International Organization of Production	172
	The Fourth Countervailing Force: The Fiscal Crisis of the State	178
Chapter Seven:	Phase II of Contraction: The Emergence of a Neo- Conservative Consensus — 1975 to 1981	184
	State Action in the Post-Keynesian Model: Stronger Forms of State Intervention	186
	A Watershed Year for the Academy — 1977:	
	The End of Conditional Grants and the Introduction of Transfer Payments Tied to GNP	191

	The 1977 Restructuring of the Granting Councils and the Programmatic Emphasis on State Objectives . . .	195
	The Effects of 1977: A Shift toward a More Selective Policy on the Production of Highly Qualified Manpower and a Growing Focus on Industrial Research	200
	The Effects of the 1977 Restructuring of the Granting Councils	213
Chapter Eight:	Phase III of Contraction: Restructuring Economy and Academy through New Forms of State Intervention — 1982 to 1986	229
	"A System Not Geared to Support or Develop Excellence"	235
	The "Mistaken Priorities" in the Balance between Core and Research Financing, and the Creation of "Centres of Excellence"	237
	Plans for Restructuring at the Provincial Level . . .	241
	Phase I: Building Incentives for Adaptability and Differentiation	247
	Phase II: Financing Excellence at the Expense of Accessibility	249
	Planned Capacities and Roles: A More Interventionist Intermediary Body (IMB)	251
Conclusion		259
Bibliography		281

LIST OF TABLES AND FIGURES

Table	Description	Page
5-1	Full-Time Undergraduate Enrolment in Canadian Universities, by Field of Study, Selected Years, 1950 to 1975 Percentage Change in Undergraduate Enrolment by Field of Study, Selected Years, 1950 to 1975	139
5-2	Full-Time Enrolment in Canadian Community College Programs, by Field of Study, Selected Years, 1970 to 1981	144
7-1	Federal Transfer Payments for Post-Secondary Education (in Constant 1971 Dollars) Under Established Programs Financing, 1977 to 1983	202
7-2	Federal-Transfer Payments for Post-Secondary Education (Per FTE Student) Under Established Programs Financing 1977 to 1983 (in Constant 1971 Dollars)	203
7-3	A Comparison of Increases in Federal EPF Transfer Payments and Increases in Provincial University Operating Grants, with Ratios of EPF Transfers to Total Provincial Expenditures on Post-Secondary Education, 1978-79 to 1984-85	205
7-4	Proposed SSHRC Program Expenditures by Major Activity, 1979-80 and 1984-85 (\$ Million)	214

7-5	SSHRC Actual Expenditures (in Millions of Current Dollars), 1978-79 to 1984-85	
	Percentage Distribution of SSHRC Actual Expenditures by Type, 1978-79 to 1984-85 . . .	215
7-6	SSHRC Expenditures in Current and Constant (1968) Dollars, 1978-79 to 1984-85	217
7-7	SSHRC Expenditures in Current and Constant (1968) Dollars, 1970-71 to 1984-85	218
7-8	Proposed NSERC Program Expenditures by Major Activity, 1979-80 and 1984-85	220
7-9	NSERC Actual Expenditures (in Constant 1984 Dollars), 1979-80 to 1984-85	
	Percentage Distribution of Program Expenditures, 1978-79 to 1984-85	221
7-10	R&D Expenditures in Canada, by Scientific Field, 1971 to 1983 (\$ Millions)	224
7-11	Persons Employed in R&D in Canada by Field and Sector, 1975-1981 (Full-Time Equivalent)	226
Figure	Description	Page
7-A	SSHRC Funding Pattern, 1970 to 1984	219
7-B	NSERC Funding Pattern, 1970 to 1984	222

INTRODUCTION

The decade of the 1970s represents a significant one in the post-war history of higher education in Canada in that it witnessed a fundamental change in the relation between the state and higher education. This change involved a radical recasting of the state's role in support of higher education and has been variously described by educational theorists and observers. Peter Leslie (1980), for example, has characterized this change as the state's move from the role of patron to that of manager. This characterization captures several salient aspects of the 1970s shift: a sharp and significant curtailment of the level of state financial support provided for an expanded system of higher education, a reduction in the priority accorded to policies on higher education and research, and a growing encroachment by state institutions on the autonomy traditionally enjoyed by the academy.

The early 1970s have been identified as the divide between the post-war eras of expansion and contraction in Canadian higher education. The expansion of Canadian higher education is generally held to be the period of open-ended funding by the state (1960-1970) in which operating and capital expenditures on universities and colleges increased fivefold, enrolments tripled, and the range of programs at most universities quickly extended into both the graduate level and professional disciplines.² The contraction of higher education is typically defined as the prolonged period of underfunding (1974-1984) that began after the stabilization of enrolments in the early seventies and the mid-seventies decline in enrolments.¹ In this period, for example, university expenditures as a percentage of Gross

National Product declined steadily over the seventies, from 2.09 in 1971 to 1.50 by 1980.² Similarly, while the proportion of educational expenditures spent on higher education (both college and university) had grown from 19.4 per cent of the total to 28.9 per cent in the decade of expansion, over the seventies the proportion spent on higher education dropped to 26.7 per cent by 1976 and by 1980 had stabilized at 27.7 per cent.³ This pattern of underfunding also continued well into the 1980s, despite the fact that, after a brief decline, enrolments began to increase once more. Thus, as A.W. Johnson (1984:2) notes, over the period 1977 to 1984, university enrolments increased by 27 per cent, whereas government support for core operations increased, in real terms, by only 2.5 per cent.

It is, however, important to note that the "contraction" of higher education is not simply a concept that describes the shrinking allocation of government resources during recessionary times. It also refers to a contraction, or diminution, of the priority accorded by the state to policies of higher education and research. As A.W. Johnson (1984:2) observes, "The record of government "core support" for universities and colleges -- which finances 80% of the costs of instruction, and associated research -- reflects a relative decline in the priority being accorded to post-secondary education." Similarly, in a paper on the state and higher education in Western Europe, Guy Neave (1985:28) notes, "The role of higher education is changing from being an instrument for broad collectivist and interventionist strategies for social change . . . towards being a supplementary institution whose actions are based on what may be termed the individualist, competitive ethic."

The Canadian state's mid-seventies retreat from higher education has generally been explained either as a result of a general failure of human capital theory (cf. Dupré: 1977, Leslie: 1980, Symons and Page: 1984) or, more specifically, as the failure of human capital theory at the hands of Canada's dependent economic relations with the United States (cf. Schechter: 1977, Lockhart: 1979, Axelrod: 1982:). The former argument holds that increased demand for access to higher education, which had been triggered by a growing belief in the higher private and social economic rates of return to investments in higher education, faltered when it became clear that human-capital claims were both oversold and subject to inflationary cycles. Hence, according to this argument, the Canadian state reduced its commitment to higher education as a direct response to flagging social demand.

The latter argument posits that, while the failure of human capital theory is one of the major factors in the state's retreat from its former level of commitment to higher education, this failure must itself be understood as being exacerbated in Canada by the economy's dependent relation to foreign, principally American, capital. In this reading, Canadian state agencies acted to curtail any further expansion of post-secondary education primarily because, by the 1970s, it was recognized that the anticipated economic growth promised in the sixties by human capital theorists had not materialized (and would not) because of the structural realities of a truncated industrial sector within a hinterland economy.

This view also holds that mounting pressure was put on the state to curtail its support of higher education, pressure emanating from the fact

that it was the state's own expansion that had been responsible for the greater part of whatever employment the graduates of an expanding system of higher education had secured. As Axelrod (1982:147) argues, the shift in the state's support of higher education was a direct result of the increasing conviction that higher education had not only proven not to be the answer to Canada's economic problems, it had itself become part of the economic problems induced and exacerbated by Canada's hinterland status.

Hence the stress of this argument falls heavily on a reading of state retrenchment vis-à-vis higher education as primarily a logical consequence of a growing awareness within state agencies that a semi-industrialized society did not require the occupational and technical innovation secured through human-capital investment. The inhospitable climate of a hinterland economy (with its distorted occupational and technical effects), it is argued, eventually imposed upon the state an abandonment of the human-capital strategy for national economic growth. There are, however, two fundamental problems with this argument. First, it employs a view of the state as operating within a hinterland-metropole relation without, at the same time, addressing the class relations implicit in the hinterland-metropole model. Thus, for example, little attention is paid to whether and how this relation, as expressed in the production of human capital, might not have involved a conflict between hinterland and metropolitan bourgeoisies (e.g., as might arise from the metropolitan bourgeoisie's orchestration of a new international division of labour and the consequent process of underdevelopment within the hinterland). Second, this view of the Canadian state attributes educational policy shifts almost

pays too little attention to the fact that the retreat from higher education was sounded by most all developed states and not just those within hinterland economies.

More problematic, however, is the fact that underlying this explanation of the state-supported expansion and then contraction of higher education is a general view of state action as having been driven largely by the need to respond to changing functional requirements within a complex industrial (or, in this case, semi-industrial) society. Lacking the fuller analytical framework of dependency theory, the conception of the state implied here is a neutral one. State actions are, for the most part, construed to be independent of the power relations that, in the post-war period, clearly enveloped both an "academy-as-knowledge-industry"⁶ and a state that constituted one of the most powerful forces shaping the expanded system of higher education. As a consequence, this view of state action tends not to explore the possibility that the state's expansion and contraction of higher education were neither neutral nor independent. In short, what is left unexamined is the question of whether the state's educational policies are not bound up in, and circumscribed by, power relations and class conflict in which the state and the academy are, at one and the same time, principal forces and fields of conflict.

An alternative approach to understanding the pattern of state activity in the field of higher education is suggested by the work of several neo-Marxist state theorists. This alternative view of the state argues that the modern liberal-democratic state (and, by extension, its activities) can only be understood in its historic relation to the capitalist relations of

production that constitute its source and the social conditions of its being (cf. Miliband: 1973, Poulantzas: 1978, Hirsch: 1978, Offe: 1984). Thus, these theorists would argue, the post-war Canadian state must first and foremost be understood as a necessary and logical expression of specific historical relations that render it a class state and a state whose activities, while they are raised above the immediate process of production (and are thereby endowed with a relative autonomy from the dominant class and its interests), are nonetheless shaped by the laws of capital accumulation, the power relations that mediate the enactment of those laws, and the constant necessity for the state to legitimate its own fundamental class character.

This general view also holds that the 'interventionist' role of the post-war state to secure the conditions of production has expanded considerably as a direct consequence of the technological transformation of the production process. While this transformation has always been a feature of production, in the post-war period it has become a process of change vastly enhanced and speeded up by scientific advances, especially in the field of micro-electronics and, more recently, bio-technology (Hirsch: 1978; Poulantzas: 1978; Offe: 1984). Within this understanding of state action, education, research, health, transport, and urban planning represent aspects of a significantly increased socialization of productive forces and relations of production. Not surprisingly, the state-organized and state-funded development of science and technology through higher education is singled out by Marxist theorists as particularly illustrative of this expanded and altered role of the state in the provision of a new and extensive infrastructure for capital's reproduction.

This alternative approach further argues that the modern western state is a state in crisis, one whose expanded role in the reproduction of capital has served to displace class conflict from the economic into the political sphere and one whose more explicitly revealed class-based activities are as a consequence both crisis-ridden and crisis inducing (Poulantzas: 1978, Hirsch: 1978, Offe: 1984). This alternative conception of the state thus argues for a much less sanguine interpretation of the post-war Canadian state's somewhat tardy embrace of higher education; its advocate is also far less likely to view higher education's present 'restructuring' as no more than a return to an era of genteel poverty and benevolent neglect. Rather this alternative view contends that, having entered more directly into production and having thereby incorporated into its orbit more and more of the tensions inherent in the social relations of production, the state and the various elements of a more socialized production (including higher education) are vulnerable, more than ever before, to direct and more enduring expressions of the conflict inherent in these relations (O'Connor: 1973, Hirsch: 1978, Poulantzas: 1978; Offe: 1984).

The aim of this thesis is to test this alternative conception of the state as a point of departure toward an analysis of the post-war relations between the state and higher education. Consequently, it will explore the degree to which the expansion and contraction of higher education can be understood as having been the result of the state's expanded economic activities and its altered ideological role, a set of activities increasingly given shape by a state drawn into a critical role in the reproduction of both the technical and social relations of production. In this connection,

the state's retreat from higher education is seen as process profoundly influenced by a new international division of labour orchestrated in the early seventies, and a process given shape by the state's policy focus on the production of highly qualified manpower.

Additionally, educational expansion and contraction will be reassessed against the backdrop of the class relations which mediate both state's activities to reproduce the technical and social relations necessary to production and its need to organize consent around such relations. Finally, changing policies on higher education will be placed for analysis within the framework of a state increasingly besieged by the apparent unravelling of the premises of the Keynesian welfare state, within what O'Connor (1973), Offe (1976) and Wolfe (1977) term the fiscal and legitimation crisis of the late capitalist state.

On the other side of the relation between state and higher education, the thesis will explore whether higher education itself can be understood as a system whose patterns of expansion and contraction have been shaped by a labour process increasingly redefined by the critical and chameleon variable, "knowledge." The impact of revised strategies for economic growth on research and curricular development in the face of a globally restructured process of production is only one of many questions to be pursued in this connection. This exploration of the state's relation to higher education will also assess the question of whether higher education can be reasonably understood as a system whose expansion transformed it into an arena of struggle between classes and class fractions and whose contraction has served to intensify that struggle. The question will also be

asked whether higher education itself has been overtaken by both the fiscal and legitimation crises enveloping the state. Finally, an attempt will be made to explore the very salient question of how the shifting relations between state and academy have threatened the traditional autonomy of scholarship and of the scholarly community.

Because neo-Marxist theory of the state is being utilized as framework for understanding the relation between state and academy, the thesis will begin with a review of the prevailing schools of thought on the post-war politics governing higher education, especially those that focus on the problematic relations that have emerged within the more recent intersection of post-secondary education, research and the state. An assessment will be made of several analyses of Canadian, American and British higher education, and, then, in Chapter Two the thesis will turn to the work of neo-Marxist state theorists to search for a more adequate theoretical framework for an analysis of the post-war politics of higher education. This chapter will review what has become, especially since the late sixties and early seventies, a rich and differentiated array of views on the nature of the modern state. Chapter Two will also focus on those aspects of neo-Marxist state theory that have a particular bearing on the ways in a changing state and academy have come to a point of difficult and sometimes volatile relations. Chapter Three will examine neo-Marxist readings of the Canadian state and outline the implications of these interpretations of the Canadian state to our analysis of the relations between state and academy in Canada. Subsequent chapters will examine the Canadian case, reassessing the post-war expansion and contraction of

the Canadian case, reassessing the post-war expansion and contraction of the Canadian system of higher education in the light of the growing body of materialist theory on the state and its complex relations with science, technology and the production of knowledge.

1. See, for example, Paul Axelrod (1982:141-213).
2. See Statistics Canada (1983:11, Table 8, and 1983:64-65, Tables 42 and 43). In this connection, the "Statistical Highlights" included by Statistics Canada (1983:11-12) note the following:

In the 1960s, a combination of demographic, social, and political factors culminated in unprecedented postsecondary growth. . . . The average annual increase [in enrolment] was a remarkable 11%-12%, but it fell to around 4.5% in the early seventies.

.
University undergraduate enrolment by field of study shows a trend towards career-oriented programs such as commerce and business administration At the graduate level, full-time students . . . increased from 6,500 in 1960 to 33,200 in 1970.

3. Axelrod (1982:179), for example, observes:

The process of financial retrenchment ushered in at the beginning of the 1970s continued largely unabated throughout the rest of the decade. At best, universities endured what John Deutsch had described as the era of the 'steady state' or 'the problem of maintaining viability when new programs are not evolving.' At worst, they suffered through a depressing period of permanent underfunding.

4. See Symons and Page (1984:100, Table 20).
5. Statistics Canada (1983:60, Table 38).
6. On this point see Clark Kerr (1963:87-94).

7. See, for example, the many analyses of these questions in Karabel and Halsey (1977). In particular, see Randall Collins (1977:118-136), Samuel Bowles (1977:137-152), Sewell and Shah (1977:197-214), Karabel (1977:232-253), and Miles (1977:432-449).

CHAPTER ONE

PREVAILING SCHOOLS OF THOUGHT ON THE POST-WAR POLITICS OF CANADIAN, AMERICAN, AND BRITISH SYSTEMS OF HIGHER EDUCATION

Despite the fact that the post-war expansion and contraction of higher education have been accomplished largely in terms of state action, there is a surprisingly limited literature that takes into account the growing and predominant presence of the state in the affairs of the academy. Much of this literature tends, instead, to explain expansion and contraction using "demographic-push" and "social-demand" causal models (cf. Vanderkamp, 1985). The most frequently utilized argument within this general approach holds that expansion and contraction, as well as the policy decisions connected with higher education, can be explained largely in terms of the role played by human capital theory in shaping student demand for access. Thus the great promise of human capital, which was itself given credibility by a buoyant economy during the immediate post-war period, stimulated an unprecedented demand for higher education. In turn, social demand prompted the state to finance an unprecedented expansion of post-secondary education. This argument similarly holds that the failure of human capital theory during the recession-ridden seventies, with its spectre of unemployed Ph.D.'s, triggered a downturn in the demand cycle. In turn, this declining demand prompted a prolonged period of "fiscal restraint" by state agencies of support.

Within Canadian analyses of higher education two schools of thought predominate, both of which rely heavily on the causal model

sketched above. The first is reflected in the work of Dupré (1977), Leslie (1980), and Symons and Page (1984), and argues that the politics of higher education have been shaped principally by perturbations in the demand cycle induced by fluctuating economic conditions. The second is contained within the work of Lockhart (1971, 1977, 1979), Schecter (1977) and Axelrod (1982) and refines this basic argument to include a structural determinant of the failure of human capital theory and, more generally, of deteriorating economic conditions -- namely, Canada's dependent relation to U.S. capital.

Readings of the Canadian Case:

Social Demand and the Realities of Economic Growth:

In one of the more amusing and clever analyses of these issues, Stefan Dupré (1977) presents the reader with a two-part fable in which he identifies the political and social forces shaping the periods of university expansion and contraction. The principal dynamics of change in this analysis are the societal acceptance of human capital theory, consequent student demand, and changing economic conditions:

Once upon a time, there was a Great Kingdom called Ontario. After a long Depression and an almost equally lengthy War, the Great Kingdom entered an era of tremendous economic and population growth. For more than a decade, the playful inhabitants of the Kingdom not only prospered; they multiplied like rabbits.

.....

As the inhabitants of the Kingdom prospered and multiplied, Weighty Advisors warned the Premier and his Ministers that unprecedented numbers of boys and girls were about to become young men and women. It seemed that continued economic prosperity, to say nothing of the

spiritual uplifting of the Kingdom, made it very important that as many of these young men and women as possible receive something called a Post-Secondary Education. . . .

The Premier and his Ministers heeded their Weighty Advisors. They decreed that every Qualified Applicant should be able to find a place in Post-Secondary Education. They summoned the Good Doctors and told them: "Here is the key to the Treasury. Increase and multiply and fill the Kingdom." The number of Universities increased until they filled the Kingdom from Ottawa to Thunder Bay. And in all Universities, the number of Good Doctors multiplied as the number of students multiplied.

.....

It came to pass that the Great Kingdom began to experience a Period of Financial Difficulty. The Premier and his Ministers took back the key to the Treasury. Henceforth, Universities would not necessarily receive what they thought they needed. Instead, they would receive what the Government thought it could afford.

.....

Time passed and the Period of Financial Difficulty was Lengthening. There were people in Other Lands who worried too. Some of these people were called Gnomes and worked in Counting Houses in places like the Great Republic of New York. The Gnomes watched the mounting expenditures of the Kingdom and Gnashed their Teeth. This worried the Premier and his Ministers The Premier and his Ministers announced that they would try to move Towards a Balanced Budget. They hoped that this would please the Gnomes and stop the Gnashing of Teeth. But how could the Premier and his Ministers control the Expenditures of the Kingdom?

.....

Of course, there were problems with Student Organizations who wanted Free Education on Demand. There were also problems with Influential Friends who spoke of Privatization. It happens that there was a Technique for Coping with all these problems. The Technique was so well known that the subjects of the Kingdom had their own name for it. It was called Muddling Through.

Notwithstanding the subtle simplicity of the literary genre in which

the analysis is presented, Dupré's reading of the political forces at play in the post-war period sees the actions of both higher education and the state as determined in the first instance by the public's anticipation of a future of steady economic growth and the emergence of a significant social demand for post-secondary education, and, in the second instance, by the stark realities of economic hard times. There are, however, several flaws in the logic, if not the style and substance, of this argument. The first problem, one which will be addressed in detail later in this thesis, is tied to the fact that the decision to "turn over the key to the Treasury" did not occur until the mid-1960s, long after the sharp increases in social demand for higher education had occurred. Another problem with this analysis is that it pays little if any attention to the changing nature of state priorities in respect to higher education. Dupré's only allusion to state action is one which assumes a pluralistic model -- the neutral state serving as arbiter for the competing claims of the private sector, institutions, and students. Similarly, virtually no attention is paid to the manner in which higher education became commodified (assigned specific exchange values and recast within a complex of market relations). Nor is there any attention paid to the ways in which expansion and contraction recast the political relations in which higher education found itself. In this analysis economic forces and the pluralistic politics of interest groups are everything.

In much the same way, Leslie (1980:8-9) presents an extensive analysis of university financing in Canada in which he characterizes the dynamics of growth and contraction as being ultimately shaped by falling

economic conditions, the subsequent failure of human capital theory, and a consequent fall from grace in the public's perception of universities:

The cautious and indeed nervous mood of the seventies, however, was also induced by a markedly different attitude of government and the public towards the universities. . . . Many students, and large segments of the public, became disenchanted with the universities. As economic conditions wobbled, it became recognized that the vaunted contribution of higher education to economic growth and prosperity had been overblown and oversold. . . . Provincial governments became much more conscious of the problems of duplication of facilities, and took steps to limit the implementation of new academic programs. Universities' grants commissions and advisory agencies tightened up their controls on the introduction of new academic programs. Governments and their agents started to monitor more carefully the universities' expenditures of funds.

While Leslie (1980:11-13) argues that the social and public policy goals associated with higher education reflect a state agenda that includes equity of access, economic advantage, and citizenship training, he also observes that the policies and activities of the various state and quasi-state agencies operating in the field of higher education have shifted toward greater governmental control of university development and academic program planning. Yet despite these observations of a shifting state agenda, Leslie appears to operate on the assumption that the overriding causal force in these political relations is student demand as determined by economic conditions. The dynamic here is the shift from economic growth to recession, from abundance to scarcity, from high to low student demand. In this reading political pressure and political action emanate from one source: rising and falling enrolments and demographic changes in cohort size within a system whose eventual academic development, despite an increasingly ailing economy, demands greater and greater expenditures.

Once more, this "social-demand" reading fails to distinguish among phases of state action (and their implications) -- in the case of expansion, unfocused ad hoc decisions and a carefully controlled level of support within the period 1955 to 1962; a broadened and more tightly organized period of state support during 1962 to 1964; and a reoriented, highly focused and redefined state policy within the 1965 to 1968 period. Similarly, in the case of contraction, this analysis fails to differentiate among the several phases of state curtailment of higher education: the early fiscal intervention of the 1968 to 1970 period; the programmatic interventions of the 1971 to 1976 phase; and the "restructuring" exercise of 1977 to 1985. As we shall see later, in the case neither of expansion nor contraction can the predominant determinant of state action be considered to be social demand as characterized by Leslie.

In Volume III of their Report on Canadian Studies, Some Questions of Balance, Symons and Page (1984:23-30) set the context for their analysis in terms of a post-war revolution in the expectations of the Canadian people, both culturally and economically. The period 1945 to 1975, they argue, saw not only unprecedented economic growth but also a state increasingly involved in the lives of Canadians, with social programs, in particular those aimed at increasing educational participation, reflecting a great change in Canada's social history. With these changes came a shift in the public's and the state's perception of universities, as education was commodified and sold to consumers as a "ticket to the good life." University graduates were redefined as the necessary human stock for a developing industrial base and for a needed research capacity in industry.

Such attitudes, these authors argue, gave rise to increasing participation rates as enrolments skyrocketed, along with university expenditures. The era, Symons and Page observe, was one of "frenzied optimism," grounded unwisely in exaggerated claims about the economic benefits of higher education. By the late 1970s, the authors note, enrolments began to level off and demographic projections indicated a prolonged enrolment decline in the age category from which the bulk of enrolments had been traditionally drawn. This was coupled with an economic recession and the "increasing disinclination of governments to fund universities on the scale required to meet . . . rising costs." Changing fiscal priorities in the face of a prolonged recession (along with the failure of human capital and gloomy demographic projections) gave rise, these analysts (1984:6) argue, to a marked shift in the attitude of both government and the public about the efficacy of higher education.

Once again, the dynamic of change is the cluster of demographic and economic forces culminating in the failure of human capital theory. Aside from the passing comments on the commodification of education, little attention is paid to the politicization of the academy, the power relations that enveloped it in the post-war period, or the ways in which the somewhat broadened access to higher education gave rise to various forms and expressions of conflict.

The Dependency Thesis: Lockhart, Schecter and Axelrod

A more sophisticated variant of the same sort of reading is presented in the work of analysts whose approach can be described as

falling within the dependency tradition. In these readings the failure of human capital, while still offered as one of the primary causal forces in the contraction of higher education, is itself seen as being brought about by the structural realities of a dependent hinterland economy. Hence this approach not only argues that economic conditions have militated against the success of the human capital experiment, it also contends that, as long as Canada remains a hinterland, dependent, economy based largely on resource extraction, the economic benefits of higher education can never be realized. For example, Lockhart (1977 and 1979) and Schecter (1977) argue that the growth in scientific and managerial employment anticipated by educational policies based on an acceptance of human capital theory never materialized, in large measure, because of the degree of foreign ownership in Canada's warehouse economy. Basing his analysis on the proponents of the new political economy, such as Levitt and Watkins, Lockhart (1979:227,229) builds an argument in which (disclaimers notwithstanding) great stress is placed on the dependent hinterland status of Canada's economy:

... under the American-born theory of human capital, the State was to play a central and active role in creating the scientific and educational infrastructures as the primary instruments of national economic policy. In so doing the State could also claim to be promoting a new and more active form of social justice through the sponsorship of a meritocratic form of equal opportunity provision. And, like other "metropolitan" concepts of the day, the "post-industrialization" ideology and human capital theory became popular in "hinterland" nations seeking a place within a rapidly changing international economic order.

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A review of the thin evidence used to support the

"post-industrial" and human capital theories provides some useful insights as to why the 1970s have not measured up to expectations. To begin, as numerous recent documents on the Canadian economy testify, the high technology industries are to an extraordinary degree foreign-owned subsidiaries. As Levitt (1970) points out, these Trojan horse industries not only fail to transfer higher research and managerial functions to their hinterland operations but have also siphoned off the rather considerable innovations which Canada's government-sponsored laboratories have made available to them. Thus the anticipated growth in scientific and managerial employment within Canada's private sector did not materialize.

For his part, Schecter makes much the same argument. In an analysis that explores the ideology of social control within Canadian educational reform, Schecter (1977:404) argues that the "contradictions resulting from the use of education to reproduce a labour force that suits the changing needs of capital were . . . heightened in Canada by its dependent pattern of economic development." While both Lockhart and Schecter are clearly advancing arguments within the Marxian framework of hinterland-metropole relations, neither pays sufficient attention to the class dimensions of this theoretical framework. Moreover, aside from the most general suggestions that the state's role in the deployment of educational policies was less than neutral, this analysis is relatively lacking in attention to the political and class interests informing both state action and the actions of the university community. Additionally, except for passing gestures in the direction of supplementary theses on deskilling and the proletarianization of technicians and employees, Lockhart and Schecter leave the reader with the general impression that, had Canada not occupied a hinterland position, the failure of human capital theory might not have occurred.

Similarly, in the more extensive and complex analysis presented by Paul Axelrod (1982), the central argument ultimately advanced is that the conditions of Canada's dependent "continental" economy were particularly conducive to the failure of human capital and that herein lies the key to an understanding of shifting state policies on higher education. Axelrod (1982:148) argues that, while the capital-intensification of industry occurred in all Western economies, this process was exacerbated in Canada by the continental integration of Canadian and American economies. The consequent decline of Canadian manufacturing, Axelrod notes, had the effect of removing highly skilled jobs from Canada's labour force:

As American companies devoted more of their resources to producing jobs and technological innovation in their own country, the opportunities for those trained in Canada diminished. The Science Council of Canada noted that between 1969 and 1971, of the 25,000 scientists and engineers who graduated in Canada, only 2,000 obtained work in the manufacturing industries. By contrast, in the early 1960s half the graduates in these fields had been hired by manufacturing companies.

Unemployment levels were prevented from rising at a faster pace than they did, Axelrod (1982:149) contends, because the tertiary (and state) sector expanded rapidly, absorbing as it did the recent graduates of an expanded system of higher education. Fiscal retrenchment when it came in the early 1970s, was a state policy "shaped primarily by economic imperatives" (Axelrod, 1982:179), and gave rise to the politics of scarcity.

Here again, the interplay of forces, social and political, does not truly recognize that the different phases of state action within expansion and contraction represent important signals of the changing relations of state and academy. In Axelrod's reading the social, economic and political

forces are portrayed less in terms of the changed and changing place of higher education within the post-war political economy than as a kind of rational movement of purely economic and labour force parameters. While he gives a meticulous and valuable account of governmental policy decisions and the bureaucratic forces at work in the field of higher education, and while he explores with great care and sensitivity the deteriorating relations between state agencies and the academy, Axelrod does not explore the larger political and structural nature of the relations between state and academy in both the era of expansion and contraction.

Limitations of the Readings of the Canadian Case:

As suggested in the individual commentaries above, the various schools of thought on the post-war politics governing Canadian higher education suffer from three weaknesses: a confusion of chronology and a failure to identify the ways in which the state's changing economic role and altered state priorities contributed to a fundamental and evolving redefinition of the strategic societal importance of higher education (in both economic and social terms); a general absence of supporting frameworks of educational and social theory; and a failure to address adequately the political relations in which higher education has become enmeshed. In large part, these studies have explained the post-war politics of higher education in terms of the shifting economics of education and social demand without, at the same time, addressing the political dimensions of these changing circumstances. In the case of the first set of views examined above (those of Dupré, Leslie, and Symons and Page), the

activities of the state and the social and ideological placement of higher education are almost non-existent in the analysis. Seen (or simply assumed) in purely neutral terms, the policies of state agencies are presented as largely reactive ("muddling through" without a specific agenda) and cast in the pluralistic model of neutral arbiter of various interest groups. In the case of the second set of analyses, dependency theory is stripped of its class dimensions. The result is a set of theoretical frameworks largely devoid of either educational theory or a theory of state action.

Readings of the American and British Cases:

If we turn to analyses of American and British systems of higher education in the post-war period, we find a much richer array of considerations informing the arguments, some emanating from educational theory, others from the general or specific political theory utilized. Specifically, these analyses address issues of institutional autonomy, a changing balance between liberal education and professional training, the failure of state-initiated programs aimed at a more meritocratic order, the balkanization of both disciplines and the professoriate, and the growing tendency for the state to pre-empt the research agenda.

Despite the wider range of the analysis, however, even here there is a relatively scant literature on the relations between state and academy. Three major schools of thought can be identified: the social-order functionalist, the Weberian, and the Marxist. Represented by the work of Martin Trow, Edward Shils, and Daniel Patrick Moynihan, the first is a viewpoint which stresses the functional and dysfunctional tensions between

public and private systems as the critical causal factors within the post-war politics of higher education. The second major school of thought is chiefly represented by the work of Randall Collins. This analysis sets forth a Weberian interpretation of the altered politics of higher education as a crisis of credentialism and of the emergence of a state educational policy of "credential Keynesianism." The third major interpretation of this issue is best represented in the Marxian analysis of Samuel Bowles and Herbert Gintis, a perspective which views these changed relations as a logical part of a process whereby the state creates a stratified system of higher education as the final extension of a public school system designed to generate a wage-labour force suitable to the needs of capital.

What follows is a consideration of the principal arguments set forth within each perspective, as well as an argument for an alternative approach drawn from the work of several neo-Marxist state theorists.

Functional and Dysfunctional Tensions between Public and Private Criteria: Trow, Moynihan and Shils

One of the leading educational theorists of the functionalist school, Martin Trow (1975:113), advances the view that the more the state intervenes in higher education, the more important it becomes to ask what decisions are appropriate to the sphere of public authority and what decisions should remain within the colleges and universities themselves. Trow elaborates his concern in this connection by pointing to what he calls an interlocking set of dilemmas which emerge at the interface between institutions of teaching and learning and agencies of the state, dilemmas

such as the problematic effects on the curriculum and academic standards of efforts to expand accessibility, the erosion of both institutional autonomy and diversity by central planning and coordination, and the problems created as pressured state agencies attempt to equalize institutions by levelling up or down. The question of whether publicly supported colleges and universities are acting in "the public interest" becomes a dominant theme, Trow (1975:115) argues, because the sheer variety of functions of an expanded system of higher education makes the performance of these institutions a public concern. With so much public money being expended, Trow notes, the state wishes to satisfy itself that the goals of economic growth, social justice, and research "in the national interest" are being adequately pursued.

More to the point, Trow (1975:115) observes, attempts by the state to intervene soon emerge:

Almost inevitably that interest is followed by government efforts to influence what institutions of postsecondary education do. . . The autonomy of higher education is, of course, nowhere absolute, and it varies both formally and informally very greatly in different countries and among different kinds of institutions in the same country. But in almost all industrial societies there is under way a broad movement toward greater central political direction of the development of higher education, arising out of its growing cost and increased relevance for many areas of national life. In a sense, postsecondary education has become too important and too costly to be left to professors and educators alone.

Trow (1975:115) also maintains that, under these new conditions characterizing an expanded set of functions for higher education relations between higher education and the state are no longer characterized by informality, with problematic issues reconciled "through discussions and

understandings among men who speak the same language, share the same values, and are graduates of the same or very similar universities". Instead, these relations are now marked by formal and distant relations; within which the special expertise of the professoriate in dealing with the conditions necessary for the functioning of institutions of higher learning is no longer recognized by state agencies. Indeed, Trow (1975:115) asserts that, as the functions of universities and colleges expand to include more than the traditional tasks of teaching and research, the basis of institutional autonomy is eroded:

In a narrow sense it may still be assumed that professors know more about teaching and research in their subjects than anyone else (though even that assumption is increasingly questioned). But it is by no means accepted by politicians and civil servants that professorial expertise extends to such questions as who should have access to their institutions, or that academics can on their own strike the right balance between basic and applied research or provide solutions to the problems associated with continuing education or the development of new structures of postsecondary education. . . . The expansion of the functions of higher education inevitably determines and almost always narrows the realm of professorial expertise, and strengthens the role of central decision-making bodies whose responsibilities are to make the system serve the state or nation rather than the professors and their disciplines.

Even more central to Trow's thinking on this issue, however, is his belief that the critical agency of change has been the democratization of higher education and the movement toward universal access; indeed, this has been Trow's central thesis throughout his many analyses of higher education in the post-war period (Trow, 1970,1974,1975,1982). Hence he maintains that where alternative structures have been set up to ensure greater access (in the non-elite and non-university sector of higher education), the

interventionist role of the state is most pronounced. Similarly, he notes that the increasing post-secondary participation rates have the result of producing both a highly educated populace and a populace whose members are therefore more inclined to feel that they have a right to play a part in decisions about post-secondary education, all of which provides the political power base for greater state intervention. It is in this connection, Trow (1975:115) argues, that contrasting the United States with Europe is particularly revealing: the low participation rates in Europe, he observes, have the result of leaving the academy relatively isolated from public opinion, a situation that contrasts sharply with the reality of American higher education.

Accepting this central line of argument in Trow's general analysis poses many difficulties, not the least of which is that, while European participation rates have indeed lagged behind those in the United States, it surely is not the case that state intervention in all its forms has been absent or even less marked than is the case in the United States. Indeed, the opposite is more often true (Shils, 1982). One has only to consider the case of the United Kingdom where, in 1982, state intervention assumed its most direct and explicit form, with savage cuts wiping out thousands of student places and seriously diminishing whole academic programs. Somewhat closer to home, it is in British Columbia, the resource-rich Canadian province showing one of the lowest participation rates, that state intervention in higher education has been most pronounced, with a university and a community college closed, the two major universities forced to accept sharply reduced grants, tenured faculty dismissed on the grounds

of financial stringency, and tuition fees increased by thirty-three per cent in 1984 and another 10 per cent in 1985. In neither case can one hope to explain these actions in terms of a demand for greater accountability from those burdened with concerns about accessibility, social justice, and the spiralling costs of mass higher education. The dynamics of state intervention are simply not adequately explained by Trow's understanding of the forces which shape state policies.

What is most notably missing from Trow's conclusions about why the state now looms so ominously on the horizon of higher education is the deployment of policies of higher education by the state to serve economic, political and, quite often, military ends. As Daniel P. Moynihan (1975:130) observes of the history of the American federal state's role in higher education,

War is the spur to peacetime pursuits, especially in the field of education. The land grant colleges (and the National Academy of Science) emerged from the Civil War; vocational education assistance, until 1965 the only federal program of any size for elementary and secondary schools, came from World War I; the G.I. Bill from World War II; and then came the Cold War. On October 4, 1957, the Russians announced that they had put a space satellite into orbit. The American people were staggered. . . . In January 1958, the President sent to Congress a program providing one billion dollars over four years to improve the teaching of mathematics, science, and languages; to encourage more able students to study them; and to assist the needy ones through scholarships and fellowships. With the scholarships deleted and a loyalty oath added, this became the National Defense Education Act of 1958, the third . . . great enactment by the federal government affecting higher education.

Indeed, Moynihan (1975:133) contends that, with the National Defense Education Act, the federal government effectively took control of

graduate and undergraduate education in the United States. Educational bureaucrats, he notes, were given the assignment of establishing an entirely new system of graduate education and, of the federal monies authorized under the Act, more than half went to higher education, an endowment every penny of which came with specific conditions, for specific purposes, and demanding specific accountability.

What Moynihan's detailed analysis of the post-war politics of higher education reveals are relations between state and academy transformed utterly by the heightened significance of science and technology, both economically and militarily. And yet even this analysis adopts the central thesis that the more problematic aspects of these new relations derive from the fact that higher education "has become a public utility with private standards" (Moynihan, 1975:140). Natural tensions are thus seen to arise between what Moynihan asserts are egalitarian democratic political institutions, on the one hand, and selective and elitist educational institutions, on the other. According to this view, such tensions do not arise as a result of the changing uses to which higher education is increasingly put by the state, uses which increasingly lie at the heart of the state's "productive" activities and responsibilities toward a market economy.

What is more unsettling about this omission, however, is that the tension between private and public (or elitist and egalitarian) criteria of decision-making hardly explains the very transformative force identified by Moynihan at the outset of his analysis -- the mobilization of science and technology as instruments of war (hot or cold) and as the means for

addressing the "national interests" of the most advanced market economy in the West. Indeed, Moynihan's own argument sketches a history of American higher education in which the state's increasing tendency is to steer higher education in directions characterized less by their orientation toward egalitarian and democratic values than by their connections with economic and military state strategies. What Moynihan and others like him, who focus on the links between state policies on education and state military and economic agendas, make clear is that the dynamic of post-war state policies on education cannot be understood solely, or even fundamentally, as the attempt to reshape elitist institutions into egalitarian mass institutions, for it belies the historical record and the concerns expressed by many members of the academic community.

The Trow-Moynihan causal model is also implied in the analysis put forward by Edward Shils in his 1982 article, "Great Britain and the United States: Legislators, Bureaucrats and the Universities." This analysis forms part of a collection of papers aimed, in part, at presenting case studies in political conflict and the formation of public policy on higher education, studies which focus on the various challenges to university autonomy that have emerged in the post-war period. Among these Shils and his co-editor, Hans Daalder, (1982:viii) list mass education, new forms of planning and financial accounting, state-initiated curricular reforms, state-regulated admission policies, new science policies, and the increased role of the judiciary in university governance.

In his reading of the expanded activities of the state in the field of post-secondary education, Shils (1982: 483) argues that the post-war

incursion of state agencies into the affairs of universities and colleges was predicated on the belief, in both state and academic circles, that the universities could "serve as the instruments of the social ideals of efficiency, of justice and of the pre-eminence of governments over all other institutions." In this connection Shils (1982:479) observes:

The expansion of the activities of governments is characteristic of all Western countries. It is a result of heightened sensibility to "social problems" and of a belief in their solubility by rational, scientifically founded changes in the structure of society. The changes, according to this view, are to be brought about by governmental action. The idea of an omniscient and omnipotent government has been propagated for many decades by academic social scientists in European countries and in the United States.

This belief in an omniscient interventionist state, Shils (1982:483) argues, has resulted in the universities being increasingly hedged about by "demands for conformity with ideals and desires that are alien to the nature of universities and can do them great harm." Shils's reading, then, -- of a suffocating embrace of state support of universities -- relies on the premise that there has clearly been a forced yoking of incompatible systems, one that threatens to violate the integrity of the scholarly pursuits of the academy in a variety of ways, not the least of which is the autonomy of the scholarly endeavour itself.

As in the case of both Trow and Moynihan, while much of what Shils points out is indeed true, the premise upon which his argument is based is inadequate to explain the changed relations between state and academy. Although Shils is the one who come closest to documenting the systematic effects of the incursion of state political interests, he does not

go nearly far enough in characterizing the nature of the incompatibility between political and scholarly interests. For, even in his argument, with its inclusion of the political forces of "efficiency and the pre-eminence of governments over all other institutions," the larger part of Shils's view of the incompatibility derives from state demands for a levelling to a more egalitarian order -- through affirmative action programs or in affirmative action riders placed on contractual arrangements. Only briefly presented as a source of incompatibility is the nature of the state-imposed research agenda or the intrusion of such legislative investigations as the Committee on Un-American Activities or the Senate Sub-Committee on Internal Security of the Senate Committee on Governmental Organization. Moreover, it is interesting that, despite his view (1982:467) that the relations between the American federal state and the universities have evolved into a distinctly contractual one, Shils fails to go on to analyze what the systematic politicizing effects of this contractual relation have been.

A Crisis of Credential Inflation: Collins

Yet another interpretation of the new relations between higher education and the state is put forward by Randall Collins. Collins (1979) argues that increased intervention by state agencies in the affairs of higher education has emerged as a direct result of a credential crisis and, in the United States at least, this intervention is characterized by what Collins (1979:182) refers to as the politics of a sinecure society.

In this reading the state is conceptualized in Weberian terms, as the organization through which particular groups attempt to achieve their

interests. State action vis-à-vis education reflects a political process in which competing elites seek to steer political compromises in the direction of their material and ideal interests. The problematic features of state intervention in the field of higher education are not, therefore, seen as deriving from system strains, as in the Trow-Moynihan thesis concerning the conflicting value systems of private versus public institutions. Instead, Collins (1979:66-69) characterizes the increased role of the state in education as a direct reflection of the intensified competition that has ensued from a prolonged period in which increased investment in cultural goods was encouraged by the state as a means of stimulating material production, an investment that ultimately generated an inflationary spiral within the cultural market. The greater presence of the state in higher education since the early 1970s (as an instrument and expression of dominant class interests) is, to Collins (1979:69), part of an overarching process of elite closure mitigated only by the critical need to shore up economies of excess productivity and surplus labour by utilizing education as a counterbalancing force.

Collins sets forth a lengthy and detailed argument in support of his central thesis, an argument which begins with the distinction he draws between productive labour (which contributes to the material production of wealth) and political labour (which sets the conditions for the appropriation of wealth). This distinction is, to Collins, crucial to an understanding of how a society is stratified into two major social classes, the working class engaging in productive labour, the dominant class in political labour. Collins (1979:54) notes that, as technology and organizational techniques

increasingly make possible a "leisure society" in which a comfortable standard of living is theoretically possible for all with relatively little effort, so grows the individual and collective necessity for securing and protecting individual and status-group "property in position," since employment represents the only means of sharing in the distribution of wealth. The crucial role of position in class relations is what Collins (1979:55) identifies as the driving force behind the development of the sinecure society and the tremendous expansion of political labour. Faced with the prospect of a hypothetical high-leisure technocracy in which the appropriation of the wealth would be in the hands of the few who possess positional property, Collins (1979:55) writes,

... we have the enormous structure of government employment (including education), the union sector protected by elaborate work regulations, and the huge work forces of our corporate oligopolies keeping themselves busy seeking new products to justify their jobs. In effect, leisure has been incorporated into the job itself. Advanced technology, far from demanding hard work and long training from everyone, has made occupational demands more and more superficial and arbitrary.

.....

The very productivity of our technology has created the now widely recognized "Keynesian" problem of keeping up consumer demand and thus fending off economic depression. The massive expansion of government employment is one way in which this has come about. The support given by government to the tertiary sector by dispensing an increasing number of licenses for franchises and professional monopolies is another. Private sinecures also exist within the biggest manufacturing corporations, with their extensive educational requirements and staff divisions, their leisure prerequisites in the form of sales conventions and motivational and retraining programs. Much of the control apparatus of big organizations, even if it is established in the name of productive efficiency, increases the nonproductive sinecure component. Elaborate planning

and cost-accounting divisions add their own expense to the organization and transfer wealth to their own members. In all these areas, the struggle for control, both from above and from below, elaborates the political sector of organizations at every step.

The importance of higher education to this shaping and re-shaping of positional property by individuals and groups lies in the fact that, for Collins (1979:57), the major weapon in organizational politics is the capacity to form alliances and to impress others with a definition of reality, both of which are the effects of culture. Indeed, Collins (1979:58) maintains that one very important aspect of the rising importance of political labour is the existence of two markets instead of one -- the market for economic goods and the market for culture. And, within as advanced industrial society stratification is given shape, at its most material level, by cultural exchange.

Cultural exchanges are the empirical means by which all organized forms of stratification are enacted and by which the class struggle over work and material goods is carried out. Culture produces both horizontal and vertical relations.

The formal production of culture (i.e., that produced in schools) develops a currency-like system of cultural "money" when the institutions producing culture adopt formal units of measurement (e.g., grades and certificates). As "money" these units are subject to their own high-level economy. Hence the more formalized the cultural production, Collins (1979:62) argues, the more it resembles a currency subject to inflation with the increase in monetary supply. As for the logic underlying currency production, Collins (1979:62-65) cites several causal factors: a society's material wealth (and the amount redirected into cultural production), the presence of certain

appropriate technologies of communication (and their continued invention) and, most importantly, a high degree of competition among cultural producers and among cultural consumers. Collins (1979:63-64) asserts that the last of these is the result of relatively weak and decentralized states. Thus, he notes, the greatest proliferation of cultural production has historically occurred in situations where economically prosperous societies were politically fragmented or decentralized, especially where this is also accompanied by an economically mobilized multi-ethnic population.

The relations between state and academy constitute for Collins a very important index of class struggle over material production since, in his view (1979:74-75), society's stratification is "determined by the intersection of the material production process and the cultural economy, especially to the extent that culture is produced by specialized organizations, independently of everyday transactions that make up social life". Indeed, the political economy of culture is so central to the analysis Collins presents in The Credential Society that a closer examination of the guiding thread of this argument (presented more fully in an earlier paper on a comparative study of educational stratification) is appropriate.

In rejecting both social-order functionalist and neo-Marxist interpretations of the relations between state and education, Collins (1977a) clearly sets forth a Weberian interpretation of this relation. The basic position he sketches can be summed up in the following points: first, that demand for education and its consumption must be viewed in terms of a cultural economy in which status groups compete for material goods, political power, and prestige; and, second, that this cultural economy is

subject to inflationary cycles.

On the first point, Collins argues that historically the two most important demands within the cultural economy have been education for status-group membership and education for bureaucratic control. In the case of the former, Collins (1977a:9) maintains, the education has been characterized by ceremonies and rituals dramatizing the unity of the educational group and its status vis-à-vis outsiders. Typically, such education is also explicitly impractical, based on cultural ideals, and less likely to stress competitive exams and a highly structured credential attainment. By contrast with education for status-group membership, education for bureaucratic control is highly structured with grades, rank, degrees, and diplomas serve as a critical means of discipline and hierarchical control.

As for the state's role in this cultural market, Collins (1977a:20) argues that whereas a strong centralized state tends to be bureaucratically organized with bureaucratic controls emphasized, such a state also provides a particular demand for education. Education here serves to control officials, as well as mute the potential for mass political mobilization. Further demand may ensue from any meshing of the interests of the state in exercising bureaucratic control and the interests of certain status groups in improving their status (especially in situations of pronounced ethnic competition).

On the question of how this cultural market is subject to inflationary cycles, Collins (1977a:25) argues that an inflationary cycle will result from any period of pronounced demand for cultural investment,

particularly in contest-mobility systems where competing demands for cultural goods (and thereby positional property) is extreme. Collins (1977a:27) adds that this inflationary spiral has been growing in the United States since the middle of the nineteenth century and reached its peak in the 1970s. Spawned by a state-engineered demand for cultural investment, this inflationary spiral rebounds to undermine the stratification system as a whole:

An inflationary system, even if it merely expands the supply of currency while leaving the rest of the stratification system in a state of dynamic equilibrium nevertheless affects cultural consciousness by mobilizing increasing proportions of the population in struggles for control of the stratification system. Such mobilization can become politically dangerous to an authoritarian state, which may react by cutting down the educational system . . . Or disillusionment may set in among the purchasers of cultural credentials . . . Finally, the currency itself can break down. The prestige of a particular elite culture and that culture's accompanying political and organizational domination may give way to independent currencies.

Collins cites China of the 1960s as illustrative of the authoritarian state shutting down the educational system, and the sharp drop in participation rates (particularly male rates) in the late 1970s as illustrative of the disillusionment of purchasers. As for the debasement of the cultural currency, Collins points to the late 1970s attack on Anglo-Protestant cultural domination in the United States and American efforts toward a new cultural pluralism

More important than these observations on how these market forces operate, however, is the underlying interpretation of political relations between state and cultural market. As one (and, to Collins, the most important) part of the cultural market, modern education is seen as a

critical instrument used by status groups in their struggle for practical economical skills, cultural integration, and prestige and, most importantly, positional property. Conceived of as an institutionalized constellation of fluctuating dominant interests, the state intervenes in education in ways that are largely reflective of the overarching struggle among status groups for political and economic advantage and domination. The predominance of a sinecure system of political labour results in what Collins (1979:196) calls a state education policy of "credential Keynesianism," a policy that is enforced by employment policy but which has as a side effect an inflationary factor. In this way, education creates an artificial currency that is economically useful, not as a means of increasing productivity, but simply as a means of offsetting the deficiencies of aggregate demand.

This approach to understanding the changes in higher education over the period of the 1970s presents three basic problems. First, this analysis tends to rely on a very underdeveloped conception of the state and ignores the very important insights of state theorists on the dynamics and the effects of a post-war growth in the "statization" of social institutions, including education. Second, the stress on the highly specific constellation of socio-cultural conditions that give rise to greater or lesser degrees of credential inflation would seem to fly in the face of one of the principal findings of comparative studies on educational rates of return: that there appear to be no significant differences among advanced Western societies in the post-war private educational rates of return. Thus the argument that politically decentralized contest-mobility systems where economically mobilized and multi-ethnic populations compete within a cultural market to

generate high rates of credential inflation implies that one should find sharp and significant differences between, for example, U.S. rates of return and those recorded for Britain (to use Collins's own contrasting examples). As Stager (1981:114-116) reports in his review of the international findings on the economic determinants of university attendance, this is simply not the case.

In this same connection Collins also asserts that, ceteris paribus, the state intervenes to curb the inflationary credential spiral to the degree allowed by existing labour force conditions. This suggests that in Britain, with its high unemployment rates (and, according to Collins lower rate of credential inflation), the state should have intervened less than its counterpart in ~~the~~ United States where the inflationary conditions are described by Collins as being particularly pronounced but where unemployment rates are still relatively low (thereby facilitating state intervention). This pattern has, in fact been reversed, as the 1982 actions of the University Grants Commission in Britain have amply demonstrated.

Third and finally, this Weberian interpretation of the links between economic and cultural markets seriously underplays several aspects of the economics of post-war higher education. These include the very real links between knowledge-production and a workplace where technology transfer is increasingly significant (both in its degree and its material effects), the very salient role of specific types of university-based research programs in this technology transfer, and what intellectual historians have referred to as the growing incorporation of intellectuals into both the corporation and the state.

The result is that Collins tends to overplay the process of elite closure via the instructional and accrediting activities of the universities and colleges, and pays too little attention to the massive post-war reorganization of the research enterprise. In overplaying this one theme, Collins leaves out of both his focus and his explanation a variety of highly significant politicizing forces that have been brought to bear on higher education in the post-war period.

The Incorporation of White-Collar Workers into the Wage-Labour System and the Displacement of Class Conflict from the Production Site: Bowles and Gintis

Aside from Althusser's 1972 critique of education as one of several examples of state ideological apparatuses serving the perpetuation of capitalist hegemony, few Marxist critiques of higher education of the seventies explicitly examine the nexus of academy and state. The Marxist critiques launched during this period focus on the more general question of equality and, consequently, as Karabel and Halsey (1977:33) note, they focus on the interplay of family, work, and school, without very much explicit reference to the increasing role of the state in this interplay of forces.

Perhaps the most elaborate Marxist critique of education is set forth by Samuel Bowles and Herbert Gintis (1976) in Schooling in Capitalist America. Arguing a correspondence between the social relations of capitalist production (with its hierarchical division of labour) and the structure of the American education system, they offer an analysis which posits the state-supported educational system as an increasingly significant element in the reproduction of the inegalitarian and exploitative relations of

production necessary to capitalism.

Bowles and Gintis advance an argument that makes two general points in respect to changing relations between the state and higher education. First, they identify the expanded bureaucracy of the state, as well as the bureaucratically expansive monopoly corporations, as a critical causal force behind the post-war reorganization of the occupational structure. This reorganization, they observe, sees the self-employed traditional petty bourgeoisie become increasingly marginalized in favour of a new middle class of schooled, technical, lower-supervisory, and white-collar service workers necessary to the expanded bureaucracies of both state and corporation. This reorganization of the labour force also generates a demand for the appropriate modes of schooling for such white-collar labour, a demand that, Bowles and Gintis argue, gives rise to the further stratification of higher education in the attempt to create a larger labour force of mental workers.

Second, and more specifically, this critique argues that the need to integrate white-collar workers into the wage labour system has given rise to a state-orchestrated stratification of post-secondary education.

Consequently within this expanded system, the class conflict normally operative in the workplace becomes submerged within the arena of education. Bowles and Gintis contend that, because the ideology of economic success is predicated on intellectual achievement, expanded systems of schooling effectively displace these workers' claims from the workplace into the intellectual proving ground of education. "I.Q.-ism," Bowles and Gintis (1977:229) assert, places educational institutions in a

pivotal position within class conflict -- in its support of the technical necessity for an hierarchical division of labour and its espousal of the ideology of intelligence as the prime determinant of economic success, the school emerges as the sorting mechanism for that hierarchy, "cooling out" individuals at different levels and painlessly bringing the student's aspirations (and class claims) into line with his/her probable occupational destination.

In regard to higher education in the post-war period, Bowles and Gintis (1976:204-212) observe that the character and the shape of the expansion argues for a view of post-secondary education as one more logical step in the development of a "capitalist" public school system whose products are tailored to the needs of capital, both in terms of the technical relations of production and the social relations of dominance/subordination that must obtain within such a process of production. More specifically, they note, the massive post-war expansion of the college sector of post-secondary education must be seen as part of a larger process whereby white-collar labour has been integrated into a wage-labour system. The compartmentalization of white-collar "intellectual" skills and the Fordist fragmentation of these skills, they argue, parallels the earlier process whereby capital secured control over the blue-collar labour process. The incorporation of these mental workers into the ranks of wage labour, they note, is also facilitated by the overproduction of educated workers. The creation of a reserve army of unemployed or underemployed white-collar labour acts as an effective disciplinary control over a set of workers who have traditionally enjoyed greater autonomy in their conditions of work

than most other workers. Lower-level, but credentialed, workers are "educationally" prepared for their subordinate positions through a subtle (and sometimes not so subtle) system of class tracking. In an expanded system of higher education two-year community colleges are utilized as the dumping ground for those rejected by the universities, and the lesser state universities become the repositories for those rejected by leading universities and so on. The result is that, measures of merit and consequent admissions being what they are, a strong correlation emerges among socio-economic origin, placement within this stratified system, and ultimate occupational destination.

Bowles and Gintis (1976:233) assert that the system of education as a whole and, more recently, higher education in particular have been shaped by their role within the resolution of the contradictions generated by a capitalist society. As they note, "the expansion of mass education . . . has been a central element in resolving -- at least temporarily -- the contradictions between accumulation and reproduction." The inherent contradictions formerly expressed in militant class struggles have been attenuated by their displacement from the production site to other social institutions such as education. Thus Bowles and Gintis (1976:233) write:

It is . . . hardly accidental that many of the manifestations of the contradictions in the U.S. economy have appeared in the state sector, and particularly in the educational system. . . . The intervention of the state in the income-distribution process -- through welfare assistance, social security, unemployment insurance, and progressive taxation, for example -- has probably helped to forestall the outbreak of open class conflict in the economic sphere. Yet the problems to which they are addressed are not solved. Rather, we observe a welfare crisis, or a conflict over taxes; or a struggle within the school system over

resource transfers. Increasingly, the classroom and the admissions office, as well as the factory floor and the office, are arenas in which basic social conflicts are fought out. . . . The displacement of social problems into the state sector plays a central role in the reproduction of the capitalist order. The form in which a social problem manifests itself and the arena in which the resulting conflicts are fought are matters of no small importance. Conflicts within the state sector, even if bitter and enduring, appear to be much less threatening to capital and less disruptive to profits than those which take place on the shop floor or in the office. The class nature of social problems is often obscured when the manifestations of the underlying contradictions are displaced into the state sector.

The politicization of higher education is, they contend, the result of the education's heightened significance within class conflict.

Yet despite their emphasis on an expanded public system of higher education as increasingly and more explicitly defined by its role in the reproduction of class-divided societies, and despite the inclusion of the state sector in their analysis, Bowles and Gintis offer an interpretation that contains little or no analysis of the class character of the state or of the degree and type of involvement by state agencies in exerting what is defined as the will of capital. Nor does this analysis allow for the possibility that as a set of influential agencies in the "industrialization" of higher education, these state agencies might not serve in a simple instrumental relation to either capital as a whole or to particular fractions of capital.

More importantly, this analysis suffers from what Karabel and Halsey (1977:42) call a kind of "hyper-functionalism" that sees whatever educational system exists as a natural and essentially unavoidable reflection of the particular class structures in which it is embedded." This aspect of

their argument derives, at least in part, from a somewhat naive structuralist approach. One is left to grapple with the monolithic force of capital and the structural responses of compliant educational institutions. While various agencies and a sophisticated analysis of complex and competing forces are presented in the authors' analysis of the nineteenth-century reform movement, the post-war creation of a vastly expanded and radically altered public system of higher education is left both unpeopled and underdrawn. But it is not simply (or even most importantly) the lack of dramatic personae that renders this argument ultimately unsatisfying; it is the lack of ambiguity and complexity in the forces that are portrayed as causal. In eschewing technical functionalism, Bowles and Gintis argue forcefully for an interpretation of higher education that takes into account the political economy of modern education. Unfortunately, the very political economy they argue for has an underdeveloped conception of one of the most powerful political forces in the development of higher education in modern society -- the state. Education as an arena of political and economic struggle cannot be seen, especially in the post-war period, as unaffected in its dynamics by the growing, and not always benign, presence of the state. At least part of the deterministic aspect of the analysis offered by Bowles and Gintis derives from the almost total lack of a clear interpretation of the nature of state action as an explanatory force in their argument.

Limitations of the American and British Readings:

These readings of the politics of higher education are largely unsatisfying on the question of why and how the presence of the state in

the field of higher education has both expanded and changed in character. There is almost a total lack of conceptualization of the state or the dynamics of state action. The school of thought that argues that the political relations between state and academy are principally shaped by the tensions of a forced yoking of incompatible value systems both misrepresents the posture of state agencies within this relation and mistakenly locates the dynamics of change within evolving forces of democratization rather than the more prosaic realities of political economy.

Similarly, we are left unhappy with the analysis which asserts variations in credentialism not borne out by international studies on rates of return and which almost totally ignores the state's increasingly influential presence in the research sector. As for the Marxist argument that the expansion of higher education must be viewed in terms of the logical extension of the wage-labour system, it may be a reasonable interpretation of the way in which the academy itself expanded, but it says very little about the state presence that has increasingly enveloped higher education and research.

Intimations of a More Fully Developed Theoretical Framework for the Politics of Higher Education in the Post-War Period

It is in the work of several neo-Marxist state theorists that we can glimpse intimations of a more adequate theoretical framework for an understanding of the complex and changing circumstances of higher education in the post-war period. For, it is in the analyses of these theorists, most notably Hirsch (1977), Offe (1978), Poulantzas (1978), and

Wolfe (1977), that we find the much-needed insights on the aspects of the politics of higher education so noticeably missing from the work of the educational theorists just reviewed. Here can be found a framework that goes beyond the dependency perspective of most Canadian analyses to explore the pivotal place of state priorities in Canadian higher education. In this work can also be found an approach that takes the reader beyond the analyses of Trow, Moynihan and Shils to provide a better understanding of the deployment of policies of higher education by the state to serve economic, political, and military ends. Here can also be found the theoretical perspective that takes us beyond Collins's politics of occupational licensing to include the research sector, in particular in its connections with the scientization of industry and the statization of science. Finally, in this work we can discern the means of moving beyond the deterministic structuralism of Bowles and Gintis to secure a better understanding of the complex character of state interests which operate within the educational arena of political and economic struggle. It is to this literature that we now turn.

1. See the data on provincial and national participation rates presented for the period 1974-75 to 1978-79 outlined by The Committee on the Future Role of Universities in Ontario (1981a:Table 3.2) and those presented for the period 1979-80 to 1983-84 by Statistics Canada (1985:107-117, Table 24). These data reveal that British Columbia has consistently had one of the lowest participation rates, ranking seventh throughout the mid-to-late seventies, only to slide to ninth place by 1983-84.

2. For a brief general overview of state intervention in British Columbia, see Michelle Morissette (1985:7).

CHAPTER TWO

AN ALTERNATIVE THEORETICAL FRAMEWORK: MATERIALIST INTERPRETATIONS OF THE STATE AND STATE ACTION

In the previous chapter the argument was made that current analyses of the politics of higher education suffer from a lack of attention being paid to the pivotal role played by the state in the post-war period. To use an alternative materialist theoretical framework as a means of exploring the nexus of state power and class power into which higher education was thrust during this period, it is first necessary to outline some of the principal theories of state action within this tradition. What follows, therefore, is a review of several key contributors to contemporary Marxist scholarship that will make possible the construction of a more adequate theoretical framework within which to examine the post-war circumstances of the academy.

Within contemporary Marxist scholarship state theory occupies a central and increasingly significant place. In this connection, Carroy (1984:9) observes that the more recent literature has moved Marxist class theory toward the view that the state, and not production per se, is increasingly the focus of class struggle. The result, he adds, is a much more complex reformulation of the state and state action, and a revised strategy for the transition to socialism. Jessop (1977:369-370) argues much the same point when he notes that recent Marxist theorists have focused attention on the state's role within production and its complex economic, political and ideological preconditions. The effect of such theoretical work,

Jessop (1977:369-370) contends, is to "reinstate and elaborate the idea that the state is a system of political domination."

Despite their new directions and varying emphases, all Marxist state theorists root their conceptions of the state in varying sets of first principles derived from Marx's various political and economic analyses. As has been pointed out often by scholars (Jessop:1), Marx did not set out a single, coherent theory of the state. Instead, these basic principles are gleaned from observations and insights scattered throughout Marx's work, most notably in his Contributions to the Critique of Hegel's Philosophy of Law, The Eighteenth Brumaire of Louis Bonaparte, The Civil War in France, and, of course, The Manifesto of the Communist Party.

Classical Marxist Starting Points: Jessop and Carnoy

From these classical Marxist texts, both Carnoy (1984:46-50) and Jessop (1982:9-24) argue, emerge four "first principles." The first and most fundamental principle is that the material conditions of a society operate as the basis of social structure and of human consciousness, so that the form of the state must be seen as emergent from the relations of production, not, as the Hegelians would have it, from the general development of the human mind or from the collectivity of men's wills. Thus, as Jessop (1982:9-10) notes, in The German Ideology, Marx and Engels argue that the state emerges with the social division of labour and takes on a form whereby the ruling class can assert its common interests within the struggle of antagonistic classes. In the Preface to a Contribution to the Critique of Political Economy, Jessop adds, Marx asserts that the relations of

production constitute the true foundation on which is erected a legal and political superstructure and to which correspond definite forms of social consciousness.

The second principle follows from the first; namely, that, as a phenomenon emergent from the relations of production, the state in a class-divided society cannot and does not represent the "common good" but is rather the political expression of the class relations that obtain. For his part, Jessop (1982:12-13) notes that, while in its most simplistic and reductionist formulation, this principle "merely involves the claim that the state is not an independent and sovereign political subject but as an instrument of coercion and administration which can be used for various purposes by whatever interests manage to appropriate it," this thematic touchstone as elaborated by Marx and Engels addresses more than this tendential reflection of economic class conflict to include the various and complex ways in which the modern state serves as an instrument for the exploitation of wage-labour by capital and for political class domination.

A third Marxian principle identified by Carnoy is that the state in bourgeois society serves as the coercive and repressive power of the bourgeoisie, the "organized power of one class for oppressing another." On this same point Jessop (1982:17-18) notes that, in both The German Ideology and The Eighteenth Brumaire, the argument is advanced that the state emerges as a socially necessary institution (given the mutual interdependence of individuals within a society characterized by a complex division of labour). Jessop adds, however, that this functional requirement is, in Marx's own analyses, described as secondary to the state's class

function, for, it is only in the most exceptional circumstances that the state possesses sufficient autonomy from the ruling class to allow it such independent action.

The fourth and final principle is that the state is not a thing; it is an institutional ensemble. Jessop (1982:20-24) observes that in The Eighteenth Brumaire Marx alludes to the French state as "this executive power, with its enormous bureaucratic and military organization," while in The Civil War in France he characterized the French state as "the centralised state power with its ubiquitous organs of state, army, police, bureaucracy, clergy, and judiciary." This theme, Jessop notes, contains the theoretical pitfalls of reification and essentialism, since a reading of Marx to mean only a narrow institutional definition tends to treat the state as both a "thing" and a unitary subject, a conception that implies both isolation and autonomy. Such a treatment is to Jessop a crude reduction of the complexity of Marx's theoretical insight.

The main elements of these two readings of Marxist first principles are thus the state in its four aspects: its material origins, its coercive and repressive character, its relative autonomy, and its character as an institutional ensemble. There is, however, a second tradition within Marxist thought that has informed the work of contemporary Marxist state theorists, especially its political emphasis. It is also, more significantly for this thesis, a tradition that has informed many analyses of education in the liberal-democratic state. This second tradition is the Gramscian, with its conception of the pivotal role played by the state in the reproduction of capitalist relations of production via the construction of the legitimating

consensus necessary to capitalist accumulation and development. From this tradition neo-Marxists have drawn their principle of an enlarged and more politically complex role for the state (beyond that sketched within classical Marxist texts). Within the Gramscian paradigm, the state's repressive role and its class character are not primarily coercive but hegemonic. Hence the state's construction of an ethical-political consensus (including, of course, obstacles to the development of working-class consciousness) obviates the necessity for the regular exercise of public force. As Carnoy (1984:76) observes of the Gramscian theoretical position,

Bourgeois development is not only carried through the development of the forces of production but through hegemony in the arena of consciousness. The State is involved in this extension, not only in the coercive enforcement of bourgeois economic power. Without power (control) in the arena of struggle over consciousness, Gramsci argues, the bourgeoisie will try to fall back on the coercive power of the State as its primary instrument of domination. Otherwise, coercive forces remain in the background, acting as a system of enforcement and threat but not overt coercion.

In reality, the State must be conceived of as an "educator," in that it tends precisely to create a new type or level of civilization. Because one is acting essentially on economic forces, reorganizing and developing the apparatus of economic production, creating a new structure, the conclusion must not be drawn that superstructural factors should be left to themselves, to develop spontaneously to a haphazard and sporadic germination. The State in this field, too, is an instrument of "rationalization," of acceleration and Taylorization. It operates according to plan, urges, solicits, and "punishes" -- for, once the conditions are created in which a certain way of life is "possible," then "criminal action or omission" must have a punitive sanction, with moral implications and not merely be judged generally as "dangerous." The law is the repressive and negative aspect of the entire positive, civilizing activity undertaken by the State.

In his analysis Gramsci provides a more powerful and more fully

realized conceptualization of hegemony than is contained in the classical Marxist texts, and with this conceptualization he is able to address the vexatious problems that had beset earlier Marxist notions of the state. One of these arises from the fact that neither the repressive power of the state, nor the logic of production adequately explains the consent that exploitative capitalist relations of production enjoy among the working class. A second is that Marxist analysis of the state at the economic level alone does not begin to address the complex character of the state's class nature (without falling into an economic reductionist line of argument), just as it does not fully account for the state's role in facilitating concessions to subordinate classes. Nor does such analysis adequately account for the state's fashioning of "national" goals (which serve the long-term interests of capital over labour) or, indeed, the full array of conditions under which the reproduction of capitalist relations of production become threatened.

Additionally, and perhaps more importantly, Gramsci shifts Marxist state theory away from the economic level, with its focus on control of the forces of production, toward the level of social formation where it becomes possible (and necessary) to conceive of the state in its connection with political domination and the social relations of capitalist production.

The classical Marxist and the Gramscian, then, are two of the main intellectual traditions that form the basis of neo-Marxist theories of the state. What these theorists have fashioned from this intellectual tradition is a set of theoretical perspectives within which to explore a modern Western state of vast power and activity, in societies where the distribution of power is, more than ever before, shaped by the presence of a modern

state of unprecedented size and character.

Neo-Marxist Theories of the State: Three Critical Moments in the Debate on the Nature of the Modern State

Basing her approach on the theoretical work of Jessop (1982),

Theda Skocpol (1985:308) has recently observed that

... neo-Marxists present a complex picture [of the Western state] by linking the development of Western welfare states both to the "needs of capital" for state support of the accumulation process and to the struggle of organized working classes for "social wages" above and beyond their economic wages. Neo-Marxist theories disagree about the mechanisms that determine the political and policy processes of capitalist states. Still, they share the basic perception that the welfare state serves crucial "functions" for capitalism and simultaneously generates new problems for it.

Following Skocpol, we may indeed argue that, in very broad general terms, competing neo-Marxist theories of the state can either be categorized as fundamentally class-theoretical or as capital-theoretical. That is, the theoretical approach either gives primacy to class relations as the determining force behind the nature and activities of the state or to the logic and laws of capital accumulation and the preconditions for the capital relation. This is not to say, however, that, in either case, the primacy of one is asserted to the exclusion of the other, rather that one and not the other tends to operate as the fulcrum of the argument.

While class-theoretical and capital-theoretical approaches can be said to form the umbrella for the development of a materialist theory of the modern state, it is, however, possible to discern within the dynamic interplay of these two theoretical positions the emergence of three critical

moments of Marxist scholarship that bear particularly on the subject of this thesis. The first is the emergence of Structuralism, which rejected post-war humanist-Marxism and stressed the objective relations which obtain within the political, ideological, and economic matrix that encompasses the relation between the state and civil society (including social institutions such as education). The second moment is represented in the German debate on the derivation of state form and function, which draws attention to the degree to which the political sphere has been "civilized" and the modern state drawn into the heart of production through its role in the valorization of capital and the reproduction of labour power (the latter of which is a sphere of activity that increasingly relies on higher education and research). The third moment within the debate on Marxist state theory is the neo-Gramscian elaboration of the state and ideology which argues for a more extensive analysis of the knowledge-power relation, one that takes into account the state's enhanced role in the generation of new knowledge and the use to which that knowledge is put. Each of these reformulations of the state captures important dimensions of the question of how higher education has been shaped and altered by what Miliband (1983:35) calls the growing "statization" of social institutions in the post-war period. The different interpretations of the relations between the state and civil society within this interplay of perspectives will be briefly reviewed below.

Structuralism: The Matrix of Objective Forces Governing the Relation between State and Academy

The first variant of neo-Marxism, Althusserian structuralism, is perhaps best understood within the more general framework of structuralism's epistemological challenge to post-war phenomenological Marxism. On the one hand, Sartre's existentialist humanism criticized Marxist theory for its location of the dialectic in nature rather than in nature through consciousness; on the other hand, Althusser and the whole structural movement argued that existentialism, with its emphasis on human subjectivity, was nothing more than a neo-Hegelian distortion that undermined Marxist philosophical claim to science.

To Althusser, Sartre's insertion of an individual subject into history as its causal origin and agency seriously undermines and distorts the materialist dialectic of Marxism. As Carnoy (1984:89) notes, Althusser argues for a reading of Marx in which the social structure has no creative subject at its core; individuals become the supports or bearers of the structural relations in which they are situated, and it is the relations of production (social classes) that are the subject of history, not individual actors as free agents. Althusser argues that Marx's theorization of the capitalist mode of production posits three distinctly articulated structures: the economic, the political, and the ideological. It is the combination of these three structures which comprise the matrix of the mode of production within any capitalist social formation, a matrix that is additionally characterized by a relative autonomy of the political and ideological from the economic base. While the economic is in the Althusserian reading of

Marx always determinate in the last instance, any one of the three structures can be the structure in dominance (Carnoy, 1984:90).

Such a reformulation of Marxist theory has the effect of apportioning to the state and to the political realm a much larger role than was previously the case. For, as Carnoy (1984:49) observes, the state in Althusser's reading of Marxist theory is the single most important structural force whereby capitalist relations of production are reproduced. As a consequence of its ideological role, the structuralist bourgeois state both secures and maintains the subjugation of labour to capital via the construction of an imaginary relationship of individuals to their real conditions of existence -- a relation embodied in the legal-political and ideological superstructure, as well as the material practices of what Althusser terms state-ideological apparatuses, including higher education. It is Althusser's focus on ideology as state-supported imaginary relations that underlies both his rejection of humanism and his insistence on the need for a structural analysis of the state. To Althusser the individual is too much the captive of these relations; only the material practices of the state, seen in terms of their objective relations to civil society, can provide Marxism with the substance for its analysis.

It is generally agreed that the most formidable Marxist state theorist of the structuralist school is (the early) Nicos Poulantzas. Indeed, Poulantzas's mid-1960s conception of the state represents the first (and major) application of Althusserian structuralism. In this early formulation of the state Poulantzas utilizes an explicitly structuralist perspective:

... inside the structure of several levels dislocated by uneven development, the state has the particular function of constituting the factor of cohesion between the levels of a social formation. This is precisely the meaning of the Marxist conception of the state as a factor of 'order' or 'organizational principle': not in the current sense of political order but in the sense of the cohesion of the ensemble of the levels of a complex unity and as the regulating factor of its global equilibrium as a system. ... it is also the structure in which the contradictions of the various levels of a formation are condensed ... The state is also the place in which we can decipher the unity and articulation of a formation's structures. ... It is from [the] relation between the state as the cohesive factor of a formation's unity and the state as the place in which the various contradictions of the instances are condensed, that we can decipher the problem of the relations between politics and history. This relation designates the structure of the political both as the specific level of a formation and as the place in which its transformations occur: it designates the political struggle as the 'motive power of history' having as its object the state, the place in which contradictions of instances (dislocated in their own time sequences) are condensed.

In this formulation, the state is not so much an object of study as a "place," what Jessop (1982:160) rightly describes as a "form-determined field of social relations in which the regional structure of the political has definite effects on the political class struggle."

In Political Power and Social Classes, Poulantzas elaborates a theory of state action which clearly moves beyond its Althusserian roots to include a definition of the state as the site of the hegemonic group's organization of the divided capitalist class. Nonetheless, he upholds throughout the primacy of structure within a scientific Marxist analysis of the form and function of the state. His main structuralist arguments in this respect are basically twofold. First, the state must be understood in terms of its objective relation to civil society; hence its class nature must

not be seen as resulting from the presence or absence of a given class in the state apparatus, but rather to the interplay of structural forces (Poulantzas, 1978:63). Second, and more specifically, Poulantzas argues that the state itself comprises a structural force shaping the class relations in production by virtue of its political separation of workers from one another (thereby preventing class cohesion)(Carnoy, 1984:99). Indeed, he argues that the political isolation of workers is not the result of production per se (which, if anything, moves individuals to class identification), but rather of the juridico-political superstructure of the state. The state tends to diffuse class conflict by isolating people as individuals and then re-uniting them as the popular nation-state. However, the effects of this structural force of separation are not equally felt by both classes. In the case of the working class, Poulantzas contends, the effect is fully felt, whereas in the case of the bourgeoisie, the isolation of one capitalist from another is mitigated by the state's representation of the political interest of the dominant class as that of the nation-state as a whole.

An third structuralist argument advanced by Poulantzas stems from the first point made above; namely, that the state is less a place of class struggle than a product and shaper of class struggle in civil society. Functioning as a structural force to forge, politically, the unity of the dominant class (and the disunity of the dominated), and serving as the site of the hegemonic group's organization of the capitalist class, Poulantzas's bourgeois state affords only a little room for subordinate class interests within the state and represents, in the political region, the reformulated economic class power of the bourgeoisie (Carnoy, 1984:103).

Hence the first major set of theoretical influences on the development of neo-Marxist theories on the state are those that posit the state and civil society in objective relations that must be grasped within the structural interplay of the economic, political and ideological levels of any given social formation. These are also theoretical positions which argue for a definition of, and role for, the bourgeois state that is class-theoretical by virtue of their stress on the need for a theory of the political region to displace economistic and humanist-instrumental views of the state.

More importantly for our purposes, these are also theoretical positions that argue for a fuller contextual understanding of what is a predominantly state-sponsored system of higher education in the post-war period. The degree to which state-expanded and stratified systems of higher education serve to displace and diffuse class conflict or to express stronger forces of class domination, while at the same time providing many of the means whereby the state can accomplish the organization of the dominant class are issues the structuralist perspective emphasizes. As Chapters Four to Seven of this thesis will argue, a fuller understanding of the dynamics of a state-orchestrated expansion and contraction of Canadian higher education can only be secured by placing the process of state decision-making and state intervention within a national and global matrix of socio-political forces shaping both state and academy. In these chapters state policies on higher education are analyzed as articulations of class forces played out within, and embodied by, state agencies. In this exploration the changing character and logic of state action, as shaped by

the objective matrix of socio-political forces, is viewed as a critical determinant of the politics governing higher education.

The German Debate: A State "Civilized" and an Academy Redefined by the Technological Transformation of the Labour Process

Poulantzian structuralist theories of the state (and their proponents' debate with those advancing a view of the class character of the state described as more instrumental) found a critical reception in the work of Claus Offe. Rejecting what he terms "influence" theories and 'constraint' theories, on the grounds that they mistakenly ascribe state action to external forces and regard the state as ultimately a neutral instrument, Offe argues that the class nature of the state must be seen in reference to the need for the bourgeois state of late capitalism to reproduce itself. The "key explanatory element" of state activity, its direction and class-specific selectiveness, is to Offe (1976:6) the "institutional self-interest of the actors in the State apparatus."

Offe's late capitalist state functions within four conditions which, separately and in concert, shape the class nature of the state. These conditions can be briefly summarized as the state's indirect connection with the process of production, its authority and mandate to sustain and create only the conditions of accumulation, its dependence on capital accumulation for its future, and its need for a power base of its own that will legitimate its class-specific selectiveness. State policy formation is, to Offe (1976:6), an exercise in "reconciling these four constituent elements" within which institutional self-interest is the dominant motive and explanatory force.

This is also a state endowed with a high degree of autonomy:

It is basically wrong to assume that contemporary capitalist society continues to be the kind of anarchic liberal society from Mandeville to Marx. Welfare capitalist society has less the character of an anarchic interplay of unconscious forces, in which order is an unintended by-product. Order, in the sense of a complex and integrated coherence between different subsystems, is something that is consciously pursued by agents within the system. Of central importance is the capacity of the state to regulate and integrate discrepancies and conflicts (Offe, 1984:257).

Indeed, Offe's use of systems theory argues for a state as crisis-manager, for as Keane (1978:56) observes, Offe perceives a state so interwoven with the accumulation process of advanced capitalism that production becomes a function of bureaucratic state activity, as well as a function of organized political conflict. To Offe the state of advanced capitalism constitutes a pervasive mediating force, so much so that the state's role is no longer adequately captured in traditional Marxist interpretations of the relationship between superstructure and base. In elaborating his thesis that state economic activities are pre-eminent, Offe points to the fact that the modern state engages in both allocative and productive economic activities. It is the latter set of activities that marks the state as a crisis-manager and a state "civilized" (in that such activities both comprise crisis-avoidance strategies and operate as the agencies whereby the state, through its anticipatory reshaping of labour-power and the labour process, is drawn directly into the capitalist process of production).

Significantly for our purposes, Offe (1984:174-175) underscores his conception of a state directly engaged in production through his analysis of

the "scientization" of production and the "statization" of science and technology. In Offe's view, state-financed research and development (particularly that commissioned by the military sector) operates as the leading productive force, with the result that the state becomes a critical component of "private" accumulation. As Keane (1978:58) observes of Offe's analysis of this new intersection of science and the state,

The consequences of this statization and industrialization of science and technology have been staggering. Not only does it help to remove the destructive uncertainty from the patterns technical innovation in the oligopoly sector, it also renders direct labour more productive, and cheapens the fixed components of capital, thereby tending to raise the rate of surplus value.

Later in this thesis we will explore the question of whether Canadian science and the research sector of Canadian higher education have experienced this process of statization. We will also assess whether, as Offe and Keane suggest, the "scientization" of industry and the "statization" of science have significantly altered the research relation in Canada.

Offe advanced the highly controversial argument that, by virtue of its hold on the generation of new knowledge and its strategic application, as well as by virtue of its political and bureaucratic control over the organization of such knowledge, the modern state functions, more directly than ever before, as a kind of junior partner to capital. This very radical rejection of the state-civil society dualism has, however, one very curious result: despite his many fundamental disagreements with the state theory of structuralists such as Poulantzas, Offe nonetheless elaborates a theory of state form and function which relies heavily on the objective reality and isolation of the political instance. For, as Offe (1984:285) notes, "the

wage-labour-capital relation is not the key determinant of social existence, and . . . the survival of capitalism has become increasingly contingent upon non-capitalist forms of power and conflict."

It is precisely against a theory of the political region that proponents of the Staatsableitung school of state theory argue. Focusing their critique on the political as an autonomous object of study, state derivationists label such approaches "politician" and accuse them of overlooking, if not denying, the need to pay close attention to the conditions of capital accumulation, as well as the need to derive the political form from the nature of the capital relation (Holloway and Picciotto, 1978:2-3). From this capital-theoretical approach arises the second major set of theoretical insights to give shape to neo-Marxist theories of the state. Not the least of these insights is that, economically, the state of advanced capitalism must be sharply differentiated from the state of capitalism's *laissez-faire* period. Such theorists argue for a fundamental revision of Marxist interpretations of the relation between the state and civil society, one that can more adequately accommodate the direct entry of the state into the accumulation process (without, at the same time, like Offe and Poulantzas, abandoning "political economy" in favour of political theory). Perhaps even more importantly, however, this is also a theoretical reworking which, because of its focus on the state's deep involvement in a crisis-ridden accumulation process, reassesses the assumed functionality of the state for capital. •

This new departure in Marxist state theory is summarized by Holloway and Picciotto (1978:14) as emerging out of an awareness of two

serious inadequacies of contemporary Marxist theory.

On the one hand we have seen the acceptance of the fetishized categories of bourgeois thought, the acceptance as a positive given of the fragmentation of bourgeois society into the economic and the political; . . . At the other extreme we have seen the reduction of politics to a mere reflection of the economic, an over-emphasis on the unifying whole which overlooks the real, though historically conditioned particularization of the generality of capitalist relations into political and economic forms: the result is an oversimplified view of the relation between the actions of the state and the requirements of capital accumulation.

The theoretical ground between these two extremes is the aim of the derivationists, for it is seen as making possible, in the words of Holloway and Picciotto (1978:14) an analysis of the articulation of the totality of capitalist social relations. Because it is capitalist social relations that are the objects of scientific analysis, the derivationists argue, theories of the state must anchor their arguments about the bourgeois separation of the economic and the political in the nature of capitalist production and derive the state from the category of capital. For, it is the contradictions inherent in the capital relation, they affirm, that provide the only basis for a true understanding of the dynamic of social and political development in capitalist society.

Within the derivationist school of state theory the most important position, argues that the particular form of the state cannot be derived from capital's need for an autonomous agent set above anarchical competition (or from the appearance of a communality of interest) but must be deduced from the social relations of domination that obtain via the capital relation itself. This approach, as exemplified in the work of Joachim Hirsch (1978), argues two key points. First, the form exploitation

takes in capitalist society does not depend on the direct use of force, but derives from the compulsion of the laws of capitalist reproduction. Second, Hirsch argues that this form of exploitation requires that relations of force should be abstracted from the immediate process of production and located elsewhere, apart from the direct producers. Thus, both logically and historically, the establishment of the capitalist process of production is itself accompanied by the abstraction of relations of force from immediate production, thereby constituting discrete political and economic spheres. At the outset, as Holloway and Picciotto (1978:24) point out, the stress is on the coercive character of the state, which is not to say that it is seen in the traditional terms of the state's instrumentality within class rule.

Furthermore, within this view of the bourgeois state, the state's activities are circumscribed and shaped by the laws of capital accumulation, in particular, the tendency for the rate of profit to fall. It is in response to the laws of accumulation that the state develops countertendencies against the decline; however, because this process is undertaken at one remove from immediate production, the state's responses are necessarily reactive only. The state can only mediate contradictions engendered by the capital relation in an indirect way, through concrete changes in the material and non-material preconditions of production (via incomes policy, the expansion or restriction of state-financed commodities purchases, and the expansion or contraction of state infrastructural activities such as education, research, health and transportation). Historically, Hirsch (1978:83) argues, this has meant that state intervention has changed as the production process itself has changed. Initially, the state developed the

proletariat as a class (creating a wage labour force); next the state facilitated the centralization of capital and the development of world markets; and, more recently, the state has adapted its infrastructural provisions to include the technological transformation of the labour process itself.

The theoretical work of the derivationist school and the Staatsableitungdebatte pay particular attention to the state's economic role, as well as to the very important intersection of state and science that grew out of science's revolutionizing of the infrastructure for production. This focus derives in part from attempts by many Marxist scholars to incorporate into their state theories the mid-to-late-seventies failure of the Keynesian state which had for some time been in the throes of a deep recession. This was also a period of Marxist scholarship during which state theory had moved (largely through the work of Offe) toward a conception of the state so interwoven with capital accumulation that private appropriation of surplus-value is only secured through an all-encompassing political mediation (Keane, 1978:56). A state "civilized" and a civil society repoliticized under conditions of advanced capitalism, it was argued, had so altered the relation between base and political superstructure as to warrant a radical reconstruction of theories of political economy and the state.

Out of this emerged a critique and a debate which, because they focused greater attention on the expanded and transformed economic role of the bourgeois state of the mid-1970s, revealed a state increasingly incorporating into its own activities the crises engendered by that very expansion of economic activities, and a state whose ideological activities are

severely compromised by its own economic role in production and by its growing bureaucratic influence on social institutions. What the derivationists saw was a state whose very functionality, had become highly problematic. More than anything else, it was this awareness of the state's changing relation to the accumulation process and its legitimation that comprised the second major set of influences on the development of neo-Marxist state theory, theory that defines a state for whom higher education has come to be not only a means of providing for the non-material infrastructure of capital accumulation, but a volatile locus of class conflict.

This capital-theoretical view of the state was, however, a theory that has little to say about the role of ideology in the class struggle. In part as a consequence of their location of not only the origins of the state, but also of class relations themselves in the contradictions of the capital relation, Hirsch and his colleagues would appear to have avoided "politicist" theory only at the expense of jettisoning the part played by dominant-class hegemony in both class relations and the activities of the state. It is to this lack that the analyses of Poulantzas (1978) and of Wolfe (1977) are addressed.

The Further Elaboration of the State and Ideology and the Recasting of the Knowledge-Power Relation: Poulantzas and Wolfe

In his capital-theoretical analysis, Hirsch argues that the form exploitation takes depends not on the direct use of force but rather on the compulsion of the laws of capital reproduction. What is interesting in this

formulation is that, in ascribing exploitative relations to the general laws of capital accumulation and reproduction, Hirsch makes no reference to the consent that such exploitative relations enjoy or, indeed, to the measure of consent and its relation to class struggle, a struggle, which he acknowledges, mediates in a critical way the state's capacity to respond to these laws.

The primacy of class struggle and the ideological role of the state in enacting its expanded and now superordinate economic functions is stressed by Nicos Poulantzas in his Classes in Contemporary Capitalism (1974:81)) and State Power Socialism (1978:124):

This dominance of the state corresponds to the considerable growth of its economic functions that is absolutely indispensable to the extended reproduction of big capital. But this is only part of the problem and, in particular, fails to explain why this economic intervention essentially continues to have national states as its support.

.....

... we have rejected the approach which seeks to construct the object of the theory of the capitalist State by relating it purely and simply to the relations of production in the sense of an economic structure; and for which the class struggle and political domination enter into the picture only when it comes to explaining the secondary peculiarities-concretizations assumed by the State in historical reality. Such a conception leads to a neglect of the specific forms of the State.

What Poulantzas (1978:168-169) does argue is that the expanded economic role of the modern capitalist state alters the political space as a whole. Whereas the state in the competitive stage of capitalism is one in which the economic functions are subordinated to the ideological organization of consent and repressive activities to ensure the cycle of capital's

reproduction, in the monopoly stage the economic functions of the state have increased in importance to the point of occupying the dominant place within the state.

Poulantzas is in this way indebted to the theoretical work of Joachim Hirsch; indeed, in State Power Socialism the work of Hirsch in connection with this point is several times cited. However, the later work of Poulantzas is no mere gloss on Hirsch, for to argue the dominance of the economic structure is not the same as arguing that the state must be conceived of (and explained) as a field of social relations in which activity is shaped and circumscribed by the general laws of capital. This is precisely what Poulantzas rejects in what is, for him, a significant theoretical shift in the conceptualization of the state economic functions and their relation to the state's role in the class struggle. Poulantzas's state theory (1978:167) moves from having assigned the state the role of securing only the external conditions of capital accumulation to one where the state is heavily involved in the reproduction of labour-power and in capital valorization. Matching the socialization of productive forces is a socialization of the relations of production such that the state's ideological-political role is expanded to address the social division of labour as a whole.

It is this more extensive political-ideological role that comprises the neo-Gramscian aspects of Poulantzas's reformulated state. For, in State Power Socialism Poulantzas (1978:28-34) argues that the expanded economic functions of the state and the state's consequent role in the constitution of the relations of production cannot be understood using the

Gramscian or Althusserian conception of the state's ideological relations (as purely negative in orientation). Within this traditional formulation of the state's ideological role, Poulantzas (1978:30) notes, the economic is capable of self-reproduction and self-regulation; the state merely establishes the negative rules whereby any unsettling encroachment of the economy is prevented. Here there is no room for the realities of advanced capitalism: a process of production that is, at its very heart, critically dependent on the state creating, transforming, making reality as required by its expanded economic functions.

Essential to Poulantzas's reformulation of the state's ideological role is his elaboration of the knowledge-power relation. He argues that, while the social division of labour both separates intellectual work from manual work and uses science and technology to rationalize power (and entails, as well, an organic relation between intellectual work and political domination), it is the modern state which now lies at the heart of this knowledge-power relation. As Carnoy (1984:113-114) observes, Poulantzas advances the view that the state has both an important hold on the generation of new knowledge and a hold on how that knowledge is used.

This part played by the state in excluding the working class from the possession of "science" as a means of production and in the legitimation of this dispossession as part of its reproduction of labour-power is one of several in the securing and reproduction of capitalist relations of production. Others include the individualization of agents of production (outlined by Poulantzas largely in terms elaborated in his earlier theoretical position), the framing and exercise of the law (both in its repressive and

reintegrative aspects), and the formation of the nation (a reintegration of isolated, atomized individuals in terms of territory and tradition).

To Poulantzas the state is thus the critical means of reintegrating workers and the bourgeoisie into a unified whole that will ensure reproduction of the capitalist class structure. However, in earlier stages of capitalism the state did so principally by securing through negative action the external conditions of accumulation and by serving as the site of organization for the hegemonic fraction of the bourgeoisie, in advanced capitalism the state does so by entering more directly the process of production. This change not only sees greater penetration of the political region by the economic (bringing with it the strains of economic class struggle); it also involves a major shift in the ideological thrust of the state toward a critical involvement in the knowledge-power relations of the labour process itself. Drawn inexorably into a pivotal role in the reorganization of the relations of advanced capitalist production, the state and the political region as a whole (as well as those aspects of civil society involved in the knowledge-power relation, such as higher education) emerge as strategic battlefields within the class struggle.

This view of the state is, however, not without its qualifications regarding the functionality of the state for capitalist relations of production. For, a battlefield is a place where power is both exercised and usurped. So it is with the political power of a state encumbered by its now economically situated organizational rôle. The penetration of the political region by the economic brings with it new limitations on the exercise of political power, structural limitations which derive from what

Poulantzas (1978:191) terms the "negative general limit" to state intervention:

Of course, the state works to reorganize the relations of production that structure the place of capital and thus to redistribute the powers flowing from the relations of possession and economic property among the various fractions of capital -- most notably to the advantage of monopoly capital. Nevertheless, the State exists if and only if the hard core of capitalist relations of production is guaranteed, thereby ensuring exploitation of the working class and the popular masses (that is, their exclusion from real power over the means of production). State intervention with regard to the relations of production itself aims only at their reproduction as capitalist relations. We may express this by saying that the capitalist State is constituted by a negative general limit to its intervention -- that is to say, by specific non-intervention in the 'hard-core' of capitalist relations of production.

Such negative limits result, Poulantzas observes, in a crisis-ridden pattern of state intervention. Ideologically necessary to the reorganization and maintenance of capitalist relations of production, state intervention is nonetheless constrained by its structural placement to what Poulantzas (1978:191) describes as "ad hoc tinkering with conditions already laid down by the process of valorization of capital; that process itself is thus not susceptible to mastery by the State." The result (Poulantzas, 1978:191-194) is fiscal crises and a mounting strain on the legitimacy the state must secure for itself.

This neo-Gramscian position argues forcefully for a conception of the economically interventionist state that must be contained within the framework of the class struggle and political domination. What is important here is how Poulantzas accommodates the expanded economic functions of the modern state within the ideological thrust of his state theory. While

the derivationists are silent on the whole issue of consent and ideological struggle, Poulantzas's neo-Gramscian reformulation argues that the state's newly acquired role in, for example, the reproduction of labour-power cannot be seen simply in terms of the technical division of labour, but must rather be viewed within the framework of the social relations of production -- the fraught ideological relations of domination/subordination, the monopolization of knowledge necessary to capitalist production, and a dominant ideology under great strain. And, it is in the very midst of this that a state-sponsored system of post-war higher education finds itself.

Yet another theoretical aspect of the knowledge-power relation and the expanded political-ideological role of the state is presented in the work of Alan Wolfe (1977) on the crisis of legitimacy of the modern state. Wolfe notes that out of the world recession of the mid-1970s there has emerged a new attitude toward the liberal-democratic state, one characterized by a deep sense of the limitations of such a state in the face of the cyclical crises of capitalist accumulation. Of this shift in belief, Wolfe (1977:1) observes,

There is a strong feeling that liberal democracy is a hopelessly outdated mechanism for coping with really serious problems, such as, as one writer put it, the end of the European domination of the world. The new attitude toward liberal democracy has been expressed in many places . . . One prestigious body, the Trilateral Commission, has publicly questioned whether democracy remains the most viable political structure if capitalism is to be preserved. Social science has turned to issues like "conflict regulation" in what are antiseptically called "divided" societies. Other writers have become fascinated with the "breakdown" of democracy, finding conscious and unconscious parallels in the triumph of authoritarian regimes with possible futures for liberal ones. Corporatism, a device popular in the 1920s for bringing

class conflict into an ordered and regulated pattern, has been taken up like the films of that era by a nostalgic avant-garde among political scientists.

Anchoring his thesis in the theoretical work of C.B. Macpherson (1975), Wolfe (1977:7-9) advances the view that the present crisis of legitimacy suffered by most Western states can be traced to the inherent tensions between liberal and democratic concepts of the state, tensions which owe their existence to the opposing logic of the two concepts. Such tensions, he contends, have given rise to the ongoing search for social peace, and it is this search that, in most Western states, has seen six phases of statehood attempted. At each stage the state becomes more directly engaged in accumulative activities and, at each stage, the tensions born of contradictory motive forces mount. Like Poulantzas, Wolfe argues that, as the interventionist tasks of the state grow, so also grows the crisis-ridden character of its role in accumulation and, with it, strains on its claims to legitimacy. This building of historic contradictory forces reached an important point, in Wolfe's view (1977:176), at the end of the Second World War, for it was at this point that state agencies began, in earnest, to mobilize and in some sense to manage the forces of legitimation for a state pressed by social forces into a pivotal role in the economic order. Ultimately, he (1977:180,202) observes, this resulted in the Dual State which struggled to maintain two faces,

... one democratic and popular ... concerned with democratic legitimation, winning support for the political order; the other, lean and hungry like Cassius, ... liberal (in the classic sense), responsible for the accumulation of capital and for the protection of agencies doing the accumulating.

Citing the period 1961 to the mid-1970s as the era of the Dual State, Wolfe (1977:180-181) points to the Nixon administration in the United States as the culmination and perhaps the most extreme example of the covert nature of the lean and hungry Staat-im-Staat; this example also underscores Wolfe's views on the self-destructive dynamic of the Dual State and its agencies of legitimation.

The build-up of contradictory social forces over this period, Wolfe (1977:174) observes, also expressed itself in social discontent throughout Western societies. Imperialist foreign policies of the Dual State and the militarization of social institutions sparked a revival of left-wing politics which for a time focused a bitter attack on the university for its collusion with the state and the corporate interests behind its duality. On the Right, this period saw the beginnings of a middle-class tax revolt and a conservative critique of an inefficient, flabby, and overblown welfare state bureaucracy. Buffeted from both sides of the political spectrum, state and academy suffered from a kind of searing overexposure that left each stripped of credibility and prestige. More than anything else, Wolfe (1977:329) asserts, it is this loss of legitimacy that makes possible the current explicit questioning of the functionality of liberal democracy for capital.

Conclusion:

The above summary of three focal points of neo-Marxist scholarship (Structuralism, the German Debate, and the Gramscian elaboration of

ideology and state power) does not, by any means, fully capture either the range or the depth of neo-Marxist state theories. It does, however, point to several key elements in an analysis of the relations between higher education and the state that does not rely on the causal model of "social demand." These explicitly neo-Marxist contributions can be crudely defined as the view that the state and all aspects of civil society must be grasped in their objective relations within a complex interplay of economic, political, and ideological forces, and that any analysis of the politics of higher education must be informed by an understanding of such forces. This view also posits a state so "civilized" by its expanded economic functions that its now pivotal role in capital accumulation has recast its infrastructural role to include the provision of a much more extensive non-material infrastructure, of which the education of highly qualified manpower and lower-level mental workers, as well as the advancement of technology and research "in the national interest" form an important part. This process, it is also argued, raises serious questions about an increasingly beleaguered state's functionality for capital. Finally, neo-Marxists argue for an interpretation in which the state's ideological-political role and its traditional relation to the academic and research communities must be reconceptualized to accommodate its deep and controversial involvement in the reproduction of labour-power and the valorization of capital.

CHAPTER THREE

THE SPECIFICITY OF THE CANADIAN STATE

The question of whether and to what degree the insights of these neo-Marxist state theorists can provide a more adequate theoretical framework within which to explore the expansion and contraction of Canadian higher education cannot, however, be tested without first establishing the historical specificity of the Canadian state. For, just as the nature and role of the "late capitalist state" is far from uniform in all societies and in all periods of history, the relation in which higher education stands with the state must be examined in the light of concrete circumstances -- in this case the circumstances of a Canadian state and a Canadian scholarly community, within a Canadian political economy and ideology. While the linkages among state and scholarly institutions in Canada may share certain features with those in other Western societies, these relations are also marked by a particularity that emerges out of the reality of Canadian political, economic, and cultural life. What follows, then, is a brief overview of some of the more significant investigations of the Canadian state, together with a consideration of the theoretical perspectives most frequently and persuasively employed by analysts of the Canadian state.

In an article surveying the development of Canadian political economy, Marchak (1985:691-695) observes that the 1977 publication of The Canadian State (Panitch, ed.) represented the beginnings of Canadian analysis of the state within the perspective of political economy. Such analysis, she notes, addresses the questions of how the Canadian state

responds to the subservience of its domestic economy to foreign capital, to the demands of international capital (including Canadian multinationals), and to the competing demands of national and small business capital. In addition, Marchak observes, such analysis locates these questions within the dynamics of class conflict and the class-related forces that surround capital accumulation. Utilizing neo-Marxist theories of the state, she (1985:691) notes, Panitch and his co-authors focus attention on such questions as the nature of state legitimation of capital accumulation and the relative applicability of the instrumentalist as over against the structuralist theory of state action to the Canadian case.

Marchak's observations are certainly true but they are also an incomplete reflection of The Canadian State, for while questions of state legitimation and the relative applicability of certain theoretical perspectives are, indeed, treated in this publication, it is also true that there is considerable attention paid to other questions, such as the historical dynamics of Canadian state action (not just state legitimation of capital accumulation), the historical development of state agencies, the emergence and growth of state power, and the processes through which the class character of the state is inscribed on social policy.

Materialist Conceptions of the Canadian State: Panitch, Whitaker, Stevenson, and Pratt

The most fundamental issue addressed by The Canadian State is how to fashion a materialist conception of the Canadian state -- in terms of its material origins, its institutional character, its concrete connections

with, and expressions of, class relations, and the degree of its autonomy from the process of production.

In the work of Panitch, Whitaker, Stevenson, and Pratt one can see four important themes: the federal character of the Canadian state system and a strong tradition at both provincial and national levels of state economic activity; the ideology of Toryism as the normative underpinning of the Canadian state; the regionally fractured bourgeoisie resulting from a resource-based economy and the consequent importance of the provincial state as the site of class power; and the importance of hinterland-metropole class relations of dependency within the evolving pattern of federal-provincial relations within the Canadian state system. As we will see in later chapters, these themes have an important bearing on the Canadian state's evolving relation with higher education

A Striking Lack of Relative Autonomy and the Importance of Provincial State Power: Panitch

In his exploration on the role and nature of the Canadian state, Panitch examines the empirical record against what he (1977:5) describes as the three most basic requirements of state theory: the delimitation of the institutions comprising the state, the demonstration of concrete linkages between state institutions and the system of class inequality in society, and the elaboration of the functions of the state in relation to the process of production. Structuring his analysis along these lines, Panitch (1977:9) observes at the outset that

... what is striking as one turns to an analysis of the Canadian state is how at each point the Canadian state

reflects particular characteristics which mark it off in a comparative sense from other capitalist states. On the question of state organization one sees that the federal form has always been, and remains, of crucial importance in terms of the power of the provincial segments of the state *vis-à-vis* the central government. One sees as well that the linkages between the state and the dominant class have been, and remain, not general and abstract, but particularly close and intimate. And one sees in terms of state functions that, from its very beginnings, the Canadian state has played a tremendously large role in fostering capital accumulation.

Panitch (1977:10) argues that perhaps the most salient factor to be considered in the delineation of Canadian state institutions is the pre-dominant importance of the federal nature of the state in Canada. This dispersal of power, he notes, can be traced to a host of historical circumstances, such as the fact that the Canadian state emerged as an amalgam of British colonies within which there developed quasi-colonial relations along regional lines which, in turn, expressed themselves within colonial relations to dominant powers outside Canada. Panitch (1977:11) also contends that provincial state institutions remain the most important consideration of the institutional character of the state for another reason: as Macpherson (1968) and Guindon (1978) have shown, the dominant class fractions within the provinces have used the provincial state very effectively to press their class claims.

As for the linkages between the Canadian state and dominant class interests, Panitch (1977:12-13) points to the work of Porter (1965) and Clement (1975) on the formations and reproduction of elites within the political, bureaucratic, and corporate systems of Canadian society. Noting that Clement's latest findings cite an increasing interpenetration between

corporate elite and the state and political systems over the post-war period. Panitch (1977:13) concludes that

The point to be drawn from all this is not that the state in Canada would be independent of the capitalist class without these specific linkages, given the balance of class forces within which the state operates. It certainly does suggest, however, 'a confraternity of power' of such dimensions as to permit the clear employment of the term 'ruling class' in the political as well as the economic sense in the Canadian case. It suggests, above all, an ideological hegemony emanating from both the bourgeoisie and the state which is awesome, which is reflected in the sheer pervasiveness of the view that the national interest and the business interest are at one.

Such close ties and the hegemony these give rise to are, for Panitch, two of the most important causal factors underlying the concentration of state activities in the area of capital accumulation rather than legitimation. What this has meant in empirical terms are four main tasks for the Canadian state: the provision of favourable fiscal and monetary climate for economic growth via private enterprise; the underwriting of private risks of production through grants, subsidies, write-off allowances and the like; the creation and reproduction of a wage labour force through the control of land policy; immigration policy and, more recently, the absorption of the social costs of production through medicare, unemployment insurance, educational facilities, and urban planning; and the provision of the technical infrastructure through state ownership of the railroads and public utilities, as well as the state construction and management of airports. While all of these activities are not unusual within new societies, Panitch (1977:15) notes, the degree to which the Canadian state has been engaged has always been singular. Citing

Macpherson's observation that "the constitutional structure of Canada has been to a large extent determined by the need to secure capital at favourable rates of interests and to promote the expansion of the economy," and Innis's view that "constitutional changes are a part of market operations," Panitch (1977:15-16) concludes that it has been the lack of relative autonomy in the Canadian state's profound commitment to private capital that has marked its relations with all aspects of civil society.

One of the effects of this commitment to private accumulation has also been the Canadian state's willingness to use coercion in support of dominant class interests. Panitch cites a long list of examples, including the crushing of the Winnipeg General Strike, the suppression of the Riel Rebellion, the deployment of the R.C.M.P. against the march of the unemployed on Ottawa, the state-controlled western expansion of the settlers, and the uses to which the War Measures Act has been put. Relatively underdeveloped in Canada, Panitch (1977:19-20) notes, is the legitimization function of the state. Policies aimed at the integration of subordinate classes through reforms and more indirect forms of social control within a welfare state were late in coming to Canada and when they did arrive, were heavily qualified by a more pragmatic overlay of policy direction than elsewhere. To some extent, this delay can be explained, Panitch (1977:20) observes, by the fact that even up to the pre-Second World War period, the petit bourgeoisie constituted the largest subordinate class in a still agrarian Canada.

Toryism and Private Enterprise at Public Expense: Whitaker

For his part, Reg Whitaker (1977) makes the many of the same arguments as Panitch, though he casts them in a very different mode. Arguing that one of the more critical ways of exploring the concrete historical circumstances of a state is to elaborate the terms in which members of that society perceive state institutions and traditions, Whitaker examines the central place that "Toryism" has occupied in the Canadian people's perceptions of their state.

Whitaker (1977:33) distinguishes Toryism from the broader political economy of nineteenth century liberalism largely in terms of its linkage between individual interest and national interest, saying "what distinguishes Toryism was a less than automatic reliance on the ability of the market to regulate society without a certain discretionary role for the state." Bound up in this linkage, Whitaker adds, is the readier acceptance of class inequality within Toryism, as well as a stronger tie to the concept of nation-state (a feature reflective of the view that the British polity and culture represented the most highly developed forms). That this tradition flourished in British North America, Whitaker (1977:34) contends, derives from the fact that the emergence of a colonial bourgeoisie resulted from policy consciously enacted through colonial state agencies and was, from the outset, closely tied to the imperialist mercantilist framework. Citing the work of S.F. Wise (1967, 1970), Whitaker adds that this policy was designed to build a conservative and undemocratic state which not only found fertile soil in the anti-democratic sentiments of Loyalist settlers, but

2

was further entrenched by the Burkean conservatism that predominated among colonial administrators sent to British North America during the Napoleonic War.

Canada, then, was to be a blueprint for a society governed by a traditional hierarchical authority and, as Whitaker notes,

The 'better America' to be erected to the north of the United States would be one which pursued economic growth with all the enthusiasm of market man unbound by tradition, yet at the same time sought, as a positive goal of public policy, the creation of a hierarchical society where privilege was resistant to the demands of those less fortunate. The 'state,' such as it was, would be an instrument of economic development, understood always as both the growth of production and the consequent differentiation of society into classes specializing in different aspects of the production process, with vastly differentiated rewards. . . . Upper Canada thus began its constitutional history in an atmosphere of considerable executive authority, buttressed by a deep ideological hostility to the principle of popular representation and the urgent sense of a need to create a dominant class of privilege and power to which colonial interests could be entrusted. In the blank slate of North American frontier development, this obviously meant a bourgeoisie without any particular stamp of tradition or birth - capital and wealth alone would be its emblem. In the particular circumstances of Canada it meant a bourgeoisie which would be parasitic upon the colonial state from which its privilege arose.

The land distribution policy of the early colonial administration, Whitaker notes, was to have served to create a landless proletariat and a landed bourgeoisie (by reserving extensive tracts of land for the clergy and by maintaining artificially high prices). While these aims were, for the most part, frustrated, Whitaker points to the emergence of the Family Compact as strong evidence of the ultimate success of the Tory aim of creating an hierarchical society strikingly different in both its economic

and political structures from the American model to the south.

The predominant ideology of Toryism also meant, according to the Whitaker thesis, that the only class force with the necessary strength (at least potentially) to reject Tory hegemony was that represented by the independent family farmers -- those whose interests could not be accommodated within the Tory ideals of economic and class development. Effectively, Whitaker (1977:40) notes, this meant that class conflict in Canada occurred historically between propertied interests and not between propertied and unpropertied, with the ambiguity of the farmer's class position ultimately weakening any revolutionary mobilization. It is this confusion, Whitaker (1977:41-42) states, that undermined the 1837 Rebellion in Upper Canada, and the Tory repression of this rebellion also bore witness not only to the commitment to state engagement in economic development but also to the willingness to utilize the coercive power of the state.

The Tory equation of accumulation and legitimation and the energetic use to which state agencies were put in securing this equation are, to Whitaker, primary reasons for the traditionally strong linkages among state, political and economic systems in Canada. Characterizing the unique national feature of Canada's Tory tradition as "private enterprise at public expense," Whitaker (1977:42) follows Panitch and other analysts who have observed that Canada's history of state development stands as a paradoxical case before the Marxian principle that in capitalist societies the ruling class rules, but does not govern.

Whitaker (1977:44-45) also argues that the working out of the

constitutional arrangements of Confederation was, above all else, dominated by the same Tory array of priorities. For, called into being by a crisis in the capital markets which necessitated the consolidation of all colonial debts and a political structure which could guarantee future British investments, the British North America Act further entrenched the federal state as the instrument of national (and more especially economic) development and of the Hobbesian coercive power to secure such development through "peace, order, and good government." To Whitaker (1977:44) it is this confusion of economic development and national development that underscores one very salient feature of the Canadian state's history -- namely, "The BNA Act gave official form to a fact that had already been accepted in practice: the Canadian state and the Canadian nation were not one and the same." It is this feature, he argues in further agreement with Panitch, that underlies one of the more important aspects of the Canadian state: a federal system in which the provincial state system has developed significant power to counter the centralizing tendency felt elsewhere in federal state systems.

The political unification of the colonies and the National Policy of 1878-9, which, in its rejection of free trade, supported an east-west economy linked by a national railway, the protection of industry, and the provision of foreign exchange through wheat exports were, in Whitaker's view, consolidated by succeeding Liberal regimes. And, while an explosion of class conflict occurred in the early 1900s (fueled, in part, by an agrarian protest), these forces spent themselves within a decade, largely as a result of a weak alliance of the farmers with middle-class professionals within the

Social Gospel Movement and the severe repression of the Winnipeg General Strike.

Whitaker (1977:58) notes that the nationalization of the transportation and communications infrastructure under Mackenzie King, as well as the creation of the Bank of Canada

... was not so much [the result of] pressure from below ... as the logic of capitalism and its needs. For example, the Bank of Canada was necessary to stabilize financial operations as well as to create a mechanism for national monetary policy, none of which was contrary to the interests of Canadian bankers. ... The Liberals, with greater sensitivity to the need for public mystification, changed it into a supposedly neutral state institution although its role continued to be highly supportive of financial capitalism.

In the face of a questioning of the old Tory equation of accumulation and legitimation, the Liberal state reasserted this equivalence by sleight of hand. Under King, the state engaged in just enough legislation (e.g., the pension plan) to get by and presented an array of seemingly socialist economic measures. All of this leads Whitaker (1977:60) to observe:

In short, the Liberal state even at its zenith of prestige, begins in retrospect to appear little more than the old Tory state writ large, but no longer in possession of any directing national principle other than economic growth at any cost, even if the capital accumulation from the profits of growth accrued more to American multinational corporations than to the Canadian bourgeoisie.

Hence the rush to export raw materials in the 1950s and to organize accumulation through American direct investment led to a weakening of the federal state system and the enhancement of provincial state power, a marginalization of resource-poor areas, and an undermining of east-west

linkages within Canadian trade; in short a balkanization of the Canadian nation and an exaggerated emphasis on the maxim of private profit at public expense.

The Absence of a Dominant National Bourgeoisie, the Regional Character of the Economy, and the Erosion of Federal State Power: Stevenson

Like Panitch and Whitaker, Garth Stevenson argues that by far the most significant feature of the Canadian state is its federal character. However, in this respect, Stevenson goes somewhat farther than either Panitch or Whitaker in that he contends that a Marxist understanding of the political economy of the Canadian state must take as one of its principal focal points the dynamics of federal-provincial relations. For, like Panitch, Stevenson notes the anomalous position that the Canadian state enjoys among Western liberal democracies; namely, that in the face of a general trend toward the centralization of state power (even among federal state systems), the Canadian state has experienced a growth of provincial state power. In constructing a Marxist analysis of these developments (both in this essay in The Canadian State and in his later book, Unfulfilled Union), Stevenson consequently makes federal-provincial relations his primary focus.

The argument he advances rests largely on two points. First, the growth of provincial state power, particularly during the post-war period, is a direct result of provincial jurisdiction over resources and resource industries. The singular historical predominance of resources within the Canadian economy and the growing demand for these resources by the

post-war expanding American industrial development increased revenues of the provincial treasuries and made the provinces far less dependent on federal subsidies as provided for within the British North America Act (Stevenson 1977:77). Second, and just as important, the regional character of the resource-based economy resulted in the emergence of a provincially fractured bourgeoisie so that the hegemony arising out of normal competitive relations among class fractions came to be delineated along provincial lines, with the provincial state serving as the agency whereby unity of class interests are secured (Stevenson, 1977:79). This same state, Stevenson also argues, came to serve as an obstacle to the evolution of a national bourgeoisie with a set of interests that could be expressed by the federal state:

In the United States, as O'Connor points out, the common interests of monopoly capital call for the strengthening of the central government and the completion of national unification. Only the declining local petit-bourgeois elements, especially in backward states like Arkansas and Mississippi, resist the increasing power in Washington. In Canada, on the other hand, . . . [p]rovincial jurisdiction over resources makes control over the provincial state apparatus important to certain sections of the bourgeoisie and gives them an interest in strengthening the provincial state . . . The increasing effectiveness and power of the provincial state, as well as its revenues from resource royalties, . . . in turn make it still more essential for the bourgeoisie -- no longer simply those elements directly interested in resources -- to solidify their relationship with the provincial state on which they increasingly rely to promote their common interests. The process thus continues indefinitely.

Stevenson (1977:81-82) argues that the integration of Canadian and American economies into a continental North American economy further exacerbated the erosion of federal state power, for, as much of this

integration was achieved in the resource sector, the result was that the Canadian bourgeoisie increasingly looked to Washington, rather than Ottawa, to perform the tasks normally expected of a central state. At the same time, he notes, this redefinition of trade lines away from an east-west to a north-south pattern also gave rise to further balkanization of provincial economies, as individual provinces forged closer ties with sections of the United States than they did with one another.

Stevenson (1977:83) elaborates the growth of provincial state power in terms of the expansion of institutions and structures. Legislatures were reoriented toward the interests of the urban bourgeoisie and away from the rural petit-bourgeoisie; the bureaucracy of the provincial state shifted away from patronage to the merit principle and expanded to accommodate increased state functions, each of which required expertise. The line between private and public sectors became muddled as state ownership of infrastructural enterprises established new links between state and business in the form of quasi-public boards and advisory councils.

However, increasing provincial state power and increasing provincial state expenditures could not ultimately be fuelled entirely by resource revenues, even in the richest provinces. As Stevenson (1977:84) notes, rather than increase provincial taxes, which would frighten away investment, the provincial state began (individually and collectively) to argue for federal state withdrawal from particular tax fields. At the same time, however, further erosion of the federal state's power resulted from the fact that provincial debts to foreign sources had, over the years, given rise to circumstances in which the federal state was forced to surrender

some of its powers to foreign states (Stevenson, 1977:85).

The rise of provincial state power in Canada has, according to Stevenson (1977:86) had one other very significant effect. It has reversed the originally intended functions assigned to the two levels of the state system:

At the risk of some oversimplification it may be said that while the major accumulation functions have increasingly been assumed by the provincial states, the legitimization and coercion functions have continued to be performed to a much greater degree at the federal level. At a rough estimate about three-fifths of total spending by both levels of government on the accumulation function is now done by the provincial states. The proportions are approximately reversed for spending on the legitimization function. This is a reversal of the situation at Confederation, when accumulation was considered the *raison d'être* of the federal state while legitimization was left to the provinces. In addition, Ottawa now spends four times as much as the provinces on 'protection of persons and property,' a euphemism for the coercive function.

Of the two functions assumed by the federal state in Canada, Stevenson argues, coercion is historically the more frequently practised and the more fully developed. Legitimation, as Panitch and Whitaker have also argued, came to the Canadian state late, and they have proven to be, Stevenson notes, one of the most bitter battlegrounds within federal-provincial relations. Being much more interested in accumulation, provincial states (with the exception of Quebec), initially insisted on federal assistance when the costs of legitimization rose as they have strenuously resisted attempts by the federal state to return fiscal responsibility for health and welfare programs. Indeed, as Stevenson and others have noted, it was only by means of the conditional transfer payment that provinces could be forced to make expenditures on legitimization and, in the era of the

unconditional transfer payment, the history has been one of siphoned-off funds and the rerouting of expenditures toward accumulation.

One of the principal reasons for the Canadian state's historical neglect of legitimation, and the expansion of provincial state power, Stevenson (1977:94-95) adds, is the lack of a national bourgeoisie in Canada. And, without a national bourgeoisie whose interests transcend the regionally splintered fractions of this class, the federal state's normal reasons for being are left unexpressed within class relations.

Provincial State Power: The Political Action of Elites within a Hinterland Economy: Pratt

In what has proven to be both a seminal and controversial article in the literature on Canadian political economy (later expanded into a co-authored book), Larry Pratt illustrates at some length the point made by all of the state analysts in regard to provincial power -- that dominant class fractions in the provinces who have been unable to constitute a unity through economic coalition, have used the provincial state to express their interests. State power is thus analyzed in Poulantzian terms as providing for the bourgeoisie a unity which could not otherwise be secured.

Pratt (1977:133) advances the argument that the role of the provincial state apparatus in Alberta's (and, indeed, in the remaining prairie provinces according to his later book) economic development since 1971 can only be understood in terms of the state's response to class forces, i.e., the political ascendancy of a nascent class of indigenous business entrepreneurs, urban professionals, and state administrators. The class position of these

actors is given shape, Pratt notes, by their hinterland economic circumstances and their perception that an economy solely based on gradually depleting natural energy sources necessitates a redrawing of the political economy of the province via the use of state power.

Pratt (1977:144) lays the foundations of his analysis on the fact that "by 1971 Macpherson's socially homogeneous province of independent commodity producers was an anachronism." Twenty-five years of oil and natural gas development, as well as urbanization resulting from the migration of both Albertan and other Canadians in search of jobs during and after World War II, resulted in a reduction of the farm population from 50 per cent to 20 per cent, and the concentration of 50 per cent of the province's population in the two major urban centres in white-collar employment. Hence, Pratt (1977:144-146) argues, the material conditions had been established for the emergence of the political power of an urban middle class whose interests were threatened by the concentration of the economy and the shift of exploration and marketing operations away from Alberta to other regions of Canada:

It is no exaggeration to suggest that these business-professional-bureaucratic elites have begun to make arrangements for their own future by preparing for the inevitable day when the international oil industry pulls out of Alberta. Committed to 'Alberta first' in virtually all questions, these elites found many of their aspirations and fears being articulated for the first time by the provincial Conservative party, revived by Calgary corporate lawyer Peter Lougheed and a small coterie of professionals and businessmen in the mid-1960s.

Pratt (1977:147) notes that, after taking power in 1971, the Lougheed administration proved to be markedly activist and interventionist

in its economic policies. Oil and natural gas royalties were increased dramatically; the government increased its controls over the pricing, marketing and utilization of energy resources; Alberta acquired its own regional airline; the Lougheed cabinet created the Alberta Energy Company and invested heavily in the giant Syncrude oil sands project. All of this, Pratt (1977:147) argues enabled the government to divert surplus revenues into the Alberta Heritage Fund for economic diversification. In addition, he notes, the province tried to foster its own world-scale petrochemical industry, a venture that led the Lougheed government into direct negotiation for special tariff arrangements with the United States.

Pratt (1977:148) locates the cause of the provincial state's 1970s push for industrialization in the growing post-war dissatisfaction of elites who aspire to transform the province from a periphery into an industrial core more accommodative to their class interests. Arguing that "prairie economic alienation" is essentially a hinterland quarrel with a market economy," Pratt (1977:149,151-152) advances the view that, since 1971 the Lougheed government has engaged in a markedly interventionist economic strategy in an effort to minimize all forms of external control over the province's natural resource base and to provide the means of diversifying the overall economic base. This stance, Pratt (1977:152-153) contends, can be discerned in four interrelated policy themes of the provincial state system: (1) the "Alberta First" position underlying state control of the production, sale and utilization of gas; (2) the more aggressive acquisition of resource rents to fund attempts at diversification; (3) the nurturing of a strong indigenous class of entrepreneurs via a range of public works; and

(4) the determined support of the petrochemical industry in the face of mounting evidence that this industry will not succeed.

The framework for understanding economic provincialism and the expanding power of the provincial state system is, Pratt (1977:157-158) argues, the hinterland relation, i.e., expanded state activity must be understood in terms of class conflict within this hinterland-metropole relation.

Policy Formation within the Canadian State: Mahon, Swartz, Walters and Cuneo

Aside from the work of those theorists who address the larger question of how one fashions a materialist conception of the Canadian state, there are others who focus more particularly on the institutional class character of the Canadian state, both in terms of its internal structural relations, and in terms of its production of public policies inscribed by that class character.

This kind of analysis is of particular importance to our reconsideration of the post-war politics governing higher education, since it explores and analyzes the most immediate context of state social policy. In the work of these scholars we can discern the concrete linkages between the general principles of state action outlined in both Chapter Two and the earlier part of the present chapter and the detailed mechanics of state social policy formation in Canada. Hence we look to Mahon, Swartz and Cuneo for an elaboration of the ways in which social policies (including those on higher education) in Canada have given material expression to

state traditions which emphasize elitist and inegalitarian principles, to a set of institutional relations in which the "accumulative" provincial state has gained predominance, and to a changing ideological direction by state agencies.

State Power, Structured Inequality, and Policy Formation: Mahon

Mahon (1977), for example, advances the view that class struggle is expressed through the complex structural system of unequal representation inside the Canadian state and that public policies shaped by this unequal representation serve as a critical means by which the state organizes the hegemony of the dominant class. Mahon focuses her attention on the federal state bureaucracy and adopts a Poulantzian approach, namely, the state as a relation, not a subject. Consequently, state activity is seen both to reflect inter and intra-class conflict and to have as its aim the resolution of such conflict in a manner that secures the political interests of the power bloc. Similarly, this Poulantzian viewpoint argues that, within its institutional array, the state crystallizes various social forces such that the quality of "representation" accorded the hegemonic fraction is significantly higher than that extended to subordinate classes.

Mahon (1977:174) isolates four examples of these principles: (a) the characteristics of the seat of power of the hegemonic fraction; (b) the modes of representation extended to other secondary members of the power bloc; (c) the place provided the working class; and (d) the representation granted to the most marginalized segments of the subordinate classes. On

the first point, Mahon (1977:175-178) argues that, by virtue of its superior placement in the hierarchy, its critical links of influence in other centres of power in the state system, and its coordinating function as the overseer of monetary and financial transactions, the Department of Finance operates as the seat of power for the hegemonic fraction. As for other secondary fractions of the bourgeoisie, Mahon (1977:178-182) notes that the agencies of representation for the manufacturing sector -- the original Department of Industry, and later Trade and Commerce -- are clearly subordinated to the Department of Finance, despite the post-war growth of this sector.

As regards labour and the more marginalized segments of the population, Mahon (1977:182-192) contends that while "represented" in the Labour, Health and Welfare, and Indian Affairs and Northern Development departments, the class interests of subordinate classes are clearly contained by virtue of the fact that these departments are at one and the same time means of defending working class interests and institutions of domination of the working class. Mahon notes that, while this contradictory relation is true of all capitalist societies, the degree of contradiction varies across social formations. In Canada, she (1977:184) observes, the political power of the rural petit bourgeoisie at the provincial level (where jurisdiction over labour resides), together with the dominant political power of mercantile capital at the national level, has meant that domination of the working class has historically outweighed its defence in the mode of representation within the bureaucracy of the state system. In the case of the working class, Mahon (1977:185-186) observes, the Industrial Disputes Investigation Act (IDIA) of 1907

. . . established a role for the Department of Labour in containing labour's power . . . Capital, too had to compromise -- it was forced to negotiate with its workers. Yet, capital's de facto recognition of labour's collective power was in its own interest. That is, the "public interest" coincided with the stability needed to implement the development strategy of the power bloc (the National Policy).

Later, in 1948, the Industrial Relations Disputes Investigation Act was amended to include the right of "recognition," giving the unions status approaching that of corporations, but making them liable before the courts. Of this, Mahon (1977:186) observes that this change gave the state the legal means for coercing "responsible" behaviour and thereby containment of working class interests.

The whole cast of the "representation" provided to workers within the state bureaucracy is, according to Mahon, one of domination and, to illustrate this, she contrasts the attitudes and roles of the Minister of Industry and the Minister of Labour. The role of the former has explicitly been defined in Canada as the representative voice of the industrial sector of Canada's economy within the policy-making process. By contrast, the role of the latter has been defined not as labour's voice in this process, but rather as the "go-between" between capital and labour to prevent "industrial unrest" and any disruption of production.

Mahon (1977:184-185) argues that the means of domination secured via this "representation by containment" have evolved through three phases: the first from 1900 to 1944 was intervention in specific disputes threatening the National Policy; the second from 1944 to the present involved the creation and "support" of responsible and acceptable unions; and the third

currently emerging is the securing of organized labour's consent to the hegemonic group's economic strategy via corporatist structures. This same pattern of containment is even more pronounced in the case of the more marginalized elements of the subordinate classes (e.g., Canada's native peoples).

Mahon (1977:193-194) is careful to point out that these structurally unequal modes of representation do not mean that the state bureaucracy is a mere instrument in the hands of the dominant class. Rather, she argues, these modes of representation demonstrate the manner in which the balance of forces in civil society are expressed, shaped, and reproduced within Canadian state institutions, as well as the contradictory unity of the Canadian state behind its institutional manifestation. It is the class character of the Canadian state (not the instrumentality of the state) that Mahon seeks to explore.

Ultimately, however, what Mahon (1977:192) argues for is a Marxist methodology for the analysis of public policy formation (such as that surrounding the post-war expansion and contraction of higher education). She (1977:192-193) notes:

Identification of the determinants of public policy depends on assumptions concerning the structure and the relations between civil society and the state. . . . In a class society, the state functions to maintain these relations. In its liberal-democratic form, however, the state assumes a "relative autonomy" vis-à-vis the class struggle. It is a class state and yet its legitimacy derives from its appearance as representative of the 'nation-people.' The structural determinants of public policy in a liberal-democratic state are the (ultimately) contradictory functions of facilitating private accumulation and creating the conditions for social cohesion by functioning as 'neutral arbiter.' . . . the analysis of public policy,

considered as a means of subordinating particular interests to the long-run interests of the hegemonic fraction, is seen to involve several key questions. First, what compromise had previously obtained between the relevant social force and the hegemonic fraction and how was this expressed in the state? Second, what factors account for the breakdown of this compromise? Third, what structural arrangements were made for renegotiation? Finally, what kind of compromise does the new institutional arrangement represent and what mechanisms are there to ensure that this compromise is effectively integrated with the "global compromise"?

In broad general terms, it is this methodology that we shall attempt to apply in our exploration of the changing character of Canadian state policies on higher education and research.

The Class Character of Canadian Social Policy: Swartz, Walters, and Cuneo

The policy formation that Mahon examines is elaborated in specific reference to health and welfare in the work of three analysts who adopt the same structuralist perspective of state power and state action favoured by Mahon. Swartz (1977) explores the politics of reform in the health care system of Canada, as does Walters (1982) who also addresses the politics of occupational health and safety. For his part, Cuneo (1980) presents a structuralist interpretation of state action in the development of unemployment insurance.

Swartz (1977:316) advances the view that the Canadian state introduced health insurance legislation as both an economic concession to the working class and a means of realizing better the long-term political and economic interests of capital. Hence, he argues, while health insurance did afford the working class access to health care services, the state's

legislation was adapted to the existing structures of power and privilege within both the health care system and civil society as a whole. In this reading Swartz (1977:314) argues for a structuralist interpretation of state action, noting that the expansion of state institutions and state activity in the health care field is "in response to and in anticipation of class conflict," and that the state undertakes various activities (including legislation on health care) designed to expand and regulate production, and to absorb and reconstruct the ideology of capitalist social relation into a substantial form.

Walters (1982) takes issue with Swartz's interpretation, arguing that there is little evidence to support a claim that state action to introduce health insurance was a response to real or potential class conflict. Instead, Walters (1982:165) contends, health insurance legislation must be understood in terms of the state's role in the reproduction of labour power. In addition, she (1982:166) observes, the introduction of provincial health insurance represents one part of "a long-term federal strategy of rationalization of the health care sector." Pointing to the work of Stevenson (1982) and observing that it fell to the federal state in Canada to respond to the class interests of the bourgeoisie as a whole, Walters (1982:166) contends that "the state was the only legitimate institutional framework within which planning and centralization could occur."

Walters (1985) also explores state action in regard to occupational health and safety and expresses the view that the role of the state "can be conceptualized as one in which it seeks to facilitate capital accumulation while reducing the costs of occupational illness and diffusing conflicts

arising from workers' recognition of the expropriation of their health." In the course of this facilitating role, Walters (1985:74) argues, the Canadian state has never challenged in any serious way employers' control over labour and the labour process, since it has always established (but not always enforced) minimum standards designed in a manner consistent with capitalist relations of production.

Cuneo (1980) also presents a structuralist interpretation of state action in connection with the introduction of unemployment insurance in Canada. Viewing this as a state policy which addresses the structural contradictions of advanced capitalism (wherein the escalation of labour productivity creates persistent structural unemployment), Cuneo (1980:38) argues that the Canadian state framed a policy that addressed the long-term interests of capital and denied the more "radical" demands of labour for a non-contributory scheme. Examining in some detail the activities of the Bennett Government of the thirties, Cuneo (1980:47-48) notes that the state employed coercive tactics to oppose the demands of the militant unemployed for a non-contributory scheme, while utilizing conciliatory and legitimating tactics to win the consent of capital and the stably employed to the contributory form of insurance.

Hence the view of the Canadian state that emerges from this analysis is one which stresses that Canadian state social policy formation reproduces class relations by Canadian, relations of class domination rather than class conflict.

Conclusion:

The circumstances of Canadian political economy and ideology that constitute the contextual framework within which the relation between higher education and the state exists would seem, according to these theorists, to be marked by several distinguishing features. The first and most important feature of the Canadian state is one that sets it apart even from other federal state systems, namely, the post-war emergence of a powerful and dominant provincial state system. Other distinguishing features of the Canadian state include a long tradition of direct state involvement in accumulation, as well as a corresponding ideological tradition anchored in Toryism and oriented toward the maintenance of an hierarchical society in which inegalitarian values and the concept of the interventionist state play an important part.

These observers of the Canadian state and its historical development also emphasize that this is a state profoundly affected by a class struggle attenuated by a regional fractioning of class forces, so that state power and class power come to interact in ways running counter to general tendencies in late capitalist societies. Hence these analysts note that in the face of a general tendency toward centralizing state power, the post-war Canadian state has experienced a pronounced shift in power away from the federal state toward the provincial states, in part as a result of the lack of a strong national bourgeoisie and the presence of powerful class fractions operating regionally. What this implies, from a structuralist perspective, is that institutional expressions of class forces within the state

will be most clearly articulated within the provincial level of the state system, and that, because of the regional splintering of working-class forces, these institutional expressions of class forces are more likely to be those of class domination than of class struggle.

Several important implications can also be drawn for a reconsideration of the post-war politics of higher education. For example, we would expect to find that the long "Tory" tradition of an economically active and interventionist class state would give primacy to production over egalitarian concerns in the expansion and contraction of Canadian higher education. We would also expect that the ideological equation of corporate and national interests would constitute a powerful force underlying the degree of state support provided for higher education during the expansionary phase, whereas this same equation would dictate the re-ordering of commitments and the shedding of economically less productive programs of state support during the period of contraction. This, in turn, would also be reflected in a heavy emphasis on the economics of education and its reshaping to fit the evolving infrastructural role of the state.

Additionally, we would expect to find that the rising importance of provincial state systems over the post-war period would be reflected in the state's financing of higher education and would result in an increasing narrowness of educational policies as they become directed in greater and greater measure to the accumulative needs of the state. Finally, the regional attenuation of class forces and a state whose class character is expressed less in terms of class struggle than in class domination would suggest educational policies directed largely toward the state socialization

of productive forces and the relations of production, with little explicit attention paid to the ideological need to neutralize class conflict. Indeed, we would expect to find little evidence either of educational policies aimed at altering, in any significant way, the elitist character of higher education in Canada or any significant shifts in elitist participation patterns.

More generally, however, this alternative theoretical approach argues for an interpretation of the post-war politics of Canadian higher education that pays closer attention to the ways in which the Keynesian revolution in the relations between state and civil society shaped the character of state intervention in the field of higher education during the expansionary phase, as well as to the ways in which the contraction of higher education reflected, and formed part of, the break-up of the Keynesian consensus and the formation of a new conservative consensus on both the modes of state action and the role and place of higher education in society.

It is this alternative theoretical framework that we take to a reconsideration of the Canadian politics of higher education. It is a framework that depends heavily on the structuralist theories of Poulantzas, yet it is also one informed by the derivationist insights on the many ways in which the line between state and civil society has been muddled in the post-war period. Finally, it is a perspective shaped by neo-Gramscian views on the state's role in the making and remaking of the optimal conditions of production, including the necessary non-material infrastructure of knowledge and the relations of subordination/domination that must obtain in the pursuit of knowledge that is both commodified and politicized.

CHAPTER FOUR

REVISITING THE EMPIRICAL RECORD: THE EXPANSION AND CONTRACTION OF CANADIAN HIGHER EDUCATION

Before an alternative reading of the post-war politics of higher education and research can be set against the conventional demand-oriented analyses, it is first necessary to clarify the empirical record. For, as was noted in Chapter One, "demographic-push" and social demand analyses of the post-war history of higher education in Canada almost always ignore two critical facts. The first is that the major part of the Canadian state's financial support and policy thrust toward expanded systems of higher education did not truly occur until 1966, some ten years after Sheffield's alarming projections of greater and greater participation rates, and six years after these increased numbers of students had already reached the universities. The second is that state action to curtail and reshape the growth of higher education predated the late seventies decreases in enrolment by several years.

In the case of expansion what is clear from the empirical record is the ad hoc, last-minute quality of the state's support of higher education over the period 1955 to 1965. As for the contraction of state support for higher education, it is equally clear from the events of the period 1968-72 (some eight years before the decline in participation rates) that the state had not only moved to impose fiscal "restraint" (in the face of a 21 per cent increase in full-time university enrolments and a 47 per cent increase in full-time college enrolments), but had effectively taken control of several

aspects of program development (controlling tuition fees, announcing a moratorium on capital funding, and halting graduate program development in certain disciplines). Indeed, as is outlined in detail below, state action of this kind provoked several charges by the academic community that academic freedom and institutional autonomy had been violated -- long before the decline in participation rates. Hence in neither case can "demand" be considered the primary dynamic of state action.

A Closer Look at the "Decade of Delay" in the Expansion of Canadian Higher Education

A closer inspection of the expansionary era of Canadian higher education reveals that the period 1955 to 1965 is characterized by less-than-enthusiastic state support of increased participation, despite the twin arguments of cultural sovereignty (put forward by the Massey Commission in 1951) and of economic development (advanced by the Gordon Commission of 1958). More importantly, this begrudging support was provided in the face of an increase of 192 per cent in undergraduate full-time enrolments (from 64,036 in 1950 to 187,049 in 1965). Consider, for example, the following:

1951:

After exhaustion of federal grants received through the Veterans Rehabilitation Programme, the National Conference on Canadian Universities (NCCU) appeals to the Prime Minister (St. Laurent) and the federal government through the (Massey) Royal Commission on National Development in the Arts, Letters and Sciences to prevent a deterioration in their research programs and the quality of instruction by what was called a fall back into frugality. Portraying the universities as the "nurseries of a truly Canadian civilization and culture," the Massey Commission argues for direct federal grants. The federal government responds with an initially one-year (but then continued) per capita allotment of \$0.50 to be divided among universities on the basis of full-time enrolments. This raises the

governmental portion of operating expenditures to just over half at 52 per cent.

1955:

Dr. E.F. Sheffield, Director of the Education Division of the Dominion Bureau of Statistics, releases national projections of full-time enrolments for 1964-65 at 129,000 (as contrasted with the then current 68,000). These figures so startle the NCCU that it immediately convenes a symposium on the expansion of enrolments and begins planning for a national conference on the issue.

1956:

The NCCU hosts a conference on "The Crisis in Higher Education" to which Prime Minister St. Laurent is invited. The conference papers examine the implications of the Sheffield projections, and participants undertake a balanced three-pronged approach to the problem by drafting a plan to secure the energetic and immediate assistance of governments, business, private industry, and private benefactors. Resolutions are passed urging the revision of taxation laws to enable greater giving, pledging the development of ways and means of working with the business community to increase corporate aid, and planning a sharp increase in the lobbying of both levels of government for financial support.

The Industrial Foundation on Education is created at a conference of industrialists and university representatives on engineering, scientific and technical manpower. The Foundation immediately organizes and conducts a campaign for corporate aid. Several booklets entitled "The Case for Corporate Giving to Higher Education" are circulated and after its initial year the Foundation is able to announce a large increase in corporate donations (from \$2.7 million in 1956 to \$11.6 million in 1957).

1957:

Sheffield revises his projections upward to 142,000. After an increase in full-time enrolments of 8 per cent (72,000 to 78,500 students in the Fall of 1957, NCCU lobbies the federal government for an increase in the grant. The government agrees to provide a per capita allotment of \$1.00, which maintains the governmental portion of operating expenditures at roughly half (51%).

1958:

Enrolments increase by ten per cent from 78,500 to 86,700 and once more

the NCCU appeals to the federal government; the per capita allotment is raised to \$1.50, thereby increasing the state's portion of operating expenditure to 55 percent and of total expenditures to 60 per cent.

1959:

Sheffield again revises his projections upwards.¹¹

1961:

In the face of another 10 per cent increase in enrolments (to 95,000) in 1958-59, another 12 per cent in 1959-60 (to 101,000), and another 13 per cent increase (to 113,900) in 1960-61, the level of corporate support clearly stalls, having peaked in 1959 at \$12 million and then fallen to \$10 million -- far behind the targets of \$15 million initially and \$30 million annually thereafter. Meanwhile, operating costs continue to escalate at the rate of 19 per cent annually, and capital expenditures rise at an annual rate of 20 per cent.

Sheffield again revises his projections upwards.¹²

1962:

The federal government raises the per capita allotment to \$2.00, but universities argue that the increase is insufficient to the enormous costs involved. The (Bladen) Commission on Financing Higher Education in Canada is struck by the Association of Universities and Colleges of Canada (AUCC, formerly NCCU) to make the case for increased government aid. At this point the state's share of operating expenditures is holding steady at 58 per cent, while state support of total expenditures had risen to 64 per cent.

1963:

Sheffield again revises his projections upwards.¹³

1965:

Corporate aid declines markedly, while capital costs have increased by a factor of twelve since 1954, going from \$12 million to \$145 million. The Bladen Commission issues its report and in a few short lines dismisses the idea of corporate aid as anything but a trivial or incidental source of support. The Commission recommends strongly that there be an immediate increase in the per capita allotment to \$5.00 and thereafter an annual

increase of \$1.00 so as to allow universities to plan ahead.

1966:

The Prime Minister (Pearson) agrees to the increase of \$5.00 but does not agree to the annual increase. Instead, later this year he announces the Federal Provincial Fiscal Arrangements Act (which is to stay in effect unchanged until 1972). The Act removes the direct per capita allotment and replaces it with a scheme whereby four percentage points of the personal income tax are to be transferred to the provinces. In addition, an adjustment payment is to be made to bring the total transfer up to the greater of \$15.00 per capita (of the provincial population) or 50 per cent of the operating expenditures of post-secondary institutions in each province. These transfer payments are defined as conditional grants, so that provinces are compelled to direct the monies to the expansion of higher education. This act has the effect of pushing up the state's portion of total 1967 expenditures to 71 per cent.

The above record of events underscores two very important facts in the expansionary phase of Canadian higher education: first, despite repeated and highly publicized projections (over a period of eight years) of vastly increased numbers of students demanding access to post-secondary education, and despite repeated pleas from the university community, neither level of the state engaged in long-term planning for an expanded system; and, second, the federal state's policy decision to undertake the financial responsibility for planned expansion in higher education was not really taken until 1966.

At the provincial level of the state, similar delays occurred. For example, in Canada's largest university system, in Ontario, the decision to expand the universities and the proposals for junior colleges and community colleges to siphon off some of the demand for participation were still being debated as late as 1963; "The University Expansion Program" was submitted to the Advisory Committee on Post-Secondary Education as late as the Fall

of 1963²⁰, and the creation of the Department of University Affairs took place as late as 1964²¹ -- by which time social demand had already amply manifested itself in full-time undergraduate enrolments that had already more than doubled (from 21,268 to 45,563). Statistics Canada (1978:260) data on Ontario operating expenditures by source of funds also reveal that the proportion of expenditures from governmental sources actually increased very little over the period from 1955 (the year of Sheffield's first projections) to 1964 -- namely, from 58 per cent in 1955 to 60 per cent in 1959, to 62 per cent in 1960, to 61 per cent in 1964. By 1967, the year the new federal transfer payments were received, this proportion jumped over ten percentage points to 76 per cent. This same pattern of rather late state action is also discernible in the fact that the greatest increase in operating expenditures occurred not over the period when participation doubled from 7.8 per cent to 15.0 per cent (1955-1964), but rather in the years 1965-70 (over which time participation rates increased by only two percentage points).

1968-72: A Pattern of Precipitate State Intervention

As for the period of contraction, we are also hard-pressed to discover in the empirical record the nice flow of cause and effect within the conventionally alleged relations between flagging student demand and state action. Indeed, if we are to understand (as most analysts explicitly do) declining demand as the mid-to-late seventies decreasing rates of enrolment and participation, then it is difficult to explain the 1966 and 1968-69 interventions of Ontario's Minister of Education or the 1970-72

actions at the federal level by the Economic Council of Canada and the federal Cabinet. In this regard, consider the following:

1966:

Full-time university enrolments increase by 13 per cent, from 204,245 to 230,337. In Canada's largest province, Ontario, a Council of Regents is created for the newly created system of Colleges of Applied Arts and Technology (CAATs).

The Ontario Minister in charge of university affairs, William Davis, sounds the first warnings to the universities of the province in a speech that stresses the need for curtailing costs and noting that if the universities are not prepared to put their financial house in order, the government will undertake the coordination necessary.

1967:

Full-time university enrolments across Canada increase by 10 per cent², and with the establishment of community colleges in Ontario and elsewhere, the proportion of operating costs of post-secondary education met by the state soars to 77 per cent in the university sector and 80 per cent in the college sector.

In Ontario where warnings had already been issued, the Minister in charge of higher education (Davis) announces the establishment of a Commission on Post-Secondary Education to outline a "master plan" for higher education in the Province.

1968:

Full-time university enrolments in Canada increase by 5 per cent, while college enrolments jump by 30 per cent. Total post-secondary enrolment stands at just under 400,000, with a participation rate of 16.4 per cent.

In Ontario, however, the value of the basic income unit (in the funding formula used for universities) is increased by only 5.5 per cent, far short of the 11.1 per cent increase requested by the universities and well below the level recommended by the provincial government's advisory body, the Committee on University Affairs.

1969:

Full-time university enrolments in all provinces increase by 11 per cent; college enrolments by 10 per cent, to raise the number of post-secondary

students to 436,800.²⁹

In a series of convocation addresses, Ontario's Minister of University Affairs, William Davis, warns universities that the period of growth is over and that they should begin to scale down their spending and rationalize their offerings through the use of cost-benefit analysis. Additionally, the Department of University Affairs announces plans not to accept financial responsibility for any new programs not approved of by the Committee on University Affairs. The universities file a formal complaint charging a violation of their autonomy in matters of curriculum and a scrutiny of programs never intended as part of formula financing. The complaint falls on deaf ears, however, as the provincial government implements program budgeting as a means of limiting expenditures in areas deemed to be unproductive (thereby reducing the deficit). After a delay of two years, Davis appoints as Chair of the Commission on Post-Secondary Education the controversial Douglas T. Wright, the then Chair of the Committee on University Affairs (who had publicly repudiated the universities' claim that the Ministry had violated their autonomy in announcing plans not to accept responsibility for new academic programs not approved by the CUA). Additional resentment is aroused over the complete lack of consultation with the universities before Wright's appointment is announced.

1970:

National data continue to show increases in full-time university enrolments (5%) and in college enrolments (16%), to bring the total post-secondary enrolments to 475,548.

In Ontario the Treasury Board intervenes to "recommend" that the Committee on University Affairs make part of its advice to government several policies consistent with the restraint program. These include: a lower BIU value, a reduction in the recommended level of capital funding, a raising of the loan ceiling on Student Awards, the outright elimination of the Ontario scholarship program and the Ontario graduate fellowship program, and a revised (increased) fee schedule for colleges of education.³⁴

1971:

The Economic Council of Canada announces in its Eighth Annual Report that the social rate of return to higher education was actually less in 1967 than it had been in 1961.

In Ontario the Minister in charge of post-secondary education, John White, announces funding levels well below those anticipated. In addition, he announces his intention to secure "more scholar for the dollar."³⁷ Operating grants actually fall from \$313,930,000. to \$302,254,000. This

This begins a trend toward operating grants to universities representing an annually declining proportion of government expenditures (from 7.9 per cent in 1970-71 to 5.6 per cent by 1980-81).

Funding for Ontario graduate fellowships is reduced by \$1.5 million; funds for Ontario Student Awards are trimmed by \$4.5 million. Capital funding falls by \$12.5 million.

The Committee of Presidents of Provincially Assisted Universities and Colleges of Ontario reorganizes itself into the Council of Ontario Universities, in part to organize the common interests of the academic community, and to protect the autonomy of the universities in the face of state interventionist policies. An expanded secretariat and research division is set up, along with twelve standing committees. One of the first charges levelled by COU against the provincial state is that the role of the ostensibly "neutral" buffer body, the Committee on University Affairs (CUA), had been seriously distorted by the all-powerful Treasury Board and that the Committee had ceased to be an independent body it was supposed to be and was becoming much more the instrument of government.

1972:

Unexpectedly, the university participation rate and full-time university enrolments experience their first declines, although the drops are only 0.2 and 0.1 of a percentage point, respectively. College enrolments, on the other hand, increase by 10 per cent.

The federal and provincial governments agree to amend the Fiscal Transfer Act to place a 15 per cent growth ceiling on the post-secondary transfer payment.

In Ontario the draft report of the (Wright) Commission on Post-Secondary Education recommends the creation of a coordinating board to oversee the activities of the universities. The board, it is recommended, is to have executive authority over the creation of new faculties, the setting of admission policies, and the distribution of funds among universities. Not surprisingly, the universities, through COU, respond with a charge that this proposal removes all vestiges of academic freedom and institutional autonomy from the academic community.

On the specific recommendation of Treasury Board and after only partial consultation with CUA, the Ontario government imposes the following constraints on growth:

- a moratorium on capital funding;
- an embargo on the funding of all new graduate programs;
- limitation on the funded enrolments in part-time general interest courses in the CAATs;

an across-the-board increase in tuition fees of \$100 and the imposition of third-term fees for graduate students.

The combined effects of the embargo on graduate funding, an adjusted BIU value and the unexpected decline in full-time enrolments are disastrous -- an increase in operating revenue of only 2.1 per cent (in contrast with the 16.4 per cent increase in the previous year).

1973:

Full-time university enrolments increase by 3 per cent; college enrolments by 5 per cent.

In Ontario the Ministry announces an increase in university operating grants of only 6.9 per cent, an increase that is roughly half of the overall increase in provincial budgetary expenditures (12.7%).

1974:

Full-time university enrolments rise by 5 per cent, as do college enrolments. In Ontario the government introduces "global funding," whereby the state is able to set limits on the total funding levels. This is explicitly undertaken as a means of curtailing expenditures and integrating the financing of higher education into the provincial "restraint" program.

1975:

Full-time university enrolments increase by 7 per cent; college enrolments by 5 per cent. In Ontario, the Special Program Review is conducted and its results published. Post-secondary education is charged with having allowed credentialism to weaken the economic benefits (social rates of return) of higher education. The Report recommends (1) that tuition fees be allowed to rise sharply, so that within several years they would approximate 24 to 28 per cent of operating costs (an increase of some 65 per cent); (2) that provincial support of part-time general interest courses at CAATs be phased out, so as to put them on a full-cost recovery basis and that the Council of Regents be directed to focus on vocationally oriented programs of study; (3) that no additional funding be provided for new graduate university programs; and (4) that the student aid plan (OSAP) be revised to reduce the grant portion and increase the loan portion (to pare forty million dollars from the program in 1976-77). This last recommendation is explicitly justified in terms of the findings that returns to educational investment were principally private returns.

Funding levels remain low, with university (operating and capital) grants and student aid across all ten provinces dropping to only 3.8 per cent of

the gross general expenditures of all governments (federal, provincial and municipal).

1976-79:

Male university participation rates drop by roughly two percentage points, but, for the first time, female rates drop (though by only .4 of a point over a shorter period of time (to 1978) after which they rise once more). These drops have the effect of reducing full-time university enrolments from 376,506 in 1976-77 to 367,973 in 1978-79. In Ontario, these drops are even sharper, at 3 per cent overall in two successive years.

Clearly, action by the state to curtail growth and to secure greater executive authority over the direction of higher education predated the late-seventies slump in participation rates by several years. As early as 1968 and 1969 at the provincial level in Ontario, the then Department of University Affairs had already moved to curtail and to shape any new program development (provoking the first collective charge by universities that their autonomous control over their curricula had been violated). That state action was more closely related to the perception that higher education had failed to deliver the economic goods than to faltering demand for entry is underscored by the 1971 statement in an Ontario Treasury Board Report that:

This is perhaps the place to reiterate the necessity for spelling out objectives as an integral part of the development of government policy. Under-employment of university graduates, while always unfortunate, is not necessarily a concern of educational policy if the objective is simply to increase the general educational level of the population. If the objective, however, is more directly related to the economy of the Province, unemployed or under-employed graduates are very much related to educational policy. It appears that the latter consideration was an important implicit policy objective of the large Government expenditures on the university in Ontario

during the 1960s. In any case the necessity to outline objectives against which system performance can be measured is demonstrated by the present situation (Axelrod, 1982:161).

And, while amendments to the Fiscal Transfer Act were normally only negotiated at five year intervals, the federal state (as indicated in the 1971 report of the Economic Council and the subsequent actions of the Finance Minister) was clearly prepared to wind down its financial support of higher education -- on the same grounds that it had belatedly moved to provide such support in 1967, namely, economic social rates of return. In fact, as the above chronology reveals that, once the required five year period was over, the federal state acted quickly to impose financial constraints on higher education, negotiating a 15 per cent ceiling on the annual growth in the transfer payments.

What is also clear from this chronology is that by 1972 the cumulative effects on Ontario universities of the federal ceiling on the transfer payments, the moratorium on capital funding, the embargo on graduate funding, and the unanticipated decline in full-time enrolments were devastating. The increase in operating revenues for the system fell to a mere 2.1 per cent, a level less than half the rate of the enrolment growth for that year and far below the previous year's increase of 16.4 per cent. The political effects of the state's various actions to effect greater and greater control -- beginning with fiscal control and then extending to programmatic control -- can also be measured, in part, by the emergence in the early 1970s of more fully organized lobbying agencies within the academic community.

This evidence suggests that the primary dynamics of expansion and contraction of higher education in Canada cannot truly be thought to be the "demand from below," in whatever sense may be intended. For, if this were so, significant and sharp changes in educational policies, as well as increases in state financing, would have occurred long before 1966. Similarly, state action to curtail the expansion of higher education would have taken place after, but not before, the mid-to-late seventies. More than anything else, it is the decade of delay in the first instance and the precipitate intervention in the second instance that point to other more significant causal forces in the expansion and contraction of higher education in Canada.

Before turning to a consideration of other forces, however, it is necessary to clarify one very significant point in this connection. At least part of the conventional view that the state acted to expand higher education in response to rising participation rates [themselves judged to be reflective of a revolution of rising expectations aimed at a newly established post-war welfare state with its emphasis on health, welfare, and education] is based on the belief that in 1945 the Canadian Keynesian welfare state was born. Analysts (cf. Wolfe, 1983) point to the White Paper, "Employment and Income with Special Reference to the Initial Period of Reconstruction," presented to Parliament in April of 1945 as evidence of this development. It is argued that this explicitly Keynesian approach to a revised economic role for the state constituted the great post-Depression compromise between labour and business (cf. Wolfe, 1977), and that it articulated several major responses by the state to demands from below.

Others, however, argue that, despite the Keynesian cast of the White Paper, its translation into action by successive governments at both federal and provincial levels represented at best only half-hearted exercises in economic budgeting and rather more in the way of lapses into the Gladstonian wisdom of balanced budgets (Gordon, 1966:28). Similarly, in commenting on the implementation of the White Paper, economist John Deutsch (1966:128) observes that, although sporadic attempts were made to realize the short term goals set out in the White Paper, little attention was paid to the long-term aims of developing welfare measures, expanded research, and education and manpower training as a means of providing the long-term infrastructural support needed in a modern economy.

By 1966, however, the situation had changed, and Deutsch himself was one of the chief architects of that change. One of a group of young economists brought into the state bureaucracy by the wartime Deputy Minister of Finance, W.C. Clark, Deutsch had played some part in the attempted dissemination of Keynesian principles within state circles and later, in 1963, was named Chairman of the newly created Economic Council of Canada. It was in that capacity that Deutsch was to draft the two documents that are generally held to be the decisive force behind the state's 1965 decision to finance the expansion of higher education in a big way. The two documents were the First and Second Annual Reviews of the Council, Economic Goals for Canada to 1970 (1964) and Towards Sustained and Balanced Economic Growth (1965), and their significance lies in the fact that they represent an unequivocal endorsement of the theory of human capital as one of the primary underpinnings of a state-regulated

modern economy.

It is within this context that we can begin to explore the lag of roughly ten years between the vastly increased demand for post-secondary education and state action to expand on any other basis than an annual last-minute response to pleas for increased funding. That is, it was not until the case for university expansion was argued in terms of its potential enhancement of state-facilitated accumulation that the Canadian state (at either level) truly acted. The abstract arguments made in the Massey and Gordon Royal Commissions of 1951 and 1958 had to wait for the detailed econometrics of human capital within the Economic Council reports of 1964 and 1965 before acceptance of the case for planned growth of significantly greater scope was assured. Expansion of higher education in Canada cannot therefore be understood primarily in terms of democratic state responses to popular demand or in terms of a policy commitment to equality of opportunity through education. Similarly, it had little to do with nurturing an indigenous Canadian culture. State action was predicated on the traditional and now strengthened role of the Canadian state in addressing the productive needs of a post-war economy, an economy in which human capital was seen to constitute the critical factor of production and the leading edge of state-regulated economic growth. This same dynamic was at work a scant three to four years later when the conditions shaping the state's role had begun to shift, for the state acted to redefine the scope and focus of its infrastructural role, leaving behind its broad unselective policy of human investment through higher education.

More importantly, however, conventional demand-model analyses of

the state's role in the expansion and contraction of higher education fail to take into account the fact that the state's endorsement of human capital theory in the mid-sixties and its abandonment of this approach by the end of that decade signalled more than the rising and then falling star of higher education (or its debasement through a generalized process of commodification). It signalled a profound change in the state's own involvement in production and a break-up of the Keynesian consensus on the most effective role for the state in production. For, nowhere can the state's changing economic and ideological role in the reproduction of labour-power and the social relations necessary to this reproduction be so clearly observed than in this dramatic about-face within a mere decade. Part of a process Offe calls the post-war "scientization" of industry and "statization" of higher education, state expansion and contraction of higher education constitutes one of the more important expressions of increasing (and changing) state involvement in the provision of a non-material infrastructure for production. In turn, the state's increasing encroachments on the autonomy of the scholarly community and its institutions reflect the extreme pressures on the state to restructure and to re-orient the infrastructure of Canadian production.

The Logic of Expansion and Contraction: The Commodification and Politicization of Knowledge

One of the most important issues at the heart of these complex relations among state institutions, the economy and the academy is the commodification and politicization of knowledge that has been described

by many scholars, in particular, Offe, Poulantzas, and the derivationists. The emergence of "human capital theory" as a central feature of state economic strategy and the development of "national science policies" illustrate this process. Knowledge and the social institutions dedicated to the expansion of the frontiers of knowledge are increasingly defined by state policies, which are themselves given shape by the critical role played by the state in the infrastructural deployment of knowledge as a productive force, as specific quality-of-labour and technical-innovation inputs in the model of economic growth and productivity. Thus, for example, Offe (1984:123-124) argues that state policies of education and training are designed to provide maximal exchange opportunities so that both labour and capital can enter and ensure capitalist relations of production; similarly, he notes, state policies on research and development are designed to open up new markets, while at the same time protecting the domestic economy against encroachment by foreign competitors. This, he states, amounts to state policies "to create and universalize the commodity form of value, in whose absence value becomes non-existent in capitalist society." Offe goes on to say that

... since the mid-1960s the increasingly dominant and exclusive strategy of the capitalist state is to solve the problem of the obsolescence of the commodity form by politically creating conditions under which legal and economic subjects can function as commodities. More specifically, this strategy develops in three directions: first, the salability of labour power is enhanced through measures and programmes directed towards education, training, regional mobility and improving the general adaptability of labour power. Second, the salability of capital and manufactured goods is enhanced through the transnational integration of capital and product markets, research and development policies, regional development policies, etc.

Third, those sectors of the economy (identifiable according to particular industries, regions and labour market segments) which are unable to survive within the commodity form on their own strength are allowed, according to plan, to fall victim to market pressures. At the same time, these sectors are urged to modernize, i.e., to transform themselves into 'marketable' goods.

What Offe describes has its roots in the extension of Keynesian principles of state economic management which took place in the mid-sixties, largely as a result of the emergence of human capital theory which identified knowledge, research and technical innovation as critical components of the national economy. State agencies were quick to carve out a role for themselves in higher education and research, and concerns over higher education's flexible and timely production of manpower and "productive research in the national interest" came to dominate academic life and the structural relations of higher education (both economic and political). It has also been a process in which Keynesian state policies for increasing the stock of highly qualified manpower and the state's broad provision of the infrastructure of production evolved to become much more: a new intersection between the state and science that functions as a critical component of private accumulation -- not simply in the Keynesian sense (of maintaining aggregate demand), but rather in terms of state-financed research, manpower training, and technological innovation in the labour-process as leading productive forces. The result has been to render the issues of academic freedom, institutional autonomy and the "production" of knowledge-as-capital all the more central to the life of the academy and, more generally, to scientific discourse itself.

Knowledge as a Classical Factor of Production: The Theory behind the Economics of Education and Research

Newly articulated in the post-war period, human capital theory addressed itself to what were then described as the basic needs of rapidly expanding "post-industrial" economies -- i.e., a labour force that could facilitate technological advancement and a research capacity that could not only develop instruments of production, but also transform the labour-process so as to enhance productivity in the use of such instruments. Mary Jean Bowman (1966) and George Psacharopoulos (1973) locate the 'reincarnation' of human capital theory in post-war America and Europe when a theoretical malfunction emerged within econometric studies of post-war economic growth. Concern over education began, Bowman (1966:117) argues, when it became clear that "physical capital worked its miracles only in lands where there were qualified men who knew how to use it (the Marshall Plan and Japan)." Conventional measures such as undifferentiated labour combined with capital inputs did not account for the growth observed in these studies; the unexplained portion of growth became known as the 'residual' or the "coefficient of our ignorance" and, as Psacharopoulos (1973:1-2) notes:

This led researchers to try to open the black box of technical change and reduce the unexplained residual. The main initial development was the quantification of the increase in the quality of labour inputs and this led to the creation of a new field of economics known as the "economics of human capital," or more narrowly the "economics of education." Since then there has been an almost 180° shift in emphasis in development planning, the emphasis changing from physical to human capital as the major source of growth.

128

Once this direction was charted, it was but a short distance between the explanatory power of quality-of-labour inputs and policy debates over optimal resource allocations for economic growth as between physical capital and human capital, what Psacharopoulos (1973:3) calls the debate over "steel mills or schools."

In the United States the proponents of the human capital approach to economic development were Theodore Schultz (1961), Edward Denison (1964), Gary Becker (1964), and W. Lee Hansen (1969); in Canada they were Gordon Bertram (1966) and J.R. Podoluk (1965); and in Britain Mark Blaug (1968). Although the specific claims of these theorists regarding the degree to which educational investment contributes to economic growth are both varied and complex, a very good summary of the overall claim is provided by Psacharopoulos (1973:9) in the following passage:

Two patterns seem to emerge from [the overall actual relationship between the returns to investment in education and per capita incomes]. First, by taking the sample of countries as a whole, there is an overall negative relationship between the rates of return to investment in education and the level of economic development. Second, by disaggregating the sample into developed and developing countries, a U-shaped pattern is obtained; i.e., the returns to education are declining at first until a certain level of development is reached, at which point the returns start to rise along with the level of development. The first pattern and the first half of the second pattern are all consistent with our theoretical expectations, i.e., diminishing returns to investment in education. Our explanation of the second part of the U-shaped pattern, the upward sloping curve, . . . is that human capital is the complement to the high level of technology employed in rich countries.

As for the actual contribution of educational investment to national economic growth, Psacharopoulos (1973:10) quantifies it (using both Schultzian and Denisonian growth methods) as falling within the range of 4

and 23 per cent, with the position in this range being determined by the country's level of development (again as measured by per capita income). Here, the disaggregated national groupings reveal that highly developed countries (those centering on the \$2000 per capita mark) show a contribution by education of some 11.2 per cent, while countries in the second range (\$500 per capita) show a contribution of 13.7 per cent, and those least developed (at \$200 per capita) show a contribution of 15.5 per cent. Thus, while the observed post-war contributions to economic growth by educational investment were clearly greater in developing countries (because of the powerful effect of literacy on the productivity of the labour force), the social rates of return for highly industrial countries were also suggestive of potential benefits to those advanced nations who might wish to capitalize on the hypothesized relation between high technology and social rates of return. As educational theorist, Robert M. Pike (1980:126) points out, what this strand of human capital theorizing meant for countries like Canada was that, once a high level of capital accumulation had been achieved, further economic growth was primarily a function of technological and technical innovation, innovation which was itself a function of the existence, and development of human rather than physical capital. More education meant more productivity. Indeed, it was this latter point that came to be critical to the general acceptance of the human capital argument, for it dovetailed neatly with the then current call for manpower planning and broader accessibility to occupationally elite positions, factors seen as critical to the needs of a "post-industrial" world. Advanced by leading social scientists, such as Burton Clark (1962) in the United States,

Lionel Robbins (1963) in England, and John Porter (1965) in Canada, this view of the world stressed the rapidity of technological and social change and their effects on labour force and mobility requirements -- namely, for training in the sciences and engineering, as well as the social sciences, especially those areas focusing on managerial and organizational skills.

The acceptance of the human capital argument by leading members of the academy was, however, more than just a fortuitous compatibility of positions, egalitarian, on the one hand, and economic, on the other. For, it must be remembered that the commodification of knowledge was not a development spurned by the academy, as the Bladen Commission on the Financing of Higher Education illustrates very clearly. Here, as elsewhere, the proponents of university and college expansion (which was for them explicitly understood to be state-financed expansion) cast their arguments explicitly in the mold of human capital theory. Even the choice of Professor Bladen, who described one of his primary interests as the economics of education⁵⁵, as Chairman of the Commission on the Financing of Higher Education in Canada is indicative of the weight given to the economics of education as over against egalitarian, intellectual, or cultural concerns.

As for the actual Report of the Bladen Commission, it stands as a partial analogue to the Robbins Report in Britain in that one of its principal aims is to argue for a state financed expansion of higher education largely on the grounds of higher education's quantifiable contribution to national economic growth. Of his Commission's Report, Bladen (1965:60-61) writes:

We argue that higher education is both a consumer's good

and a producer's good. If it were simply the former, the expected growth in GNP would help to make the greatly increased expenditures possible. But when faced with higher taxes or loss of other government services, the present high priority of education in the public mind might slip.

But higher education is in large measure a "producers"[sic] good and the return on investment helps to pay the growing costs. There has been little analysis of this investment aspect in Canada but I am hopeful that the Economic Council of Canada will come forward shortly with pioneer work.

But all of this assumes that capital investment in total is given. We think there is good reason to believe that some of the investment in higher education is additional, not alternative, investment. . . . The addition to GNP from such additional investment becomes a further basis for arguing that the great increase in expenditures is not as frightening as it first appears.

What is more, we argue that the rate of growth projected for the GNP is not independent of the rate of investment -- or of the rate of investment in higher education and research. . . . We also know little about the yield of investment [in research and the increase of knowledge]. We are only just beginning to realize that the new technology cannot be taken as growing independently; it is a product of investment in research and development; it is the product of an industry whose product is knowledge, and the most important firms in that industry are the universities.

Presenting the case for state financing of expanded universities and colleges in terms of a knowledge industry and the social and private exchange values of its commodity, the Bladen Commission argues for the state-managed industry of which Claus Offe writes. Both the conceptual framework and the language in which the argument is couched underscore once more the primacy of production over egalitarian concerns in the expansion of Canadian higher education.

It was on the various strains of these early 1960s arguments that

Deutsch and his Economic Council seized in what was clearly an attempt to enact the "more fundamental long-run" but neglected Keynesian aspects of the White Paper on Employment and Income. Following a general discussion of the concept of human capital in the First Annual Review of the Council in 1964, Deutsch had the calculations of Denison, Schultz, Becker and Hansen replicated by Bertram and Podoluk using Canadian data. In the Second Annual Review of the Council in 1965, Deutsch presented the complex and detailed calculations on private and social rates of return to educational investment in Canada, estimating them to be of the order of 10 to 20 per cent. The argument fashioned by Deutsch can be reviewed briefly in the following excerpts from the Council's two reports:

During the post-war period it has become increasingly apparent that the future prosperity of a nation will depend in large measure on its success in creating and maintaining an adequate supply of professional, technical, managerial and other highly skilled manpower.

The scientific and technological advances which are now being made and which will continue to be made in future years are changing the basis on which the prosperity of nations may be achieved and maintained. As the possibilities for significant new economic growth become more closely tied to the emphasis placed on advanced education and research, they are capable of being more widely dispersed among the industrially and technologically mature nations of the world.

... it has been estimated that the returns on "human investment" in high school and university education in Canada are in the range of 15 to 20 per cent per year, with slightly higher rates for investment in a university education than in a high school education ...

These rates of return, it has been noted, are rates of return to individuals. The calculations have not taken public costs of education into account -- either capital or operating costs. These costs, however, are probably small in relation to the private costs to the individuals, including foregone income. This would imply that even overall rates of return to the economy for total investment in education would be relatively high -- perhaps in the range of 10 to 15 per cent. . . . This would have an important implication for Canadian economic policy suggesting that relatively greater emphasis should be placed on facilitating expanding investment in education in relation to expanding investment in other assets. In fact, this conclusion would appear to be in general accordance with the growing conclusion in many parts of the Canadian economy that the shortage of skilled and trained technical professional and managerial manpower is even more critical . . . than enlarging the physical facilities required for increasing output.

.....

The accumulating evidence and analysis suggests that the benefits from such improvements [in the educational stock of the labour force] can be substantial for both the individuals and the economy as a whole. The revitalization of education in Canada in the 1950's and 1960's is laying the basis for enlarging the contribution to Canada's future growth . . . Much of the benefit will be experienced in a prolonged and cumulative way over a period of several decades. But the benefits ultimately will be large.

With these words, higher education and human capital theory became the recommended cornerstone of the Canadian state's Keynesian economic policy of development. The emphasis is very clearly on a state presence in the economy through higher education, as well as the shaping and managing of both the labour force and the non-material infrastructure of production.

1. Peitchinis (1971:67) and Sheffield (1961:8, Table 1).

2. Bissell (1957:v).
3. Bissell (1957:244-246).
4. Axelrod (1982:43).
5. See The Association of Universities and Colleges of Canada (1965:14).
6. Peitchinis (1971:77).
7. Peitchinis (1971:79) and Sheffield (1961:10).
8. Association of Universities and Colleges of Canada (1965:14).
9. Statistics Canada (1983a:W340-438).
10. Axelrod (1982:46).
11. Association of Universities and Colleges of Canada (1965:22-23) and Statistics Canada (1983a:250-251).
12. Association of Universities and Colleges of Canada (1965:14).
13. Peitchinis (1971:79).
14. Statistics Canada (1978:250-251, Table 30).
15. Association of Universities and Colleges of Canada (1965:14).
16. Association of Universities and Colleges of Canada (1965:22,45,73).
17. Peitchinis (1971:81-82).
18. Statistics Canada (1978:250-251, Table 30).
19. This point is also made clearly by John Porter (1965:40) in his analysis of class, mobility, and migration:

[The] inadequacy of Canadian education became more evident during the 1950's when continued industrial growth was accompanied by an increase in the proportions of professionals in the immigrant labour force. By 1959 and 1960 the proportion was 13.5 per cent, almost double what it had been in the earlier years of the decade. In 1959, 14 per cent of those entering professional occupations in the scientific and technical fields were either recent immigrants or were recruited outside Canada.

Indeed, Statistics Canada data (1983a:A351-368) reveal that by 1966,

the year the federal state acted to provide for planned expansion of higher education, the proportion of the immigrant labour force who were professionals had climbed to 24 per cent. The work of David Stager (1981:17) also clearly reveals that the Canadian education system did not significantly improve this situation over the early sixties, for he reports that in 1966, graduates of Canadian post-secondary programs represented only 19 per cent of all labour force entrants. By 1971, however, this figure had risen sharply to 29 per cent and by 1975 to 35 per cent.

20. Fleming (1971:40).
21. Axelrod (1982:95).
22. Statistics Canada (1978:208, Table 22).
23. Fleming (1971:519).
24. Axelrod (1982:96).
25. Statistics Canada (1978:208, Table 22).
26. Fleming (1971:84).
27. Statistics Canada (1978:23, Tables 1 and 2).
28. Axelrod (1982:158).
29. Statistics Canada (1978:23, Table 1).
30. Axelrod (1982:145-146).
31. Axelrod (1982:158-159).
32. Axelrod (1982:171).
33. ~~Statistics~~ Canada (1978:206,208, Tables 21 and 22).
34. Axelrod (1982:159).
35. Economic Council of Canada (1971:208).
36. Axelrod (1982:162).
37. Committee on the Future Role of Universities in Ontario (1981a:Table 5.2).
38. Committee on the Future Role of Universities in Ontario (1981a:Table 6.1).

39. Axelrod (1982:162).
40. Council of Ontario Universities (1971:10-11,65-67).
41. Axelrod (1982:162).
42. Statistics Canada (1978:206,208, Tables 21 and 23).
43. Stager (1981:84).
44. Axelrod (1982:171-172).
45. Special Program Review (1975:122,125).
46. Committee on the Future Role of Universities in Ontario (1981a:Table 5.3.3).
47. Statistics Canada (1978:206,208, Tables 21 and 23).
48. Council of Ontario Universities (1985:14, Table 9).
49. Statistics Canada (1978:206,208, Tables 21 and 23).
50. Axelrod (1982:167).
51. Statistics Canada (1983a:W307-309 and W340-348).
52. Special Program Review (1975:126-136).
53. Statistics Canada (1983a:H304-316) and Statistics Canada (1983b:60, Table 38).
54. Statistics Canada (1983b:32, Table 8).
55. Professor Bladen (1965:57) describes himself as follows:

. . . a professor of economics . . . [with] a strong academic (scientific) interest in the problems of economic development, of investment as a factor in such development, of investment in human beings as a neglected element of total investment, and of educational expenditures as an important part of total investment.
56. Economic Council of Canada (1964:160-161 and 1965:154-155).

CHAPTER FIVE

THE KEYNESIAN REVOLUTION IN THE RELATIONS BETWEEN STATE AND ACADEMY: HARNESSING HIGHER EDUCATION AND RESEARCH TO NATIONAL ECONOMIC GOALS

The stress the Economic Council of Canada (1964:169) placed on universities' production of "professional, technical, managerial, and other highly skilled" manpower did not go unheeded in either state circles or Canadian universities. For its part, the state responded with the Federal-Provincial Fiscal Arrangements Act, which called for post-secondary education transfer payments of over \$420 million in 1967-68, an amount roughly double that which was provided in the previous year (Peitchinis, 1971:74 and 204). This massive increase made possible a planned expansion of professional and career-oriented academic programs, as well as a major expansion of the graduate sector (both of which bring with them highly specific requirements in terms of faculty and support staff, equipment, and instructional and research facilities).

As for the academy, while most university representatives rejected a narrow and mechanistic approach to the production of highly qualified manpower, there was certainly a recognition that the planning and implementation of graduate level and professional programs required serious attention within the allocation of the newly acquired federal transfer payments. In part, this attention took the form in several provinces of building into the newly adopted formula for financing university expansion differential weighting factors to reflect and accommodate the higher operating costs of more capital-intensive professional programs and of

labour-intensive graduate programs. Under this arrangement the real costs of scientific laboratories, instructional equipment, and highly specialized instructional and research space for programs such as medicine, dentistry, nursing, industrial design and engineering, as well as graduate study and research in the sciences, could be built into the formula. In Ontario, for example, a student in medicine was weighted, in 1967-68 funding formula, at three times the amount assigned the student in the humanities, and a doctoral student was weighted at a level six times that of the undergraduate student in the humanities.

Whether or not we argue the case for the "steering effects of formula financing (Leslie, 1980:248-258), the results of removing the financial disincentives to professional program development, as well as the degree to which institutions of higher learning responded to the state policy emphasis on the development of "professional, technical managerial and highly skilled manpower" can be inferred from the disciplinary rates of growth for the two periods in question outlined in Table 5.1. In this table we can see that, while the initial and final enrolments over this period are roughly similar for the "Arts and Science" and "Professional" categories, the patterns of growth are markedly different. The 1960-65 period saw a 100 per cent growth in arts and science and only modest growth in the "professional" categories of study (engineering 16.2%, medicine 33.0%, law 63.4%, and commerce and business administration 64.3%). The 1965-75 period reversed this pattern: enrolments in commerce and business administration increased by 179.1 per cent, enrolments in law by 119.2 per cent, and those in engineering by 65.2 per cent. By contrast, arts and

TABLE 5.1

FULL-TIME UNDERGRADUATE ENROLMENT IN CANADIAN UNIVERSITIES
BY FIELD OF STUDY, SELECTED YEARS, 1950 TO 1975

FIELD:	1950	1955	1960	1965	1970	1975
Arts & Science	30618	31642	53289	106993	154615	161855
Commerce	3424	3925	6538	10740	16747	29970
Education	2824	3774	11580	24045	38531	45118
Engineering	9636	12396	16071	18680	25706	30868
Medicine & Health	9667	9423	10634	14145	19284	27060
Law	2421	2624	2480	4053	7250	8885
Other Professional	5446	5126	6045	7012	12544	19286
Subtotal Professional	33418	37268	53348	78675	120062	161187
Other	0	400	574	1381	1620	7912
TOTAL	64036	69310	107211	187049	276297	330954

PERCENTAGE CHANGE IN UNDERGRADUATE ENROLMENTS BY FIELD OF STUDY,
CANADIAN UNIVERSITIES, SELECTED YEARS, 1950 TO 1975

FIELD:	1950	1955	1960	1965	1970	1975	1950 to 1965	1965 to 1975
Arts & Science	n/a	3.3	68.4	100.8	44.5	4.7	100.8	51.3
Commerce	n/a	14.6	66.6	64.3	55.9	79.0	64.3	179.1
Education	n/a	33.6	206.8	107.6	60.2	17.1	107.6	87.6
Engineering	n/a	28.6	29.6	16.2	37.6	20.1	16.2	65.2
Medicine & Health	n/a	-2.5	12.9	33.0	36.3	40.3	33.0	91.3
Law	n/a	8.4	-5.5	63.4	78.9	22.6	63.4	119.2
Other Professional	n/a	-5.9	17.9	16.0	78.9	53.7	16.0	175.0
Subtotal Professional	n/a	11.5	43.1	47.5	52.6	34.3	47.5	104.9
Other	n/a	0.0	43.5	140.6	17.3	388.4	140.6	472.9
TOTAL	n/a	8.2	94.7	74.5	47.7	19.8	74.5	76.9

Source: Statistics Canada, Historical Statistics of Canada, Second Edition, Ottawa: Statistics Canada, 1983, W439-455.

science enrolments increased by only 51.3 per cent over the same period. Indeed, these data make fairly clear that the post-1965 period is one in which enrolment growth in professional programs strongly outpaces growth in the traditional humanities and sciences.

Formula financing was not, however, the only form of state action to encourage the development of the professional and career-oriented sector of university studies. These efforts also included the establishment and maintenance of more heavily subsidized tuition fee schedules for these programs. As Dupré (1975) points out in his paper on student aid in Ontario, the proportion of operating costs (calculated as the Basic Operating Income received via formula grants) met through tuition fees has historically been substantially lower for programs such as medicine and law than it has been for arts and science. Dupré's (1975:51) calculations reveal that in 1970, for example, 29.4 per cent of the imputed operating costs of arts and science programs were met through tuition fees, whereas for law the corresponding proportion was only 19.8 per cent, and for medicine a mere 8.2 per cent. Dupré's analysis further reveals that by 1975 the degree of subsidization in the more costly professional programs such as medicine had crept up to 94 per cent (in sharp contrast with only 72% in arts and science).

These differential patterns of growth and state subsidization underscore once again the need to distinguish between the post-secondary expansion that occurred in the 1955 to 1965 period and that which took place following the "human capital" state policies of 1964 and 1965. While the former period was one in which minimal and unfocused state action was

largely predicated on only the most general sense of the connection between an educated labour force and economic growth, the latter was one of concentrated commodification of higher education directed toward enhancing the state's role in developing and sustaining national economic growth.

A New Stratum of Occupationally Oriented Higher Education: The Expansion of the Community College System

The 1964 and 1965 recommendations of the Economic Council of Canada also included specific reference to the need for the rapid development of non-degree granting post-secondary institutions that could focus their curriculum on the technical and applied arts and science programs of study (1964:169 and 1965:94). In this way, it was argued, all of the necessary strata of a post-industrial labour force could be constructed, with sufficient attention paid to middle- to lower-level white-collar ranks, junior social service personnel, and middle- to lower-level technical and technological staff.

This emphasis was not ignored in the expansion plans of the state for, in introducing the 1965 legislation to make possible the creation of colleges of applied arts and technology in Ontario, the then Minister of University Affairs, William Davis, cited the arguments of the Economic Council in respect to the need for post-secondary education sector to act as an instrument for greater and more stable economic growth. Fleming (1971:507) notes that, in arguing for the establishment of a system of Colleges of Applied Arts and Technology (CAATs), Davis pointed to three

urgent provincial needs: (1) the need for higher educational attainment by all members of society in the face of the knowledge explosion; (2) the elimination, through technology, of many unskilled jobs, as well as many semi-skilled jobs; and (3) the need to absorb the large increases in young people entering the job market. The following year no less than eighteen community college areas were announced for Ontario.

The focus of this newly established system of colleges was clearly to be the labour market and the local community; their role was also explicitly that of a siphon -- to take the continued pressure for access to post-secondary study off the universities and to take the mounting pressure off the labour market. The colleges were also sharply differentiated from the university sector in that they were not accorded institutional or system autonomy. Direct and pervasive state control over financing, curriculum and college affairs was the rule (Fleming, 1971:511-512).

The state policy thrust towards occupationally oriented curricula in post-secondary education was also revealed in the fact that in 1967 federal transfer payments were extended to cover fifty per cent of the costs of expanding the non-university sector of higher education. The Federal-Provincial Fiscal Arrangements Act was also accompanied by the Adult Occupational Training Act with its Manpower Training Program designed to provide training in industrial establishments and in provincial educational institutions. Under this latter Act, program planning was to be undertaken with federal state agencies having some influence on the outcome -- in return for the costs being met by federal monies.

The effect of these two types of transfer payments was both

immediate and significant. In 1968-69 non-university post-secondary enrolments rose by 30 per cent. Indeed, an increase in expenditures of 60 per cent in one year (in contrast with only 25 per cent for the university sector) bears witness to the wholesale creation of networks of community colleges such as the one created in Ontario. The degree to which this post-1965 development of expanded systems of community colleges was kept firmly career-oriented can also be seen from the enrolment data for Canadian colleges outlined in Table 5.2. While disciplinary data can only be traced back to 1970, it is nonetheless clear from this table that curricular areas of greatest occupational orientation (business, engineering, and chemical and electronic technologies) saw the greatest increase over the seventies, at 119.4 per cent. By contrast, those programs more oriented toward general arts, social service and public sector employment experienced only modest increases (at 23.9%).

Taken together, the very sharp and substantial enrolment increases in graduate level and "professional" university enrolments, as well as the occupationally oriented development of community colleges over the period 1965-75 reveal the degree to which the human capital policy directions enunciated by the Economic Council were accepted and adopted by both state agencies and the academy. Education had become one of the most vital component of state economic policy; knowledge had become a vital state-managed commodity.

TABLE 5.2

FULL-TIME ENROLMENT IN CANADIAN COMMUNITY COLLEGE PROGRAMS,
BY FIELD OF STUDY, SELECTED YEARS, 1970 TO 1981

FIELD:	1970-71	1975-76	1980-81	1981-82	% Change 70 to 81
Arts	9437	16911	19365	19778	109.6
Business	27004	39506	61625	65224	141.5
Community & Social Services	5209	10722	22077	22979	341.1
Education	10734	567	375	337	-96.9
Chemical & Electrical Technologies	10513	12781	16091	17086	62.5
Engineering	10110	15004	21233	22201	119.6
Medical Services	30153	34812	27718	28774	-4.6
Natural Resources	4118	7085	10214	10122	145.8
Other	10200	2634	3291	3708	-63.6
Not Reported	0	2096	449	351	n/a
University Transfer	48601	74476	78389	82838	70.4
TOTAL	166079	221594	260827	273398	64.6
Career-Related Programs	47627	67291	98949	104511	119.4
Public-Service Programs	50214	53186	60384	62212	23.9

Source: Statistics Canada. A Statistical Portrait of Canadian Higher Education. Ottawa: Minister of Supply and Services, 1983, Table 5, p.30.

Notes: The Category "Medical Services" includes nursing programs and medical technologies.

The Keynesian State and Science: Reshaping the Research Sector to Serve National Interests

Over the same period the research sector also witnessed the emergence of the interventionist state -- in the development of national science policies that acted as the logical corollary to the commodification and politicization of education through human-capital investment in higher education. As Bruce Doern (1972:167) observes, the politicization of science and the emergence of state science policies in the 1960s represented in Canada the movement from one institutional era to another: from the era of the National Research Council and its "policies for science" to the Science Council-Science Secretariat and "science in policy." Whereas the former refers generally to state support for the development of scientific personnel and skills (in large part the support of researchers in educational institutions), the latter refers to state utilization of science as a technique or means of state management of policy problems such as industrial production and economic competitiveness, production techniques and priority problems.² Clearly, as Doern's observation suggest, this involves more than the increasing predominance of mission-oriented research (which has a long history in Canada); it involves, as one of the earliest Science Council reports (Study No. 7, 1969) reveals, the Keynesian harnessing of science and the scholarly community to serve "national goals."

In making these observations on the statization of science, Doern (1972:195) is also quick to point out that this movement was not unique to Canada:

Many of the same structural and philosophical problems

have been present in the American, British and French debate about science policy, and the relationships are viewed everywhere with considerable criticism and dissatisfaction. Robert Gilpin (1968:246) perhaps best sums up the universality of the structural and philosophical dilemma:

What is taking place in France, the U.S. and other Western societies is in effect a Keynesian revolution in the relationship of science and the state. Rejecting the laissez-faire-researcher philosophy of the past, the science planners seek a role for the state in science affairs that can balance the need for central direction against the need for scientific freedom and initiative. But it is a Keynesian revolution without a Keynes, for no one has or can formulate the appropriate magnitude and direction of state intervention.

Indeed, as early as 1964, Fortune Magazine (1964:158) had announced that science in the United States had become a ward of the state. Noting that two-thirds of the money spent on research and development (including that spent in private laboratories) was being provided by the state, the author of the article "The Nationalization of U.S. Science," observed that recent years had witnessed mounting concern within state agencies over the degree of control exercised by the academy in the awarding of millions of dollars of federal government monies.

Writing just prior to the creation of the Ministry of State for Science and Technology (MOSST), Doern outlines eight developmental stages in the emergence of state-managed "science in policy" in Canada. For our purposes, the most important of these are the 1963 release of the Glassco Commission study of the state organization of scientific research and development, the 1964 MacKenzie Report on the Glassco Commission and the creation of the Science Secretariat, the creation of the Science Council of

Canada in 1966, the deliberations of the Special Senate Committee on Science Policy from 1968 into the early 1970s, the Prime Minister's 1968 cancellation of two "big science" projects, and the reorganization of the Science Secretariat and the Science Council that preceded the creation of the Ministry of State for Science and Technology in 1971. At each stage the articulation of state interests within the research agenda becomes stronger, as do the linkages drawn between the research agenda and economic development.

The first intimations of the state's attempt to manage science policy can be found in the Glassco Commission Report of 1963, for the Commission's findings were severely critical of the existing advisory machinery (NRC, the Privy Council Committee on Scientific and Industrial Research, and the Advisory Panel for Scientific Policy) on the grounds that it was not oriented to the generation of state policies on science or, more especially, to the generation of policies on the effective utilization of science to serve national economic goals. The Commission strongly criticized NRC for having abandoned its original purpose of encouraging Canadian industry to perform research and development in favour of the development of state laboratories and research programs. This critique focused squarely on the fact that, in the Commission's view, while state support for science had been well developed, the effective management of science by the state had been sacrificed to the professional motivations of the state's own scientific personnel. The Commission recommended the creation of a central scientific bureau to act as a science secretariat to Cabinet and the establishment of a National Scientific Advisory Council to

be broadly representative of academic, industrial, and governmental sectors (similar to such bodies in the United States and Britain).

The MacKenzie Report (on the Glassco Commission study) reinforced the recommended direction of change by agreeing with these two major recommendations in principle (while differing on the Commission's harsh view of NRC) and by making several key recommendations on their implementation. In what was a critical first step in the creation of the bureaucratic and political machinery for the articulation of state managerial interests in the generation of new knowledge, the MacKenzie Report argued for the creation of a small scientific secretariat (to be housed within the Prime Minister's Office) before the creation of an Advisory Committee, and the establishment of an Advisory Council only after a special committee had clarified the future role for NRC. The MacKenzie recommendations thus served to provide a clearer means of redirecting the machinery of government towards the generation of state science policy. The role of the Secretariat was to

... assemble, digest and analyze all information concerning the government's scientific and technological activities and their interrelation with university, private, industrial and similar provincial scientific establishments (MacKenzie (1964) as quoted in Doern, 1972:8).

By situating the Secretariat at the centre of power (the PCO), by defining its role in this way, and by setting as one of its first tasks the creation and definition of the Science Council of Canada, MacKenzie made state policy needs the primary causal force in the redefinition of the relation between science and state.

The next stage in the move towards state science was marked, in

Doern's view (1972:10), by the Pearson government's 1964 acceptance of MacKenzie's recommendations and the Secretariat's subsequent drafting of the legislation that became the Science Council of Canada Act of 1966.

The legislation served to advance even further the movement from policies for science to science in policy, for it established a Science Council of the Canadian state whose role would be to

... define and determine feasible long term objectives for science in Canada, to suggest appropriate paths for reaching them and to consider the responsibilities of the various segments of the industrial, academic and government communities in this field. The Council will be less concerned with day-to-day problems than with developing principles and evolving a philosophy upon which future courses can be charted (Drury (1966) as quoted in Doern, 1972:11).

The Secretariat was to serve as staff support for the Council by assembling information and by preparing briefs and studies for the Council's consideration. The work of the Council was to be roughly analogous to that performed by the Economic Council of Canada (Doern, 1972:12).

With the establishment of the Special Senate (Lamontagne) Committee on Science Policy in late 1967, the sixth stage in the development of state science began. In June of 1967 Senator Maurice Lamontagne put forward a proposal which both reflected state dissatisfaction with the increasingly fraught relations between the Science Secretariat and Council and gave greater currency to the concept of state managed science. Senator Lamontagne proposed the creation of a highly centralized and powerful Federal Department of Science and, as Aucoin and French (1974:23) note, expressed the view that the Science Council of Canada and the Science Secretariat represented only a beginning in the

pursuit of national interests in science. Lamontagne proposed that a department be established not only to create science policy but to be totally responsible for research funding. Drawing heavily upon the Review of Canada's Science Policy by the Organization for Economic Cooperation and Development (OECD), Lamontagne's Special Senate Committee conducted (over several years) a sweeping critique of the state machinery for science policy generation in the area of research and development, and, among other things, was influential in the decision to separate the Secretariat and Council in 1968 and, ultimately, to create the Ministry of State for Science and Technology in 1971.

The 1968 cancellation of two large research projects, the multi-million dollar Queen Elizabeth II Telescope Program of the Department of Mines and Technical Surveys and the Intense Neutron Generator project of Atomic Energy of Canada, represent, for Doern (1972:101), dramatic expressions of the problematic relations that began to emerge among state, academic and scientific communities as a result of the emergence of "big science" as well as "the changing balance of power between academic and governmental sectors of the Canadian scientific community." Doern (1972:123-125) argues that, by this point, state priorities had already been drawn up in such a way as to move science policies away from frontier research performed by governmental laboratories and state agencies toward a greater degree of development performed by industry. The lack of political organization within the scientific and academic communities in addressing this move from support for science to the use of science by the state is, Doern (1972:126-127) argues, a reflection of the shift in the

balance of power that took place in the late 1960s.

The final stage cited by Doern in the statization of science is the 1969 reorganization of the Science Secretariat, a restructuring that formally separated it from the Science Council. To this can be added the 1971 creation of the Ministry of State for Science and Technology. Doern (1972:83) describes the reorganization as having been caused by the increasingly contradictory demands being made on the Secretariat: on the one hand the Secretariat was to perform a support role for the Science Council preparing studies that formed the basis for Council's policy recommendations to the Privy Council Office; on the other hand, as part of the Privy Council Office, the Secretariat was expected to evaluate for the government (Treasury Board and the Cabinet) the policy recommendations put forward by the very Council it ostensibly served.

While the formal separation of the two bodies addressed the ambiguity and contradictory demands experienced by the Science Secretariat, it did not resolve the more serious tensions that existed, as Aucoin and French (1974:22) note,

... between its putative constituency (the scientific community with traditions of open public discourse) and its actual position in the bureaucracy (a section of the PCO suffering the severe constraints of official confidentiality).

The answer to this dilemma was ultimately fashioned as a Ministry of State for Science and Technology. Not to be the powerful centralized department recommended by Lamontagne, MOSST was, however, roughly consistent with the 1969 OECD recommendation that there be appointed a Minister of Science with direct authority from the Prime Minister.

Hence by 1969 the Canadian state had abandoned its *laissez-faire* role of patron and had put in place the necessary mechanisms for ensuring a role for the state in charting the direction of scientific enquiry. Balanced against the scientific freedom and initiative of the scholarly community were several central planning agencies to orchestrate the state's growing financial support of science. This movement from relations of patronage to those of Keynesian management in the research sector is perhaps best captured by several statements made by the OECD reviewers in their 1969 report on Canada's Science Policy:

... the whole purpose of a science policy is precisely to influence, systematically and consciously, certain aspects of the "spontaneous generation" of research. ... The object is ... to make the best use of the aggregate research potential. It would, therefore, seem advisable to influence the government sector where possible ... it being the least geared to a particular type of research -- before going on to alter the research setup in firms and universities (OECD, 1969:34-35).

... science policy has a new meaning and goes beyond the stage of indiscriminate benevolent stimulation and encouragement. It seems to be generally recognized that scientific research is not an end in itself, to be left to research workers, but that it should be carried out in terms of its value to the community (OECD, 1969:49).

To guide scientific activity so that it will fully contribute to the economic and social development of Canada: this has become the main goal of Canadian science policy (OECD, 1969:50).

With the formal separation of the Science Secretariat and the Science Council and the creation of the Ministry of State for Science and Technology in 1971, the mechanisms for locking state-subsidized research

activities of state, academy and industry more firmly into a state-managed strategy for economic growth were put into place.

As for the desired effects of this reorganization of the state-science relation on the university research community, the assessment (1969:298-299) of the OECD reviewers captures both the direction of thought and policy at the Science Secretariat and the Science Council. Criticizing the Canadian state's funding of science for having been "transformed into a "prize-giving" system, the reviewers argue that this

. . . leads the recipients to lose sight of [the funding program's] ultimate social and economic purpose and to see in the distribution of Federal grants nothing more than an internal mechanism of the scientific community, enabling it to reward the quality of work. . . . in these circumstances, the overall trend of university scientific activities in Canada is more the result of currents within the scientific community than of an assessment of clearly defined national needs. . .

Citing the rapidly increasing costs of modern research, the OECD reviewers (1969:299) call for the redirection of control over the research agenda within state-subsidized programs away from the scientific community and that the criteria governing the award of state subsidies for research be national economic and social goals (the "currents within the state") rather than the intellectual currents of science. As we will see in later chapters of this thesis, this argument was increasingly taken up by state agencies in their science policy decisions throughout the 1970s.

The direction of scholarly research through influence and control of the research agenda was not, however, the only mechanism whereby state influence was increasingly felt. Yet another aspect of enhanced state management of science and the scholarly community was expressed in a

proposal that state agencies should put in place a tripartite organization (state, academy and industry) for the development of key national industries and the expansion of U.S. investment in Canada (OECD, 1969:322).

Following a lengthy argument on the "need for reform" in the organization and performance of university-based research, the OECD reviewers (1969:331-332) pointed to several state programs to promote cooperation between universities and industry, urging firmer linkages and greater university participation in industrial research, as well as state policies and financing programs aimed at bringing about this cooperation.

More importantly, the OECD reviewers stated very clearly that the purpose of state-managed programs of support for industrial research institutes within the universities is to harness more effectively the intellectual resources and innovative capabilities of university scientists to the national strategy for sustained economic growth and to redefine the balance between frontier research and development in university-based research:

In the main, this governmental programme to set up industrial research institutes is based on the United States experience and particularly on that of Boston, Massachusetts and Palo-Alto, California. But United States experience is clearly a more or less spontaneous reaction to new research conditions and tendencies, the needs of industry, and the requirements of the programs launched by the government, whereas the Canadian venture is in the nature of a directive. It is part of the concept of a policy of deliberateness, stimulation and incentive through which the State endeavours to make up for the lack of imagination in some quarters and to break down traditional barriers in other quarters (OECD, 1969:332, Emphasis added).

The influence of the 1969 OECD review of Canadian science policy

was considerable. As we have seen from Bruce Doern's analysis of the move from state "policies for science" to "science-in state policy" this statist approach was pursued vigorously by critics such as Senator Lamontagne and bureaucratically practised by the Science Secretariat and the Science Council of Canada.

In this way Canadian state action was, by the early 1970s, clearly oriented towards Keynesian management of the research sector of "knowledge industry." Thus the pattern of state action in the university research sector echoes the pattern we have already seen in the education sector: the first stage of expansion (1957-1964) is characterized by an unfocused and almost begrudging financial support of research, whereas the second stage (1964-69) is marked by an increasingly focused set of state policies and practices directed towards the harnessing of science to serve national strategies for economic growth.

More especially, it is also clear from Doern's work and the OECD Review of Science Policy in Canada that the increasing statization of science represented the further "possession" and legitimation of science as a means of production by a class state.³ Underlying the movement from relations of patron to manager is the fact that in advanced capitalism the state undertakes a pivotal role in the reorganization of the knowledge-power relations of production. As the needs of accumulation and the labour-process change (from big science to more closely targeted industrial and technological research), so too does the focus and modality of state action in this regard. The extension of Keynesian principles of state management to higher education and research represents a significant

expression of the change in the modern state's ideological and political role in production.

1. On this point, Fleming (1971:492) writes:

... no one supposed that more than a substantial minority of young people could be absorbed by the universities. For one thing, it was obvious to the general public, as well as to the professor with extreme elitist views, that something vital would be lost if the universities tried to make themselves congenial homes for the bulk of the age group from which most of their students were drawn. It was also clear that the province could bankrupt itself in a vain attempt to provide the most expensive of post-secondary facilities to all comers, regardless of evidence of ability to benefit from them.

2. For a detailed discussion of the state's creation of a bureaucratic and political framework (the Ministry of State for Science and Technology) to facilitate the utilization of science and technology as a technique for addressing "priority problems," see Aucoin and French (1974:13-15, 25).

3. On this point Michael Katz (1986:9) has argued that

... the labour of faculty ha[s] been transformed into a commodity whose price [is] determined by its value in a novel arena: the academic marketplace. ... In a dramatic and novel way, knowledge -- advanced technical and managerial knowledge -- ha[s] become a resource whose possession was essential to the progress of the vast new corporations and bureaucracies that [dominate] economic and social life.

CHAPTER SIX

THE DYNAMICS OF CONTRACTION: PHASE I: THE BREAKUP OF THE KEYNESIAN CONSENSUS - 1969 TO 1975

That the state was, as early as 1968, moving to impose constraints on the continued expansion of higher education, to reshape its curricular development, and to put into place the mechanisms for greater state direction of scientific research is clear from the historical record. As the preceding analysis also illustrates, the history of expansion and contraction is understandable less in terms of the dynamics of social demand than in terms of the changing political economy of a Keynesian state-sponsored "industry" of higher education and research.

More specifically, the dynamics of retrenchment must be seen in terms of the redefinition of the interventionist role of the state emerging out of the late-sixties and early seventies breakup of the Keynesian consensus. The movement is thus from a pattern of state intervention aimed at reducing risks to a pattern of intervention which increasingly involves the legislated limitation of social programs in favour of programs of industrial restructuring. This is a movement from policies designed to subsidize the costs of capital by guaranteeing high and stable levels of demand through spending policies, incomes programs and stabilization policies (Wolfe, 1983:16) to one of direct funding to companies in strategic industries, state-ownership to increase productivity, the rationalization of capital in public-sector corporations to eliminate unprofitable sectors (and the privatization of profitable sectors), the provision of special tax

concessions for research and development, and the provision of subsidized loans (Gonick, 1983:43)). As Gonick (1983:42-43) notes:

Post-war Keynesian economic policy is a weak variant of state interventionism. It does not interfere with the detailed workings of markets and individual decision-making, but only with aggregate demand and national income. Stronger variants of state interventionism -- the so-called post-Keynesianism -- assigns the state the task of arbitrator in settling wages and prices (instead of leaving them to the market and private sector institutions) It also assigns to the state responsibility for determining the composition of investment spending as well as its level.

This shift from weak to stronger forms of state intervention in the economy gave rise to fundamental changes in the relations between state and academy within these changed circumstances. Neave (1985:27), for example, argues that there has occurred a "sea change" in the ideological constellation underlying European state policies on higher education. Pointing to the fact that the emergence of neo-conservatism has not simply meant constraints on state spending policies but, more importantly, a totally different concept of the place of higher education in society, he (1985:27-28) observes that

... the advent of the new utilitarianism represents not just a breakup of the consensus that underlay higher education's development from the early sixties. It represents the breakup of an international consensus as well. . . . how the university will evolve in future depends, to a high degree, on the place that the conflicting ideologies assign to it as a prime instrument of social and economic change -- which is the Keynesian thesis -- or as an ancillary vehicle acting in support of the broader goal of stimulating private enterprise, individual initiative and the nation's industrial performance. In short we are standing at a very crucial period in the history as well the development of higher education. The role of higher education is changing from being the instrument for broad range collectivist and interventionist strategies for social change based on the concept of social justice and

instead, it appears to be moving, in certain countries at least, towards being a supplementary institution whose actions are based on what may be termed the individualist, competitive ethic (Emphasis added).

Neave goes on to note that aside from the more general diminution of the importance of higher education, there are four principal areas affected by the rightward drift in the political economy: the structure of studies and the student clientele, the status of academic staff, the research relationship, and university funding patterns. In each case and taken together, Neave (1985:28-29) notes, the principal force of change will be

... an increasing and more detailed intervention by the state to regulate, to fine tune or profile areas which, hitherto, have either been in the hands of academia or subject to joint negotiation between academia and the relevant state administration. In short, the shift in the balance of power between the university, higher education and the state will be most firmly be in favour of the latter.

In many ways this shift has already begun. Over the past ten years there has scarcely been any of these fields that has not been subject to increasing scrutiny and legislative enactment, whether this takes the form of the Hochschulrahmengesetz of 1976 in Western Germany, the Loi d'Orientation of 1968 and its successor currently under debate in France or the 1977 Higher Education Reform Act in Sweden.

Several questions remain: how did the consequences of the breakup of the Keynesian consensus for higher education play themselves out over the seventies? How did this interplay of forces manifest itself in Canada? What set of social and economic forces led to the redefinition of higher education as an "ancillary vehicle" focused on industrial production?

The Breakup of the Keynesian Strategy of Economic Growth through Human Capital Investment

At least some of the answers to these questions can be discovered by remembering that the mid-sixties state endorsement of human capital theory and the expansion of higher education were clearly based on several key assumptions: (1) that the technological revolution necessitated higher and more specialized levels of educational training in the labour force as a whole; (2) that the engines of economic growth would be domestic workforces; (3) that the most productive members of these workforces would be the highly educated; and (4) that residual egalitarian concerns would be implicitly addressed within a human capital approach to educational expansion. By the late sixties and into the seventies, however, most of these assumptions were being increasingly called into question by the realities of a globally changing political economy.

For higher education this meant the emergence of a set of economic and class forces which, both independently and in concert, ran counter to the implicit and explicit assumptions of the human capital equation as originally conceived. Briefly, these forces can be identified as the truncation of the manufacturing sector of hinterland economies, a general dominant-class closure through the use of credentials and occupational licensing, the de-skilling of many occupations through the application of high technology and an increasing international organization of production, and the fiscal crisis of a state-employer trapped within the conditions of its own creation. In such a context, the seemingly precipitate state encroachments on the autonomy of higher education in 1968 and 1969

become more understandable as state institutional responses to a changing political economy. These are also changes that, as the state theorists of previous chapters have noted, intensified the state's focus on its role in accumulation and forced state agencies both to alter their approach to the provision of the non-material infrastructure of production and to abandon the role of patron of higher education and research in favour of a more managerial presence.

**The First Countervailing Force within a Changing Political Economy:
The Truncation of the Manufacturing Sector of Hinterland Economics**

One of the most fundamental and significant countervailing economic and social forces within the changing political economy of the late sixties and early seventies was the consolidation of Canada's branch-plant economy as yet another variation on the old theme of a hinterland economy. The post-war development of an integrated continental North American economy in which Canada served largely as the exporter of raw materials and the (capital-intensive) producer of manufactured "parts" had as its logical corollary a very limited dependence on a highly educated labour force. For, the productivity of such a branch-plant and resource oriented economy does not, by definition, make full use of brain-power to effect its productivity gains. Against this larger economic backdrop, the state's "quick fix" of human capital development can be seen to be a strategy beset with contradiction and hamstrung from the very start.

As early as 1967 serious concerns were being voiced inside and outside state circles over the degree of foreign ownership in Canadian

industry and its negative effect on research and development and the utilization of highly qualified manpower in Canadian industry. In 1968 the (Watkins) Report on Foreign Ownership and the Structure of Canadian Industry was released by the Privy Council Office. It pointed to the negative effects of the increasing degree of foreign ownership and argued for a reversal of state policies in encouraging foreign investment in Canada. And, while a 1969 OECD review of Canadian science policy (1969:245-246) questioned this interpretation of the effects of foreign ownership, arguing that at least part of the problem lay in the "lack of R&D in Canadian-controlled firms" and the lack of state action to stimulate industrial R&D, even this study tellingly acknowledges (1969:254) that

In the [American-owned firm] R&D is generally organized at the operational departmental level; it is immediately concerned with development in relation to the actual needs of the branch. It is not much given to exploratory research, for which it relies on the central laboratories of the head office. In other words, its R&D activity remains operational at divisional level. Conversely, it is able to avail itself freely of the research results obtained by the head office laboratories.

Other such expressions of concern within state agencies were to be found in the 1969 actions of the Science Council of Canada and the Canada Council, who sponsored a study of the role of the federal state in support of university research, a study that was heavily influenced by the OECD criticisms of the university research sector. Consonant with OECD views, the study (1969) proposed a restructuring of the research granting councils (National Research Council, Medical Research Council, and the Canada Council) to make them more effective instruments of national policy. By 1971, the Ministry of State for Science and Technology had been

established, and by 1972 the federal government had put into place its "Make or Buy" policy as a means of "privatizing" all new mission-oriented R&D (and thereby developing a sophisticated technological capability in Canadian industry).

It was, however, upon the telling indices of Canada's dependence on foreign-owned technology that the 1972 Gray Report was to focus in its examination of the R&D impact of foreign ownership. In 1970 the Honourable Herb Gray was charged with the responsibility of "bringing forward proposals on foreign investment policy for the consideration of government." (The Gray Report, Foreword, v). As Skinner (1979:46-53) points out, The Gray Report is perhaps the clearest expression of the Canadian state's growing awareness of both the structural distortions that had been induced by such a large amount of (principally U.S.) foreign ownership and its contradictory relation with the mid-sixties economic policies of human capital and research investment. The Gray Report findings included the fact that Canadian-controlled firms comprised less than 45 per cent of the manufacturing sector (where 90 per cent of total R&D expenditures occurred) and that these firms tended to be concentrated in the less research-intensive industries (The Gray Report, 1972:123). Using the Safarian study of 1959 as evidence, Gray (1972:123) observed that Canadian-based subsidiaries of U.S. firms normally undertook significantly less research than the parent firms (especially where the product lines between parent and subsidiary were the same); he also reported that, because of the large amount of foreign ownership, what Canadian R&D did exist was tightly locked into the research and development programs of the parent

firm, forming only one part of an internationally organized unit dominated by U.S. laboratories (and U.S. development priorities). This, Gray (1972:123) argued, was "not necessary fitted to the productive capacity of Canadian subsidiaries" and had a stunting and distorting effect on the research capacity of Canadian subsidiaries, a fact amply demonstrated by the finding that in 1969, \$63.5 million were paid to individuals outside of Canada for patents -- at the same time as Canada had a trade deficit in technology of \$42.2 million (The Gray Report, 1972:121-130).

The Gray Report was, without question, shaped by the growing critique of Canadian state policies put forward by the dependency theorists of the new school of political economy. For example, Kari Levitt (1970:25) had argued that Canada's "rich but underdeveloped" status derived from what she called the "new mercantilism of the American international corporation." Calling into question the conventional wisdom arguing that Canada suffers from too small a market, too traditional a culture, and an unfavourable endowment of resources, Levitt (1970:108,130) set forth a critique that pointed to the several structural weaknesses introduced into the "integrated" hinterland economy by the pervasive presence of multinationals operating within tariff walls. According to Levitt, these weaknesses were: (a) "the miniature-replica effect," which has too many firms producing too many product-lines at high unit cost; (b) technological dependence since technology and innovative efforts tend to be concentrated in the home country's laboratories rather than on site; and (c) a "brain-drain" of skilled labour as domestically produced and highly trained personnel are attracted to the research laboratories and industrial complexes

outside the hinterland economy.

In 1971 and 1972 reports from the Science Council of Canada (Cordell, 1971, and Bourgault, 1972) also focused on the science-policy implications of the predominant place of American multinationals in the Canadian economy. In these reports the domination of the Canadian economy on research and development and on the utilization of highly qualified manpower is described as having very negative effects on Canada's manufacturing. Cordell, for example, writes:

Unless some action is taken to guarantee the existence of certain management and research functions in Canadian subsidiaries the creation of the North American Market . . . may lead to the ironic outcome where Canadians will look back at the "good old days" when semi-autonomous branch-plants with a wide variety of employment opportunities operated in the Canadian Market (Cordell, 1978:71 [originally published 1971]).

By 1973 James Laxer had characterized Canadian manufacturing as a warehouse operation. Citing the branch-plant organizational structure as the principal reason, Laxer (1973:130) observed that Canadian manufacturing had become much more capital intensive than manufacturing elsewhere with a consequent "low level of proportional employment." Noting the discrepancy between Canada's high expenditures per capita on higher education and the low level of technological innovation occurring within Canada's economy, Laxer (1973:132) attributed this to the branch-plant absence of the typical interconnections between end-product manufactures and domestic research communities engaged in product innovation. In addition, Laxer (1973:145) observed, the 1971 policies of the Nixon administration in the U.S. had the effect of forcing Canada's economy

beyond "truncated industrialization" to a state of actual "de-industrialization."

What this growing critique prompted was one of the first realignments of state strategy for the deployment of higher education and research to serve the goals of state-regulated economic growth -- namely, a system-wide rationalization and re-orientation of the research and graduate sectors of higher education to effect the recommendations of the OECD reviewers that there be a redirection of effort within university graduate and research programs to take on greater development and applied research, as well as to specialize both curricular and research programs in accordance with national aims identified by the Science Council of Canada.

In Ontario, Canada's industrial heartland, attempts to effect a system-wide coordination of the graduate and research sectors included a 1971 embargo on graduate funding to curtail disciplines that had expanded at too rapid a rate, and a 1972 call from the (Wright) Commission on Post-Secondary Education (1972:142-143) that "Ontario research efforts [and the research efforts of Ontario Universities] be viewed as part of a national research strategy," with direct federal state involvement and funding for research. In 1975 a three-year freeze was placed on graduate funding to force a system-wide rationalization of graduate programs (including the elimination of existing programs judged by a new appraisal/assessment mechanism as being of "less than good quality" (OCUA, 1978:54)). At the same time, this forced paring down of the graduate instructional enterprise was to make room for state funding of research programs designed to place greater emphasis on applied and less basic research. As the OCUA

(1978:65) statement reveals,

. . . Council is interested in hearing from [universities] about the adequacy and the implications of the special measures proposed by MOSST. Are the universities prepared to accept the new role that is envisioned and can they accommodate to the implied shift towards more applied and less basic research?

. . . Council states its opinion that new funding from whatever source should not be used to promote graduate studies but to provide research associates and technicians. The graduate instructional enterprise does not need significant expansion at this time. The number of research positions must be increased so that persons who do graduate can contribute to the increased research effort so vital to this country.

Hence by the mid-seventies state policies on the production of highly qualified manpower and research had clearly begun to shift from a generalized production of brain-power to a more focused set of policies aimed at industrial research capacity.

The undoing of the state's human capital strategy of national economic growth and the beginnings of the state's attempts to curb educational expenditures can be, in part, traced to the state's contradictory policies of human-capital development, on the one hand, and the courting of foreign investment, on the other. What higher education gave in terms of the capacity for innovation, the multinational took away; the result was a national economic strategy shot through with contradiction.

As many have observed, however, the Canadian state's retreat from its human investment strategy was not unique to Canada or to any other hinterland nation for that matter; it was a feature, at least in part, shared by all developed countries. We must, therefore, look beyond the harsh economic facts of hinterland status to understand the full dynamics of the

Canadian state's contraction of higher education.

The Second Countervailing Force: Credentialism and Occupational Licensing

The view endorsed by the Canadian state in 1966 that all forms of higher education would serve as the leading economic edge in national economic growth came under its first sharp attack in several studies conducted in the late 1960s on the question of the specific links between education and productivity. The first Canadian critique of this kind was presented in 1969 by David Dodge, an economist at Queen's University. In an unpublished paper entitled, "The University Degree as a Union Card," Dodge called into question the central thesis of human capital theory -- that large investments in all forms of higher education produced sizeable social rates of return.² Dodge, and later others, used two principal arguments. The first was that economists espousing the human capital approach to economic development and social policy had paid too little attention to the contributions of non-educational factors to income differentials and productivity in assessing the differences between more and less educated workers. Such factors as native ability, family background, class origins had, Dodge contended, been inadequately weighted within the very complex and detailed calculations of social rates of return.

The second charge levelled against the logic of human capital theory by Dodge was that the level of income that forms the basis for the

calculations of private and social rates of return could be shown to be significantly shaped by the degree of occupational licensing imposed by the professions. In an analysis that is, in many ways, similar to Randall Collins' Weberian approach, Dodge argued that such artificial controls serve to force income upward regardless of employees' educational training. Also in this connection, Dodge pointed to the emergence of a form of occupational licensing that extended beyond the professions to include white-collar work more generally, the undergraduate degree as a necessary credential for entry -- a convenient but equally artificial means of discriminating among job applicants. Focusing on the professions of accounting and engineering, Dodge shocked the academic establishment and, for the first time, strongly suggested to state agencies that the celebrated theory of economic development through human investment had resulted in an overly generous allocation of public monies to the expansion of higher education.

The full implications of that aspect of Dodge's argument dealing with credentialism did not receive widespread public attention, however, until the 1970 publication of Ivar Berg's U.S.-based study, Education and Jobs: The Great Training Robbery. For, Berg's incisive critique of human capital theory called into question the state's use of higher education not only as a means of increasing national income levels but also as a means of answering demands for a more nearly democratic social order. Berg argued that credentialism, or the use of diplomas and degrees as a new form of property, had arisen not as a result of any actual increase in occupational requirements but rather as a response by employers to an oversupply of

educated workers. In making this criticism, Berg pointed to both an unfair system of access to employment and a systematic underemployment of well-educated workers within a process whereby the minimal level of education had simply been moved up from high school completion to college or university completion. Not only were any possible equal opportunity gains offset in this way, the very currency of human capital was thus locked into an inflationary spiral. As the uneducated and the high-school educated were dropped off the end of the employment queue, the less specialized (and even some of the more specialized) moved to the back of the queue, and so on. The Berg thesis is extremely important to an understanding of the relation of commodified education to class forces, for it strikes at the very heart of the human-capital claim of meritocratic advancement by calling into question the assumed link among educational attainment, innovation, and increased productivity, as well as the special contributory role of knowledge to a classless and meritocratic system of social mobility.

Berg's data argued a convincing case and in many Western countries his findings were replicated in the early seventies. In Canada David Sewell (1971:59) reported much the same finding, noting that

The data we examined tend to support the hypothesis that persons with varying levels of formal education are capable of performing equally effectively in many occupations. . . . on-the-job training may be a good substitute for formal education in the formation of many skills . . . If there indeed is considerable substitutability among these means of forming skills, the search for the formal education "requirements" of occupations becomes a futile exercise.

Similarly, as Axelrod (1982:144) notes, in 1971 the Canadian

Manufacturing Association published a two-part article by a professor of Business Administration at Harvard University's School of Business (Livingstone) in which the argument was made that "academic success and business achievement have relatively little association with each other."

Livingstone reported that no correlation was found between academic achievement (as measured by grades) and the conventional measures of success such as title, salary, and personal satisfaction with career progress. In so arguing, Livingstone became one more member of the chorus of dissenters concerning the economic contributions of higher education.

In addition, David Dodge returned to this issue in several studies on the economics of higher education: a full length study of returns to investment for Canadian accountants, engineers and scientists" (1972), and a paper presented to a seminar on the political economy of higher education in Canada (sponsored and organized by the Economic Council of Canada). In his arguments Dodge (1972:135-6) stressed that the larger part of the observed earning differentials over the post-war period in Canada was the result not of differences in educational attainment but rather of differences in occupation. Within-occupation differentials, he noted, showed that the returns to educational investment were roughly half the amounts formerly assumed, and that the overall Canadian rates of return could be reduced by some three-tenths. Dodge (1972:143) also argued that increasing barriers to entry, in the form of unnecessarily high educational requirements, were being raised in many elite occupations as a direct response to the increased demands for entry on the part of subordinate classes. Elsewhere, this invoking of bourgeois closure was also readily apparent in the fact that

during the so-called democratization of higher education, the growing tendency of elite universities with graduate professional schools was to increase, not decrease their selectivity (Bourdieu, 1973:81 and Karabel, 1977:521). Hence it was not only the efficacy of higher education that was being called into question, but also the meritocracy it was to have helped create.

That state policy makers were attuned to these critiques is attested to by the strategic interventions to contract higher education as early as 1969. As Axelrod (1982:142) observes, the Ontario deputy minister of university affairs declared in 1969, "There is no groundswell for increased support to universities. In fact the opposite is true." For his part, the Minister intoned "There is the feeling that we have reached the end of the line. (Axelrod, 1982:142)" Subsequent Treasury Board interventions in Ontario included a series of strong "recommendations" that state financial support of universities and community colleges be sharply curtailed and that whole programs of student aid be eliminated. The 1971 announcement by the Economic Council of Canada that the human-capital experiment had failed simply made it official -- higher education was no longer a growth industry.

The Third Countervailing Force: The Increasing De-Skilling of Labour and the New International Organization of Production

Over the period of the sixties and early seventies yet another countervailing force was emerging within the changing political economy enveloping higher education -- namely, the increasing de-skilling of labour

within a "post-industrial" labour force reshaped by high technology. As one of the most powerful forces undermining state human-investment strategies of economic growth, this emergent phenomenon was rooted in the contradictory effects of the scientific-technical revolution in post-industrial development. With the publication of Harry Braverman's Labour and Monopoly Capital, issues such as the displacement and elimination of blue collar employment and the increasing proletarianization of an expanding white collar labour force came to the forefront of the debate on the relative merits of an economic and political policy of expanded higher education.

Braverman (1974:3-4) traces the roots of his Marxian counterpremise to what he describes as a disturbing awareness of a contradiction between the claim that the scientific-technical revolution required ever higher (and more specialized) levels of educational attainment among workers and the realities of growing worker dissatisfaction with the demeaning, routinized operations that seemed not to require thought, much less analytical skills and advanced educational training. As Panitch (1978:18) observes, Braverman's degradation, or de-skilling, thesis is that monopoly capital, in the face of an indissoluble connection among the commodity, labour-power, and the labourer seeks to "attenuate, although it can never remove, that indissoluble connection between labour-power and the individual to whom it belongs." To this end technology is organized and applied, not to enhance the creativity and intellectual contribution of the individual labourer (as human capital theory would have it), but rather to achieve "the displacement of labour as a subjective element of the

process, and its subordination as an objective element in a production process now conducted by management." In an analysis of the Canadian mining industry that clearly draws upon the theoretical perspective of Braverman, Clement (1983:207) argues that

Contrary to the popular opinion that increased technology leads to greater skill requirements, the overall effects of automation and mechanization in combination with modular training have been the opposite. In a classic study, James Bright of the Harvard School of Business identified this trend in 1958, arguing that "we tend to confuse the maintenance and design problems or exceptional operator jobs with the most common situations; namely that growing automation tends to simplify operator duties."

Clement concludes that the effect of automation in the mining industry has, in fact, been the removal of the subjective dimension of the labour performed and its transfer to the programmed equipment, thereby requiring not a highly skilled worker but only a semi-skilled operative.

It is not only the manufacturing and resource sectors, moreover, that are subject to Braverman's de-skilling thesis. Guglielmo Carchedi (1977), for instance, draws directly on Braverman's ideas in fashioning his theory of the "new middle class" and its increasing proletarianization under monopoly capitalism. Carchedi (1977:192) argues that, because the rationalization and automation traditionally applied to the blue collar workforce has, in the post-war period, been increasingly applied to the white collar sector as well, the de-skilling of labour has become an important feature of the tertiary level of the economy. Carchedi, however, moves well beyond Braverman's focus on lower-level white-collar (clerical) workers to include in this process highly educated and skilled "employees." He argues that capital's everpresent needs are to reduce to a minimum the

necessary but "dead weight" of those performing what he terms the global function of capital (i.e., the work of control and surveillance rather than the production of surplus value), and to devalue the employee's labour-power to simple labour-power. These needs, he (1977:193) argues, result in

... a process of devaluation of labour-power [which] splits the stratum of employees into two parts, the largest of which is pushed toward the bottom of the organizational chart where the work of control and surveillance is greatly reduced and tends to disappear, while a minority is pushed closer to higher management positions. At least two important consequences are detectable. First of all, the middle management section -- those who decide through experience -- becomes increasingly thinner because increasingly [it is] substituted by the computer. Secondly, and this is a direct consequence of the first point, the employee gets closer to the worker with respect to the ever decreasing vertical mobility, since the intermediate steps tend to disappear.

Carchedi illustrates his argument using the occupational experience of technicians, including computer programmers and "systems" personnel in the computing field, a theme also picked up in Rubin's Information Economics and Policy in the United States (1983) which notes that the spectacular growth of white-collar employment over the past century has turned sharply downward as a result of the enormous productivity gains of computerization. Rubin further notes that office automation in banks, insurance firms and government departments has also negatively affected traditional promotional paths within the middle-to-senior white-collar sector.

The net effect of this process of de-skilling, in combination with Canada's retarded manufacturing sector (with its constraints on the development of what few highly qualified positions might otherwise exist),

is a repudiation of the human capital claim that continued expansion of higher education serves the needs of economic growth by creating a highly educated (and therefore highly productive) labour force.

A corollary to the de-skilling thesis and a powerful parallel shift in the economic forces shaping higher education can also be found in the global restructuring of production made possible by the application of high technology to the process of production. As noted earlier, the mid-sixties endorsement of a human-capital approach to economic growth was clearly based on the assumption that the engines of economic growth for advanced industrial economies would be domestic workforces. By the early seventies, however, a global restructuring of production was being orchestrated, a process that, as Wolfe (1983:14) notes, involved the "flow of production activities to sites in the so-called newly industrialized countries (NICS) of the Third World." Wolfe (1983:13-14) argues that this global restructuring began with the flight of multinational capital away from older industrial sites (where Keynesian welfare state policies had, it was argued, undercut the disciplinary role of the reserve army of labour) to the American sunbelt and to southern and eastern Europe. This pattern of relocation, Wolfe goes on to note, was extended in the late seventies to the Third World, a move that was made possible by the application of high technology to break down the production of even highly complex electronic components into tasks simple enough to be performed by unskilled labour. Increasingly, these new production sites were made to operate as the principal sources of such component parts. At the same time, Wolfe adds, this same technology made possible the use of robotics to reduce sharply the labour-force requirements

for production and assembly, as well as the implementation of a computerized and very efficiently centralized managerial control over a far-flung set of production sites. Such control allowed multi-national operations to rationalize through the development of parallel sources of component parts, thereby effectively reducing labour's bargaining power in any one production site, and limiting and reducing the requirement for duplicated ranks of middle and senior management.

The emergence of this new transnational organization of production and a restructuring of labour markets to enhance international competitiveness dealt a severe blow to a strategy for growth based squarely on the assumption that highly qualified domestic labour would serve as the focal point for advances in the production process. As Wolfe (1983:15) notes, when these developments are combined with the capital-intensification of domestic production, there exists the obvious potential for "a vastly expanded reserve army of labour that will undermine the political and economic gains wage earners have made in advanced capitalist countries." Indeed, in Canada, this very period was one of mounting concern over the reduced employment opportunities for, and underemployment of, the university-educated, as well as criticism of universities for their overproduction of Ph.D.'s in science and engineering. On this latter point, a leading economist in the Economic Council of Canada, Max von zur Muehlen (1972:78), notes

It was assumed [in the mid-sixties] that many of the new Ph.D.'s would be employed in industry, in government, in community colleges, as well as in other newly created employment opportunities. Unfortunately, this has proven and optimistic assumption. Experience has shown that

neither industry nor the various levels of government and educational institutions were prepared to employ, on a large scale, doctoral graduates . . . those Ph.D. graduates who were prepared to work in government experienced difficulties in obtaining employment. During the last few years the Canadian economy has been operating considerably below potential, which has limited the employment prospects for highly skilled manpower. At the same time, in certain industrial sectors such as the chemical industry, structural changes have reduced the employment opportunities for Ph.D.'s.

Against the backdrop of this global restructuring of production, the state's strategy of economic growth through non-selective policies of human investment ultimately came to be viewed as nothing other than the production of an overqualified and internationally uncompetitive labour force.

The Fourth Countervailing Force: The Fiscal Crisis of the State

In setting forth its economic growth projections in its First Annual Review, the Economic Council of Canada (1964:53,46) noted that

. . . it is critically important to recognize that the non-agricultural goods-producing industries will have to provide the bulk of the productivity improvement required to obtain potential output. At the same time, as the pace of technological advance and automation proceeds unabated, about three-quarters of the required new employment opportunities will necessarily have to be developed in the commercial and public service sectors.

.....

To achieve our industrial potential export growth, it is essential that manufactured exports continue to rise at a very rapid rate. Indeed we anticipate a need for an average rate of growth in the volume of these exports of at least 10 per cent per year to 1970. Recent experience provides grounds for believing that opportunities will be available for such performance, at least under a continuation of sustained growth of world industrial .

production and conditions favouring rapid growing world trade.

Thus, while the Economic Council did foresee a considerable expansion in the role of the state as employer, this was tied to a requirement that such an expanded role for the state was only possible if fuelled by an expanded and highly productive manufacturing sector with strong export growth. All of which was to be accomplished via the infusion of skilled highly educated labour into labour force.

The actual record of the manufacturing sector, as documented in a series of reports by the Science Council of Canada, was very different. Using data on the period up to the late sixties, Bourgault (1972:82) observes that Canada continued to be a resource exporter and a net importer of manufactured goods. Britton and Gilmour (1978:42-43) also note that by the end of the 'seventies this situation had grown worse, not better, despite favourable conditions that should have made possible a reduction in Canada's traditional dependence on resource exports and a lowering of the deficit within manufacturing trade. Analyzing Canada's trade balance, disaggregated by sector, they characterize the performance of secondary manufacturing as comparatively "dismal."

Hence the period under examination was marked by increasing attention to Canada's semi-industrialized hinterland economic status as the perceived legacy of Canada's integration into a continental economy dominated by the American multinationals. The many studies of the Science Council of Canada on Canada's poor performance in manufacturing and technology transfer reflect the growing awareness within state agencies of

the unravelling of the logic of state-regulated development through the "quick fix" of human investment. From this awareness would eventually grow the conviction that what was now required was a major restructuring of Canada's knowledge industry.

Yet another aspect of this erosion of first premises had to do with the massive increase in the role of the state as employer, an increase that occurred without the counter-balancing force of strong manufacturing exports (as stipulated by the Economic Council in 1964). Armstrong (1977:297,299-300) calculates the number of new state workers over the period 1966 to 1971 as 413,434, or 45 per cent of all new jobs created in Canada for that period. As for the proportion of these new entrants to the state labour force who had been educated within the expanded post-secondary education system, some inferences can be drawn from selected data on the reverse relation (the proportion of graduates who became state employees). Selected Canadian data on this period reveal that, overall, some 60 per cent of the 1976 university graduates holding full-time positions in 1978 were employed in education, health and welfare, and provincial and federal administration; in short, they were state workers.² And, while there is some fluctuation by province, the figures never dip below 54 per cent.

Simultaneous with the expansion of the state labour force and the deterioration in exports of manufactured goods, however, was the steadily rising level of unemployment and rate of inflation. Wolfe (1977:259) presents a tabulation of economic indicators for this period which indicates that following the state's announcement of its human-capital strategy for

full employment, price stability, and economic growth, the Canadian unemployment rate rose from 3.9 to 7.1, and the rate of inflation ballooned from 2.4 to 10.8. The state was forced to serve as the employer of a larger and larger share of the labour force, while at the same time having to deal with unusually high unemployment. The strategy for economic development had become a fiscal squeeze.

Faced with countervailing forces of this kind, the state strategy of economic development through state-regulated human investment was, as early as the late sixties, undergoing thorough redefinition. As has already been noted, by 1969, with revised social rates of return on educational investment and indices of stunted research and development in Canadian industry in hand, Treasury Board officials in Ontario took direct interventionist action to limit expenditures on higher education. Program budgeting was imposed on all government departments and policy directives were handed out to the previously independent buffer body advising the government on university affairs to contract sharply expenditures on higher education. The 1971 declaration by Economic Council of Canada that human-capital policies of economic growth had failed signalled the federal state's intention to contract its transfer payments, an action taken at the first possible moment in 1972. By 1972 provincial state ministers had already moved into the area of curricular control, imposing a freeze on graduate funding, suspending funding for capital projects, placing ceilings on the general interest and part-time programs in the CAATs, and raising tuition fees as a first step in the move to shift more of the costs of higher education back to the "user". By the mid-seventies underfunding and

system rationalization were the realities of university life. In six of the ten provinces university operating expenditures fell sharply as a percentage of provincial gross expenditures. In Ontario, the province with the largest single post-secondary system, funding per student had, by 1975, dropped fifteen per cent below the 1970 level. By 1975 the breakup of the Keynesian consensus of state intervention was official. As Wolfe (1984:71-72) notes:

In a series of dramatic moves in 1975, the government signalled the abandonment of Keynesianism in favour of more conservative alternatives. The first of these was the announcement by the governor of the Bank of Canada of the bank's conversion to a gradualist strategy of monetary restraint to bring inflation under control through steady decreases in the rate of growth of the money supply. This new policy was announced in a speech by the governor, Mr. Bouey, to the Canadian Chamber of Commerce in Saskatoon in September 1975.

A second component of the Liberal's post-Keynesian policy orientation was the introduction of the Anti-Inflation Program of October 14, 1975. The Attack on Inflation consisted of four related strategies: fiscal and monetary policies to reduce the rate of inflation; government expenditure restraint aimed at keeping the rates of increase in government spending to less than the GNE; structural policies to deal with the supply of energy, food, and housing; and a prices and incomes policy that established guidelines for determining wage and price increases. . . . Taken together, these two aspects of the government's new economic strategy indicated that the traditional Keynesian notion of discretionary changes in fiscal and monetary policy to offset fluctuations in the economy was dead and buried; it had been supplanted by a return to the traditional Victorian "balance the budget" orthodoxy, which had prevailed during the depression.

The stage was set for more conservative interpretations of the role of higher education in Canada.

1. The major arguments of Report No. 7 of the Science Council of Canada, The Role of the Federal Government in Support of Research in Canadian Universities, are summarized by its author, John B. MacDonald (1973:157-174).

2. Clark and Zsigmond (1981:63,85,91,97,99, Tables 6,12,15,18,19).

3

Micro-D

CHAPTER SEVEN

PHASE II OF CONTRACTION: THE EMERGENCE OF A NEO-CONSERVATIVE CONSENSUS: 1975 TO 1981

The Canadian government's abandonment of expansionary fiscal policies in favour of monetarism and the Anti-Inflationary Program of wage controls and state expenditure reduction was a response to the growing economic crisis being experienced in all advanced industrial countries during the mid-seventies. As Panitch (1985:82-83) observes:

By the late 1960s and early 1970s, changes in the structure of accumulation, the employment relationship, and long-term trends in declining profitability produced a major turning point, exhausting the expansionary forces. With the oil price shock, the wage explosion from working-class militancy, widespread inflationary pressures, and the effects on the economy of a further expansion of the welfare state, a crisis of over-accumulation spread throughout the advanced capitalist world. . . .

Perhaps the best indicator of the generalized capitalist crisis has been the decline in the rate of profit. Whatever way it is measured -- pre- or post-taxes, gross or net, related to fixed or to total capital -- profit rates have declined, reducing the investable surplus, and thereby slowing the rate of accumulation.

As the OECD concluded in its study Profits and Rates of Return (1979), "the overwhelming impression . . . is of declining profit shares and rates of return." While different countries have different profit shares, which partly explains the relative dynamism of certain capitals, the coefficients of trends in profitability are overwhelmingly negative. . . .

Panitch points to a variety of OECD indices which dramatically document the declining profit shares within Western national economies. These indices reveal profound deterioration in most economies and particularly severe conditions in (OECD) Europe where the average annual rate of increase in the GDP was halved in the mid-seventies (from 4.8 over

the period 1953-73 to 2.4 during the period 1973-79).

More significantly, however, the early seventies witnessed a deepening crisis in most every industrialized country without any major changes being made to macro-economic policies. As Campen and MacEwan (1982:7) argue, this gave rise, politically, to convictions that Keynesian policies had contributed both to sustaining prosperity and to undermining it and, more seriously, that liberal Keynesianism held no effective policy response to stagflation. As the seventies gave way to the eighties, the conditions were ripe for the rise of conservative economics and the a sharp shift in politics to the right. In the Spring of 1979 conditions in Europe's most battered national economy brought Margaret Thatcher to power and introduced the severity of her recessionary monetarist solution (Campen and MacEwan, 1982:9 and Livingstone, 1983:68-69). In the Fall of 1980 Ronald Reagan was elected President of the United States largely on the basis of his clear alternative to Keynesian economic policies. As Campen and MacEwan (1982:7) observe:

As the economic crises continued through the 1970s, the inability of the liberal orthodoxy to predict, to explain, or to offer effective policy responses to worsening economic developments became increasingly obvious; the continuing crisis of the economy produced a deepening crisis of economic theory and policy as well. As a result, conservative economics gained increasing influence as the decade progressed.

Campen and MacEwan (1982:7) also note that all schools of conservative economics during the seventies had four characteristics: (1) they advocated a substantial redistribution of income, wealth, and economic power toward capital; (2) they argued for a smaller role for the public sector and massive

reductions in taxes and public expenditures; (3) they urged more spending by the state on the military's development of weapons systems; and (4) they favoured a reorientation of government regulation of business towards "malign neglect" overseen by those with pro-business attitudes. These analyses of the mid-seventies crisis reveal that the Canadian state's abandonment of Keynesianism in favour of a more conservative alternative was certainly not unique. What is also clear is that the various nation states in the OECD moved from deflationary fiscal policies to conservative free-market policies (at their most extreme a recessionary monetarism) to a debate on "post-Keynesian" forms of state intervention. Thus Campen and MacEwan (1983:18) speak of the growing influence of the "conservative reindustrializers" who argue that free-market policies are insufficient to restore the long-term health of the national economy. These reindustrializers argue that two things are required: a restructuring of the processes of change and innovation necessary for production and a restructuring of the social and political institutions that guarantee the stability needed for sustained capital accumulation (e.g., post-Keynesian forms of state intervention and the development of corporatist strategies to forge a new social contract between labour and capital).

State Action in the Post-Keynesian Model: Stronger Forms of State Intervention

Chernomas (1983:133) describes the underlying logic of post-Keynesian macro-economic policy as being the attempt to "resolve the contradiction" between traditional Keynesianism and the monetarist solution:

... the state must moderate the effects of the economic crisis so that it does not spill into a general political and ideological crisis. } Although Keynesians are capable of keeping the political crisis at bay, and monetarists are capable of unleashing a purifying economic crisis, neither group appears capable of resolving the contradictions between legitimation and accumulation.

It is the avowed purpose of the post-Keynesians to resolve this contradiction -- that is to resolve the economic crisis without disturbing the full-employment mandate of the Keynesians.

Pointing to the work of economist Sydney Weintraub, Chernomas (1983:133) describes the post-Keynesian agenda as having five aspects: (1) a permanent incomes policy tying wages to productivity, both of which are established by the state; (2) enhanced state control over credit as a means of financing industrial capital; (3) tighter state control over resources directing them to industrial use; (4) state programs to restructure the industrial sector through mergers, nationalization, research and design programs and retraining programs for skilled labour; and (5) state fiscal subsidies selectively arranged so as to address necessary structural change in the economy. Hence state economic activity becomes highly specific and much more directly related to the production process since it involves not only control over wages and productivity but also a key role in the structuring of capital and the labour force. As Chernomas (1983:135-136) notes,

Walter Heller, leading economist of the Kennedy era who symbolizes the transformation from Keynesian to post-Keynesian economics, has suggested that the central bank ought to conserve the limited supply of credit by guiding it to the most productive channels. Heller contends that government-directed financing should exclude credit for corporate takeovers, commodity speculation and foreign loans, but should give high priority to plant and equipment investment, farming, small business, and residential construction. In this way the state can use the credit mechanism to finance the existing productive capital with

the greatest potential for restoring the accumulation of capital, while leaving weak capitals to be absorbed into the restructuring process. Through grants, subsidies, and tax breaks, the post-Keynesian state would intervene directly in the restructuring of capital, not indiscriminately, not guided by the ambivalence of the Keynesian welfare state mandate, but with the express purpose of favouring the most profitable direction for the economy. The effect then of a greatly expanded state-guided investment policy, combined with a coercive incomes policy, is to raise the rate of exploitation while reducing the costs of production and realising productivity by restructuring a more productive fixed capital structure.

Utilizing Chernomas' basic approach, Cy Gonick (1983:42) argues that post-Keynesian alternatives to monetarism are more likely to be applied where the political economy of the state has a strong tradition of economic intervention -- as is the case in Canada. Gonick (1983:43) expands upon Chernomas' characterization of post-Keynesian state intervention, noting that in a crisis strict state interventionism legislates wage controls (with little control over prices) and redirects state expenditures away from social welfare programs towards programs of industrial restructuring. This redirection of state support, Chernomas observes, can take a variety of forms. Direct funding is redeployed and increased so as to assist state-mandated companies in strategic industries, such as those that are technologically advanced. Other strategies for state-orchestrated restructuring include the nationalization of major companies to increase productivity and profitability (before returning them to the private sector), rationalizing capital in public-sector corporations to eliminate unprofitable components (and "privatizing" profitable ones), and utilizing subsidized loan schemes and tax incentives for research and development.

Gonick's analysis argues that, while incomes policies and tax

reforms are used to lower real wages and redistribute income and tax revenue towards profit (so as to subsidize the financing of industrial and labour force restructuring), the rationalization of the welfare state is aimed at releasing for application to the private sector a greater part of the surplus value collected in the form of taxes. Post-Keynesian forms of state intervention are represented as the more palatable political alternative to the harsh tonic of market forces unleashed: deep recession, soaring unemployment and bankruptcies. This mode of intervention also requires direct state-imposed controls, and state participation in industrial reorganization.

The Canadian state's 1975 Anti-Inflationary Program represented not only the abandonment of Keynesian policies; it constituted the first step toward the reorientation of state intervention in Canada. Wage controls were followed in 1977 by a "major overhaul of the federal-provincial grants in aid" (Boadway 1980:19) to tie them strictly to the rate of growth in the GNP. These measures were in turn followed by the 1978 reorientation of several major federal ministries and their councils toward economic activities (Houle, 1983:145n), as well as several attempts to implement a corporatist economic strategy (Mahon, 1983:168-169; and Banting, 1986:25). In 1980 this shift towards a more rightward direction of state intervention also gave rise to the National Energy Program.

When assessing the reorientation of state intervention, it is important to keep in mind that the 1977 overhaul of the federal grants in aid initiated a series of reductions in social welfare spending that had by 1985 totalled some twelve billion dollars, monies in tax revenues that were

redirected toward a plethora of state programs aimed at industrial and labour force restructuring. These reductions of state support for traditional Keynesian programs were also followed by a policy redirection within the federal state distributive mechanisms for grants in aid (in particular the granting councils governed of the Ministry of State for Science and Technology) to focus on granting schemes which would both set priorities for research and shift more funds toward research defined to be in the national interest. As Chernomas (1983:136-138) observes, the clearly post-Keynesian orientation of the Science Council of Canada has, since 1978, called for a variety of selected state interventions aimed at restructuring Canada's industrial profile:

The Science Council suggests that the government must break with its focus on unemployment and inflation in isolation; that is, it must locate these problems in a larger complex of structural difficulties. The key is not merely to regulate industry (which is often counter-productive), but to encourage it. The government must reverse its "laissez-faire attitude" in order to solve Canada's needs to restructure its industrial base.

And, as Chernomas notes, however influential you might gauge the Science Council to have been relative to the Economic Council of Canada, the fact remains that various aspects of the Council's post-Keynesian agenda increasingly made their way into federal state policies and programs over the period 1977-1985. Such policies include not only government grants, subsidies and tax incentives focused on firms with high science and technologically innovative capacity, they also involve the encouragement of mergers between firms, and the establishment of joint government-industry ventures to provide the scale of enterprise necessary to allow research and

development to flourish (Chernomas, 1983:137). In addition, post-Keynesian policies call for longer-term labour-force planning to deal with industrial restructuring and the displacement of whole subcomponents of the workforce, as well as the encouragement of stronger and more focused linkages between universities and the industrial sector (Chernomas, 1983:137).

Hence the late seventies witnessed a retreat from the welfare state and the emergence of different and more focused forms of state intervention in the economy. Both of these developments had immediate and profound effects on the relations between state and academy. Indeed, the evolution of state macro-economic policy from deflationary to monetarist, to post-Keynesian over the period 1969-1982 had its echoes in the state's relation with higher education. As with the economy as a whole, changes in state educational policies evolved through several stages, beginning with a sharp and sustained tightening of funding and evolving into a more explicit and directed form of restructuring through state intervention. For the academy, the first stage in this evolution from policies of constraint to intervention occurred in 1977.

A WATERSHED YEAR FOR THE ACADEMY – 1977

The End of Conditional Grants and The Introduction of Transfer Payments Tied to the Rate of Increase in the Gross National Product

A signal event in the history of university financing occurred in 1977: the negotiated end to conditional post-secondary transfer payments to the provinces. The removal of conditionality was granted as the provincial

quid pro quo for the federal state's imposition of a ceiling to the transfer payments -- the annual rate of increase to be equal to the rate of increase in the Gross National Product. The consequence of this arrangement was that the exclusive determinant of funding levels was to be the national level of economic productivity. Significantly, no attempt was made by either level of the state to qualify the determinacy of the economic index or to admit to any other criteria for consideration (such as those more clearly related to the cultural or scholarly aims of higher education).² Not since the 1964 pronouncements of the Economic Council of Canada or the Bladen Commission Report of 1966 had there been a clearer statement of the economic focus of the state's support (and interest in) higher education in Canada.

As Yuk Shing Woo (1985:17-18) notes, the new funding arrangements for social programs covered by the Established Programs Financing Act (EPF) were aimed at achieving three principal budgetary goals: (1) a reduction in federal outlays to social programs and greater federal control (including the ability to forecast costs accurately) by untying the federal commitment from a 50:50 cost-sharing arrangement driven by provincial spending; (2) providing the provinces with the means of effecting their own reductions in spending on social programs by redefining the transfer payments as general revenues to be applied to any provincial spending program; and (3) equalizing the per capita grants to a greater degree across provinces. At both levels of the state the main thrust of the 1977 agreement was a sharp reduction in spending on social programs. As one provincial premier, Richard Hatfield (1981:171-172), has observed of the

1977 EPF Agreement,

... because federal payments are related to the growth of the Gross National Product, rather than provincial spending patterns, a greater incentive for provinces to control or limit spending now exists. Fifty cent dollars are no longer available. Provincial budgeting is now done on a gross basis, not a net basis. And, if money can be saved in these programs, so much the better. The savings achieved no longer result in a reduction of federal dollars, for the dollars are tied to an independent escalator.

Now these arrangements came into force about the same time that the economy really started slowing down, forcing provincial governments to exercise greater restraint in spending. So I believe what was predicted to happen did happen. The arrangements did work as they were expected to. The provinces did restrain spending growth. This was necessary because of slow growth in revenues. And we were not inhibited from doing so because we could do it without losing federal dollars.

The fact that all this happened should not be surprising to anyone, least of all the federal government. This is exactly the kind of limit on federal spending the federal government wanted, and exactly the kind of flexibility the provinces wanted.

More significantly for higher education, however, was the fact that the 1977 EPF arrangement had the effect of completing the process of provincializing post-secondary education in Canada. The support and development of post-secondary education was henceforth to be directly determined by provincial spending priorities. As one of the leading critics of state financing of higher education in Canada, A.W. Johnson (1986:5) is quoted as saying,

... the universities' troubles began with the Established Programs Financing (EPF) Act of 1977. The legislation should have been called the "Empty of Purposes Act"

With this act, the federal government was saying in essence that it would no longer be playing a major role in the financing of universities. It would pass the money to the provinces but not tie the contributions to the post-secondary education sector. The transfers became unconditional "no-purpose fiscal transfers". . . .

EPF arrangements were not, however, the only action taken by state agencies to decrease the drain on tax revenues resulting from social programs. In 1977 all but three provinces increased university tuition fees (British Columbia 25%, Ontario 16%, and Saskatchewan 10%) (OCUA, 1979:12). At the same time, other complementary approaches were also adopted. For example, in Ontario the state financed Ontario Student Award Program (OSAP) was revised to place all post-secondary students (once initially registered) on a "clock" of eight academic terms of grant eligibility (to include the summer session) (Axelrod, 1982:197-200). This revision was designed to increase the efficiency of universities by pushing students through their programs as quickly as possible -- so much so that in the case of certain five-year programs (such as Architecture) students were denied any grant support in their final year.

What also became clear over this period was the fact that universities and university students had been selected by state agencies for special degrees of constraint and that this reflected a shift in state priorities within educational policies. As Axelrod (1982:180) observes:

Community colleges by no means prospered during this period . . . but they also bore less of the financial burden than the universities. Between 1973/74 and 1977/78, per student grants to the [colleges] exceeded those of the [universities] by 8 per cent. Perceived as more pragmatic educational institutions, colleges maintained a more favourable public image.

In 1977 state policies of higher education narrowed and hardened into a strict cost-benefit mold. Policies of accessibility and cultural development were to be cut adrift in the years to come.

The 1977 Restructuring of the Research Granting Councils and the Programmatic Emphasis on State Objectives:

As with the instructional side of Canadian higher education, 1977 was also a significant year for research in Canadian universities. Peter Leslie (1980:212) notes that the 1977 announcement by the then Minister of State for Science and Technology, Hugh Faulkner, of a major restructuring of Canada's research granting councils reflected the fact that the state, especially MOSST, had "an increasingly clear idea of what the granting councils should be doing." Indeed, Faulkner's announcement made very clear that the councils were to be "charged with the responsibilities of translating national issues into research objectives."

Bill C-26, enacted in June 1977 as the Government Organization (Scientific Activities) Act, created the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) to take over the research support functions formerly performed by the National Research Council and the Canada Council. More importantly, this reorganization of the granting councils also involved a fundamental redefinition of the approach to be taken by these Councils. Faulkner's statement put it as follows:

Is the main purpose [of university research] to push back the frontiers of knowledge? Is it to train graduate students to be competent researchers? Should it be helping to solve problems posed to it by governments or industry . . . I believe the answer is all three. My perception is, however, that there has been an imbalance in favour of the first two at the expense of the third. I have reached the conclusion that the universities must begin moving more of their research and enquiry into the mainstream of effort aimed at understanding and solving our pressing national problems.

.....

The laissez faire attitude to the support of university research has a much narrower validity than it once had. What this means is that the time has come for a more activist approach by the granting councils to the determination of research priorities and to the creation of new policies and programs which will give university research an even greater opportunity to respond to national needs. Bill C-26 is important because it creates a new and dynamic framework in which this vital, evolutionary change in the directions of [the granting] councils can take place [as quoted in Leslie, 1980:212]

As Leslie (1980:213) observes, the "evolutionary change" in the direction of the councils cited by the Minister can be inferred from two features of the policy directives given to the new councils. The first consisted of firmer linkages between granting programs and state priorities in research through the explicit directive to have granting programs address national objectives, develop regionally balanced research capabilities, and foster interdisciplinary research. The second was the directive to implement new programs of 'strategic grants' and 'targeted research' designed to address priority problems and to be structured in the contractual mode, with power to select what is researched (and how) shifting away from the researcher to the state through the granting councils. Indeed, as Leslie (1980:387-388) also notes, the redirection of council policies toward the support of "research projects having a quick and tangible payoff in terms of technological innovation or improved delivery of government services" and the later trimming of expenditures in basic research programs (while leaving mission-oriented research programs intact) reveal the determination of state agencies to control and direct the

programmatic thrust of the research sector towards "productive" ends.

Leslie's interpretation of the nature of the changes are borne out by subsequent statements of the Councils themselves when introducing their new programs. For example, in outlining its role as defined in the 1977 Scientific Activities Act, the Social Sciences and Humanities Research Council (SSHRC) (1985:6,ii) notes:

This was more than a reorganization measure. While recognizing the traditional roles of universities in research and in the training of researchers, it provided for a portion of federally supported research to be directed towards national objectives.

.....

A significant accomplishment of the first [Five-Year] Plan was the introduction of targeted research, in the areas of Population Aging, Women and Work, the Human Context of Science and Technology, the Family and the Socialization of Children, and Managing the Organization in Canada.

.....

With the accomplishments of the first Plan as a base, the second Five-Year Plan is designed to help the country attain the economic renewal, innovation and improved productivity called for in the Throne Speech The Plan recognizes that the Council, as a federal agency, must strengthen those areas where research needs and aspirations coincide with Canada's national priorities.

The movement in this last paragraph is from national priorities to national economic priorities; it is a movement expressive of the changed relation between state and science that emerged as a consequence of the post-Keynesian redefinition of the economic role of the state.

Of this emergent relationship between the state and the research sector in Europe Neave (1985:34-35) has observed:

Despite the ideological differences that colour the place

higher education is assigned in the social fabric, it is clear that all governments, whether right or left, have . . . paid closer attention to the role of research and the capacity of the university to contribute to the national effort in this area. Some countries, for instance France and Sweden, see university research as a way of priming the industrial pump, as a crucial part in accelerating economic recovery.

Some of the administrative changes that have taken place in order to 'lock' higher education in with government research priorities have been remarkable. . . .

Such administrative changes to gain greater control over research priorities arise, Neave argues, from several considerations by state actors. The need to optimize and rationalize such large appropriations at a time when public expenditures are being squeezed is a powerful factor within the state's policy deliberations, as is the need to 're-profile' the production of research and graduate programs in the same way that state policies attempt to re-profile undergraduate studies into more efficient institutional constellations. Neave has also noted that in addition to the administrative changes undertaken to link the research sector of higher education more firmly with national state priorities, recent developments have seen two sorts of shifts in the pattern of research funding by state agencies. The first is a shift away from the humanities and the social sciences toward the sciences. The second is a shift toward 'driven' or sectoral research -- inquiry specifically undertaken in response to the demands of outside bodies, whether governing agencies (in areas defined by the state as areas of national interest) or private enterprise (under a customer/contract principle).

Neave (1985:34-35) argues that these changes bring with them several effects. For example, the shift toward greater emphasis on sectoral

research and on the contract principle involves a change in the balance of power away from the scholarly community and towards those funding or commissioning agencies. This changed balance of power means that research is "less the result of granting public funds to free inquiry than of applying a specifically tailored remit, with the power to determine what shall be investigated, and what shall not lying in the hands of research councils, ministries, industry." Additionally, such shifts in the balance of power also mean that the greater the linkage with agencies outside the academy (whether the state or the corporation), the greater the possibility for the further fragmentation of the academic profession. Neave (1985:35) identifies four strata of such fragmentation:

Those involved in fundamental, long-term research in priority areas backed by government. Those involved in short/medium-term contract research backed by the private sector. Those involved in research related to teaching on small personal grants. Those involved in teaching alone.

While he acknowledges that this fragmentation is not new to the academic profession, Neave does, however, contend that the trend has been markedly more acute over the late seventies and into the eighties.

Neave's analysis of European trends (1985:35) points to yet another feature of state intervention in the research relationship. Forced linkages with national priorities over a period of increasingly constrained public funding also force a higher degree of institutional stratification (along the lines of the American model of research universities). Such institutions are encouraged so as to allow the more efficient allocation of research funds to universities earmarked in this way. As we will see in the next chapter of this thesis, it is precisely out of this concern for resource efficiency that

Canadian state preferences for "centres of excellence" emerge.

Neave's insights provide a useful framework for understanding the significant changes introduced into the research sector in 1977 by MOSST. Of particular importance in this connection are two processes: first, the transformation of national state science policies to become more precise instruments of industrial policies of production; and, second, the effects of such policies on an academy whose traditional place in society was both more autonomous than this new regime allowed and whose raison d'être extended beyond the principle of science for economic development to include science for science.

The Effects of 1977: A Shift toward a More Selective Policy on the Production of Highly Qualified Manpower and a Growing Focus on Industrial Research

The 1977 renegotiation of the EPF arrangements and the 1977 restructuring of the granting councils made two things very clear: state policies had reduced higher education to a distinctly second tier of instrumentality; and state priorities were beginning to shift away from an emphasis on the production of highly qualified manpower toward a more selective focus on stimulating industrial research and development.

The first phase of the shift away from core support to research development occurred with the renegotiation of transfer payments. The expenditure reductions pursued at both levels of the Canadian state in the 1977 EPF agreement were realized very quickly and very efficiently. Yuk Shing Woo (1985:14) notes that

Total federal grants for postsecondary education increased

from \$2.1 billion in 1977 to \$3.64 billion in 1983, which represented an annual growth rate of 13 per cent. Over the period 1977-83, the federal government transferred a total of \$17.6 billion to the provinces. . . . In real terms, annual federal transfers to provinces were constant at \$1.3 billion since 1978-79. Thus, the annual national growth rate was only 1.3 per cent from 1977 to 1983. Between 1977-78 and 1983-83, the federal government contributed a total of \$8 billion in 1971-72 dollars. [See Table 7.1]

These reduced and then stabilized rates of increase resulted in a sharp (ten per cent) drop in federal funding per full-time (equivalent) student [See Table 7.2]. The erosion of funding for core operating costs is all too evident in these indices of declining federal support.

However, the establishment of provincial priorities in post-secondary education had even more disastrous results, for with the removal of the conditionality of transfer payments, there emerged a tendency on the part of most provincial governments not only not to match the federal transfers (as was originally required in the Fiscal Transfer Act of 1967), but to redirect larger and larger portions of the transferred monies away from education. As Donald Savage, Executive Secretary of the Canadian Association of University Teachers (CAUT), (1984:7) has noted:

. . . provincial governments are not legally bound to spend the cash transfers from Ottawa or the money generated by the tax points on higher education. As soon as transfer payments were untied in 1977, most provincial governments began reducing commitments to higher education, whether measured as a percentage of the provincial budgets, grants per student or the like.

Indeed, the Canadian Association of University Teachers (CAUT) opposed the 1977 arrangements precisely because it feared this would happen. The most spectacular case has been that of British Columbia where the provincial government is entering the second year of a three-year program designed to cut money to universities by 24 per cent.

TABLE 7.1

FEDERAL TRANSFER PAYMENTS FOR POST-SECONDARY EDUCATION
(IN CONSTANT 1971 DOLLARS) UNDER ESTABLISHED PROGRAMS FINANCING,
1977 TO 1983

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
NFLD.	28272	31224	32168	32075	32275	30679
P.E.I.	5799	6584	6965	6974	6965	6618
N.S.	43477	47034	48122	47957	48181	45797
N.B.	34595	38222	39573	39503	39594	37626
QUE.	347870	360980	362660	362650	366050	349252
ONT.	445510	477640	485910	486490	490380	467730
MAN.	54924	58467	58829	58194	58347	55483
SASK.	48251	52738	54424	54534	55053	52685
ALTA.	102290	113640	123860	131890	135070	124692
B.C.	126110	139530	147960	153750	157610	150968
CANADA	1240637	1329862	1369414	1377966	1393564	1325334

Source: Terry Yuk Shing Wu, "Federal Contributions to Postsecondary Education Under the Established Programs Financing: Trends and Implications, The Canadian Journal of Higher Education, XVI-1, No.1, 1985, Table 3, p. 17.

- Notes: a. Figures include both cash and tax transfers, using the GNE deflator for deflation.
- b. The total for Canada includes transfers for the Territories; thus it exceeds the sum of the provinces listed in the table.

TABLE 7 2
FEDERAL TRANSFER PAYMENTS FOR POST-SECONDARY EDUCATION
(PER FTE STUDENT) UNDER ESTABLISHED PROGRAMS FINANCING,
1977 TO 1983

(IN CONSTANT 1971 DOLLARS)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	% CHANGE 1977 TO 1983
NFLD.	2851	3398	3286	3119	2849	2371	-16.8
P.E.I.	2256	2707	2958	2928	2738	2431	7.8
N.S.	1863	2053	2122	2064	1989	1752	-6.0
N.B.	2444	2741	2805	2738	2547	2232	-8.7
QUE.	1442	1451	1442	1405	1372	1246	-13.6
ONT.	1807	1945	1921	1833	1758	1572	-13.0
MAN.	2201	2455	2555	2441	2287	1980	-10.0
SASK.	2415	2713	2815	2769	2600	2281	-5.5
ALTA.	1962	2196	2389	2472	2384	1989	1.4
B.C.	2445	2684	2817	2826	2793	2498	2.2
CANADA	1807	1928	1949	1900	1836	1635	-9.5

Source: Terry Yuk Shing Wu, "Federal Contributions to Postsecondary Education Under the Established Programs Financing: Trends and Implications," The Canadian Journal of Higher Education, XVI-I, No.1, 1985, Table 5, p. 19.

- Notes:
- Figures include both cash and tax transfers, using the GNE deflator for deflation.
 - The total for Canada includes transfers for the Territories; thus it exceeds the sum of the provinces listed in the table.
 - Full-time equivalence for part-time students has been calculated using a conversion factor of 3 to 1.

Savage and the CAUT (1981:146 and 1985:2), as well as Price (1986) have amply documented these reductions in provincial state commitments to higher education. They have also revealed the extent to which the already pronounced crisis of university underfunding of the mid-seventies deepened in the years that followed (see Table 7.3). The provincial state's redirection of already curtailed transfer payments away from higher education was not, however, to be the only state action undertaken to curtail and reshape the academy. In Ontario, for example, the newly elected 1977 minority Conservative government quickly established a new "restraint" program with the stated aim of balancing the budget by 1981. And, as Axelrod (1982:180) points out, the sector to bear a disproportionate burden of "restraint" was the university sector:

... the compilation of new statistics demonstrat[es] that within the public sector as a whole, and in the education field specifically, the standing of the universities had slipped considerably. While grants per student in elementary and secondary schools had increased by 33.2 per cent (in real terms) between 1970/71 and 1979/80, during the same period grants per university student fell by 13.1 per cent. Despite their own severe budgetary problems, hospitals too, fared better than the universities in the last part of the decade. Between 1972/73 and 1979/80, the universities' share of the total provincial expenditures declined between 12 and 15 per cent (depending on the inclusion or exclusion of debt servicing).

By 1979 Canada's largest provincial university system was being characterized as a "system on the brink." Citing the emergence of several institutional operating deficits as an issue of some concern, the Ontario Council on University Affairs (OCUA) (1979:5-6,43) published the following statement:

The magnitude of the constraint problem can be seen in

TABLE 7.3

A COMPARISON OF INCREASES IN FEDERAL EPF TRANSFER PAYMENTS AND INCREASES
IN PROVINCIAL UNIVERSITY OPERATING GRANTS AND RATIOS OF EPF TRANSFERS
TO TOTAL PROVINCIAL EXPENDITURES ON POST-SECONDARY EDUCATION, 1978-79 TO 1984-85

	78-79	79-80	80-81	81-82	82-83	83-84	84-85
NFLD							
Fed. Transfer	18.4	15.0	11.3	11.4	12.3	7.4	5.8
Prov. Op. Grant	7.7	11.7	7.2	13.2	9.8	2.5	0.4
Ratio Trans./Expend.	2.7	2.8	2.8	2.8	2.7	2.9	3.2
P.E.I.							
Fed. Transfer	24.9	18.2	11.6	10.7	12.3	7.0	6.4
Prov. Op. Grant	8.2	14.4	7.7	8.9	15.4	7.8	5.8
Ratio Trans./Expend.	2.8	3.1	3.1	3.3	3.2	3.4	3.1
N.S.							
Fed. Transfer	15.8	14.0	11.2	11.3	12.7	6.9	6.5
Prov. Op. Grant	8.0	5.0	11.8	13.2	11.4	6.0	5.4
Ratio Trans./Expend.	2.3	2.6	2.6	2.6	2.7	2.7	2.7
N.B.							
Fed. Transfer	18.4	15.5	11.2	11.1	12.5	7.2	6.2
Prov. Op. Grant	9.5	8.4	8.5	10.7	13.2	5.4	6.3
Ratio Trans./Expend.	3.2	2.9	2.9	2.9	2.8	2.9	3.0
QUE.							
Fed. Transfer	11.0	11.8	11.5	11.9	12.9	6.7	5.6
Prov. Op. Grant	13.1	14.0	17.3	9.7	2.1	1.5	4.0
Ratio Trans./Expend.	1.5	1.6	1.5	1.5	1.6	1.7	1.7
ONT.							
Fed. Transfer	14.6	13.2	11.6	11.7	13.3	7.2	6.6
Prov. Op. Grant	5.1	4.4	7.0	9.9	13.8	7.5	6.5
Ratio Trans./Expend.	2.2	2.3	2.4	2.4	2.4	2.5	2.6
MAN.							
Fed. Transfer	13.8	12.0	10.3	11.1	13.1	7.2	6.2
Prov. Op. Grant	0.5	12.0	0.7	14.6	17.9	10.3	3.0
Ratio Trans./Expend.	2.8	2.8	3.0	2.9	2.8	2.9	3.1
SASK.							
Fed. Transfer	17.0	15.0	11.6	12.0	13.4	7.4	6.7
Prov. Op. Grant	9.4	7.3	7.0	13.9	11.4	7.0	5.0
Ratio Trans./Expend.	2.3	2.4	2.4	2.4	2.4	2.5	2.6
ALTA.							
Fed. Transfer	18.7	21.3	20.1	18.4	3.5	7.5	5.1
Prov. Op. Grant	8.7	8.5	17.3	17.3	19.8	8.7	4.9
Ratio Trans./Expend.	1.8	1.9	1.9	1.9	1.6	1.7	1.7
B.C.							
Fed. Transfer	18.5	18.3	15.7	13.1	13.5	7.3	6.9
Prov. Op. Grant	11.1	6.8	10.6	16.9	7.3	0.0	-5.0
Ratio Trans./Expend.	2.2	2.2	2.4	2.3	2.5	2.6	3.0
CANADA							
Fed. Transfer	14.7	14.3	12.7	12.5	12.1	7.1	6.2
Prov. Op. Grant	8.7	8.7	11.7	11.9	9.7	4.9	4.0
Ratio Trans./Expend.	2.4	2.5	2.5	2.5	2.5	2.6	2.7

Source: Richard Bellaire, "EPF," CAUT Bulletin, Vol. 32, No. 4, June 1985, p. 2, and Michael J. Prince (ed.), How Ottawa Spends 1986-87: Tracking the Tories. Toronto: Methuen, 1986, Table 3.2, pp. 110-111.

Notes: Data on increases in transfer payments and provincial operating grants have been drawn from the CAUT Bulletin cited above; data on the ratios of transfer payments to total expenditures on PSE have been drawn from How Ottawa Spends. Total provincial expenditures include operating grants, capital grants, and student aid.

perspective if it is examined in the context of the funding that universities have received during the 1970's. In its Fourth Annual Report, Council noted the achievement of the Ontario university system in responding to the accessibility policy of the Government. It demonstrated that, on average, all additional students taken into the universities between 1970-71 and 1978-79 were accommodated at an income in real terms of approximately 50% of the base level. . . .

The grave threat to the research capacity of the universities posed by the Government's funding policy is of particular concern to Council. . . .

The Ontario university system represents a major investment on the part of the people of Ontario. This system now stands at the brink of serious trouble.

What came to be known as annual "shortfalls in government support" from the levels experienced even as late as the early seventies had by 1979 reached hundreds of millions of dollars (in Ontario 138 million). Over the next several years the gap between what had been provided and what was forthcoming widened dramatically. As the gap widened, many universities, especially those emphasizing the poorly funded undergraduate humanities and social sciences, were forced to rethink their curricular priorities so as to place greater and greater emphasis on the relatively better-financed honours, graduate-level, professional and quasi-professional programs. In 1978 one such study was conducted at Carleton University, where traditionally programs had been oriented towards undergraduate studies in the humanities and social sciences. The Report on this re-examination of curricular and resource planning (1978:35-36) noted:

It is interesting to note that in 1977/78 the high weighted programs made up 60 percent of our total undergraduate BIU's while in 1970/71 they made up only 40 percent. Our growing graduate program since 1970 adds further to the

influence of our high weighted programs on our total BIU's. Thus, whatever image there is of Carleton it should no longer be one of being overly dependent on general arts and science undergraduates. The graduate students plus the undergraduates in high weighted programs together made up 46 percent of our student population but generate about 70 percent of the total BIU's. It should therefore be noted . . . that whatever policies for student recruitment that might be developed the importance of maintaining enrolments in the programs with high weights is clear.

.....

Clearly we should open up as much as possible our more highly weighted undergraduate programs by removing them from their present enrolment restrictions We should do all we can to recruit good students and persuade them to take their honours year and we should safeguard our good graduate programs.

Carleton's Commission formally recommended a removal of enrolment limitations from professional programs, the development of degree programs in computer science, ecology, and nuclear engineering, and various steps (including dismissal proceedings) to reshape the faculty profile to accommodate the curricular change made necessary by prolonged underfunding. That similar action was being taken at other Ontario universities is attested to by the enrichment of the BIU/FTE ratio from 1.66 to 1.71 (as measured in constant dollars) over the period 1970-71 to 1978-79 (OCUA, 1979:7). Also clear from this index are the disciplinary steering effects of the state policy of underfunding.

The second stage of the state's move toward a more selective policy on the production of highly qualified manpower occurred in 1980. While renewed demand for full-time study stretched staffing resources and strained underfunded and deteriorating facilities, the federal government undertook a sweeping review of its policies on manpower planning and

training. In the 1980 Throne Speech the government announced a program of economic renewal that would be funded, in part, from "substantial savings . . . in transfer payments to provincial governments which are part of the social affairs envelope." In July of 1980 the (Dodge) Task Force on Labour Market Developments in the 1980s was established "to review labour market trends and to make recommendations on the direction of federal state policies and programs affecting the labour market" (including the federal role in support of higher education).⁴ Additionally, in February of 1981 the (Breau) Task Force on Established Programs Financing was created to conduct a detailed inquiry on ways and means of revising EPF arrangements so that the "substantial savings" required by the expenditure plan of the October 1980 Budget could be realized.

The Dodge task force on labour market developments and federal state policies submitted a detailed report in July of 1981. It wasted no time in making clear that state policies on the financing of higher education should become much more selective, for the task force recommendations on federal support of post-secondary education were based on the following assessment:

The Task Force has found evidence from analyses of Canadian and foreign cost/benefit studies that the overall size of the post-secondary sector is too large and has concluded from this that it could be contracted somewhat, with resources modestly reallocated from education, general arts and sciences and social work to engineering, business, economics and technology (Task Force on Labour Market Development, 1981:154).

Basing their conclusions on evidence of "a significant excess of highly qualified labour throughout the eighties," the Task Force (1981:156-157) put

forward three key recommendations: (1) that there be some reduction in the total commitment of resources transferred to post-secondary training in order to free resources for other types of training; (2) that there be a significant reallocation of resources within higher education to make possible growth in selected disciplines; and (3) that some measure of the financial burden of post-secondary education be shifted back to the private sector. The Task Force (1981:157) argued that, because of the need to restructure higher education to meet the labour force needs of the eighties, federal policies would need to address certain adjustment problems, in much the same way federal policies had been and would be deployed to facilitate industrial restructuring:

... some changes in federal policy would appear to be justified on the basis of labour market considerations. In particular, policy should be structured in such a way as to encourage universities and colleges to be more responsive to changing labour market conditions.

.....

In the present environment the institutions face a severe adjustment problem because existing staff and facilities cannot be adapted to widely varying disciplines. Adjustment and adaptation within the post-secondary sector are even harder than in the automotive or textile industry, given the high degree of specialization of labour and equipment.

More specifically, the Dodge Task Force (1981:158-159) presented four policy proposals. The first recommended a cluster of policies designed to re-profile student demand and program financing. These included a restructuring of student fees to have them constitute a much greater proportion of revenues (so as to shift the cost burden to the user and to maximize the steering effects of student demand, especially in those areas

cited by the Task Force). This first policy proposal also urged that student aid programs be redesigned to encourage student entry into areas of greatest labour market need (through the establishment of differential grant levels).

The second proposal of the Dodge Task Force was that post-secondary institutions be encouraged to tap other sources of private sector funding by developing more entrepreneurial approaches to private industry. To facilitate this process, the Task Force proposed that the federal government institute a program whereby it would match corporate contributions for the establishment and operation of specialized training programs. More generally, the Task Force urged, federal matching grants should be used to facilitate increased industry-university cooperation. The Task Force's third and fourth recommendations on higher education argued that, in the interests of greater research and development, the federal financing of research should absorb more of the overhead costs and that the federal financing package should be redesigned to include some form of "adjustment fund" to encourage restructuring.

For its part, the Breau Task Force Report of August 1981 made three recommendations on post-secondary education transfer payments. The first was the retention of block funding, but the effective separation of the health and education transfers by designating the education portion to be 32.1% of the total transfer. This change was aimed at those who had criticized the federal government for having "abandoned" higher education through the removal of the conditionality of the transfers.

The second recommendation, however, undid any of the good that

might have been achieved in the designation of a deemed amount for post-secondary education, since it urged the removal of the revenue guarantee portion of the transfer and the equalization of the per capita payments. This would have the singular effect of "saving" the federal treasury \$5.7 billion over the five-year life of the proposed agreement (and freeing these monies for redirection toward more "productive ends").

The third recommendation of the Breau Task Force was the most significant and the most revealing -- that post-secondary education be transferred from the social affairs envelope to the economic development envelope. This change would not only alter the political context for state policy decisions on higher education, it would also clarify the nature of the federal state's interest in post-secondary education. The Breau Task Force (1981:80) made both of these points very clear when it argued for this change on the grounds that it would

... identify more precisely the kinds of results the federal government might look to as a consequence of these expenditures [and make clear] that these expenditures might in future be appraised according to economic development criteria rather than social criteria.

The symbolism of transferring higher education from social affairs to economic development dramatically underscores the narrowing of state policy -- away from issues of accessibility toward the economic utility of higher education.

The recommendations of the Dodge and Breau task forces were to take on considerable importance over the next several years as universities were urged by state commissions on higher education to restructure their curricular profiles to be more responsive to the labour market and to seek

out new, enriching and lasting relationships within the private sector. These same commissions would also recommend that greater costs be shifted back to the student through tuition fee increases, and that, at a policy level, accessibility give way to concerns over a more selective production of highly qualified manpower and of industrially related research.

More immediately, (to no one's surprise) the 1982 renegotiations of EPF arrangements included the removal of the revenue guarantee and the equalization of the per capita transfer payments. As a result, social-program budgets released \$5.7 billion for redistribution over the next five years.

Faced with this sharp reduction in transfer payments to post-secondary education and the clearly signalled intent to redirect funds away from generalized core support towards programs designed to serve national economic needs, several provinces reacted swiftly. Harsh measures were adopted by the British Columbia Government (a zero per cent grant increase following the 1982 renegotiation of EPF arrangements, followed by a -5.0 per cent "increase" in the next two years -- a massive 60 per cent drop over two scant years in the province's share of financial support for university operating grants (See Table 7.3). Elsewhere, the increase in operating grants to universities were kept well under the federal rate of increase in transfer payments (in most instances by half the amount of the federal rate of increase -- See Table 7.3)

The Effects of the 1977 Restructuring of the Granting Councils

As for the research sector, at least some of the effects of the 1977 restructuring of the granting councils by MOSST can be gleaned from an analysis of the data on budgeted and actual expenditures outlined in the first and second five-year plans of SSHRC and NSERC. In the case of SSHRC, two effects of restructuring are very clear. First, the new mandate of the Council included a de-emphasis of discipline-based research and human resource development in favour of the expansion of a strategic grants program of research in which basic themes of "national interest" would be set by the Council. As Table 7.4 reveals, over the period 1977 to 1984, the budgeting of SSHRC monies was to reflect a sharp decrease in the proportion of funds provided for discipline-based research (from 56% to 39%), as well as a decrease in funds for human resource development (from 28% to 23%). These reductions were designed to make room for a rapid growth in strategic grants (from 4% of total funds to 26%). The actual expenditures published by SSHRC reveal the same shift in priorities, although the degree of change is much less marked (see Table 7.5). By 1984-85, the proportion of actual expenditures devoted to discipline-based research had dropped to 50 per cent, while those devoted to human resource development had fallen to 26 per cent. By contrast, strategic program expenditures had, by 1984, grown to 13 per cent of total SSHRC expenditures.

The second effect of restructuring was that the actual rate of growth in funding for human science research, while planned to be modest

TABLE 7.4
 PROPOSED SSHRC PROGRAM EXPENDITURES BY MAJOR ACTIVITY,
 1979-80 AND 1984-85

(\$ Millions)

ACTIVITY:	79-80	% TOTAL	84-85	% TOTAL
Discipline-based Research	18300	55.8	26935	39.0
Strategic Programs	1400	4.3	18200	26.4
Communications	4000	12.2	8315	12.1
Human Resources Development	9100	27.7	15550	22.5
TOTAL	32800	100.0	69000	100.0

Source: Social Sciences and Humanities Research Council. Five-Year Plan for Financing Research in the Social Sciences and Humanities, 1985-1990. Ottawa: SSHRC, 1985, Figure 2, p.13. and Table 4, p.14.

TABLE 7.5

SSHRC ACTUAL EXPENDITURES (IN MILLIONS OF CURRENT DOLLARS)
1978-79 TO 1984-85

EXPENDITURE TYPE:	78-79	79-80	80-81	81-82	82-83	83-84	84-85*
Discipline-based Research	17.4	18.3	20.8	21.7	26.0	26.2	28.5
Targeted Research	-	1.4	1.9	3.7	6.4	7.2	7.2
Human Resources Development	9.7	9.1	10.0	11.7	13.2	14.6	14.7
Research Communication	3.3	4.0	5.1	5.1	5.7	6.4	6.6
TOTAL	30.4	32.8	37.8	42.2	51.3	54.4	57.0

PERCENTAGE DISTRIBUTION OF SSHRC ACTUAL EXPENDITURES BY TYPE
1978-79 TO 1984-85

EXPENDITURE TYPE:	78-79	79-80	80-81	81-82	82-83	83-84	84-85*
Discipline-based Research	57.2	55.8	55.0	51.4	50.7	48.2	50.0
Targeted Research	0.0	4.3	5.0	8.8	12.5	13.2	12.6
Human Resources Development	31.9	27.7	26.5	27.7	25.7	26.8	25.8
Research Communication	10.9	12.2	13.5	12.1	11.1	11.8	11.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Social Sciences and Humanities Research Council, Five-Year Plan for Financing Research in the Social Sciences and Humanities, 1985-1990. Ottawa: SSHRC, 1985, Table 3, p. 10.

* The 1984-85 figures are actuals taken from A Study Team of the Task Force on Program Review, Service to the Public: Education and Research. Ottawa: Minister of Supply and Services, 1985, p. 63.

(GNP plus 5%), was actually held to less than the rate of increase in the GNP and, over the 1977 to 1984 period, was non-existent in real terms (See Table 7.6).

More serious than these two rather immediate results, however, were the long-term trends in human science research, for if we examine the funding levels over the period 1970 to 1984 (See Table 7.7 and Figure 7-A), we find a decade of neglect evolving into a period of static but increasingly directed levels of funding.

Turning to NSERC financial data for the same period, we find the same shift in emphasis away from discipline-based research in favour of research manpower training and targeted research. As Table 7.8 reveals, the first five-year plan of NSERC proposed a three-fold increase in strategic grant funding (from \$10 million in 1978 to \$34 million by 1984), as well as a doubling of expenditures on research manpower training. Discipline-based research, according to this plan, was to drop from 59 per cent of total expenditures in 1979 to 35 per cent by 1984. As in the case for SSHRC, NSERC's actual expenditures over this period (see Table 7.9) reveal a more muted shift in priorities. However, the tendency to move away from an emphasis on discipline-based research is still quite marked, with the proportion of total expenditures devoted to this type of activity dropping from 62 per cent in 1979 to a mere 48 per cent of total expenditures by 1984.

More important, however, is the fact that, unlike the static pattern of SSHRC funding, NSERC expenditures show real annual increases of nine per cent over the period 1979-84. Figure 7-B reveals that, despite the

TABLE 7.6

SSHRC EXPENDITURES IN CURRENT AND CONSTANT (1968) DOLLARS
1979-80 TO 1984-85

(\$Millions)

YEAR:	CURRENT DOLLARS	CONSTANT DOLLARS
1979-80	32.8	11.9
1980-81	37.8	12.1
1981-82	42.2	11.9
1982-83	51.3	12.9
1983-84	54.4	12.9
1984-85	57.0	12.8
Change 79 to 84:	24.2	0.9

Source: Social Sciences and Humanities Research Council. Five-Year Plan For Financing Research in the Social Sciences and Humanities, 1985-1990. Ottawa: SSHRC, 1985, Table 3, p. 10.

TABLE 7.7
SSHRC EXPENDITURES IN CURRENT AND CONSTANT (1968) DOLLARS
1970-71 TO 1984-85

(\$ Millions)

YEAR:	CURRENT DOLLARS	CONSTANT DOLLARS (1968=100)
1970-71	18.2	15.9
1971-72	18.1	14.9
1972-73	18.6	14.3
1973-74	20.3	14.3
1974-75	21.8	13.3
1975-76	24.7	13.0
1976-77	27.2	12.6
1977-78	28.5	12.0
1978-79	30.4	11.8
1979-80	32.8	11.9
1980-81	37.8	12.1
1981-82	42.2	11.9
1982-83	51.3	12.9
1983-84	54.4	12.9
1984-85	57.0	12.8
Change 70 to 84:	38.8	-3.1

Source: Social Sciences and Humanities Research Council. Five-Year Plan
For Financing Research in the Social Sciences and Humanities.
Ottawa: SSHRC, 1985, Table 3, pp. 9-10.

Source: Social Sciences and Humanities Research Council, Five Year Plan for Financing Research in the Social Sciences and Humanities, 1985-1990. Ottawa:SSHRC: 1985, Figure 4, p.37.

TABLE 7.8

PROPOSED NSERC PROGRAM EXPENDITURES BY MAJOR ACTIVITY,
1979-80 AND 1984-85

(Millions of 1979 \$)

ACTIVITY:	79-80	% TOTAL	84-85	% TOTAL
Skilled Manpower	13.0	10.6	79.2	26.9
Equipment	14.9	12.1	62.3	21.1
Targeted Research	13.2	10.7	33.7	11.4
Free Research	72.4	59.0	104.4	35.4
General Programs	9.3	7.6	15.0	5.1
TOTAL	122.8	100.0	294.6	100.0

Source: Natural Sciences and Engineering Council. Completing the Bridge to the 90s. Ottawa: NSERC, 1985, Table 2, p. 7.

TABLE 7.9

NSERC ACTUAL EXPENDITURES (IN CONSTANT 1984 DOLLARS)
1979-80 TO 1984-85

(\$ Millions)

EXPENDITURE TYPE	79-80	80-81	81-82	82-83	83-84	84-85
Research Manpower Training	19.3	27.0	33.5	38.3	45.7	51.4
Research Infrastructure	19.6	37.4	49.0	50.2	48.1	33.1
Discipline-Based Research	114.5	116.7	119.9	126.6	135.9	143.0
Targeted Research	18.7	27.3	29.6	32.0	40.7	46.4
Research Development	3.2	3.1	3.7	3.6	3.9	3.1
General Programs	9.8	11.0	11.3	15.0	14.1	23.6
Subtotal Programs	185.1	222.5	247.0	265.7	288.4	300.6
Administration	3.6	4.7	5.3	6.4	6.8	11.0
TOTAL	188.7	227.2	252.3	272.1	295.2	311.6
TOTAL (CURRENT \$)	120.7	162.3	201.1	244.4	281.2	311.6

PERCENTAGE DISTRIBUTION OF PROGRAM EXPENDITURES,
1979-80 TO 1984-85

EXPENDITURE TYPE:	79-80	80-81	81-82	82-83	83-84	84-85
Research Manpower Training	10.4	12.1	13.6	14.4	15.8	17.1
Research Infrastructure	10.6	16.8	19.8	18.9	16.7	11.0
Discipline-Based Research	61.9	52.4	48.5	47.6	47.1	47.6
Targeted Research	10.1	12.3	12.0	12.0	14.1	15.4
Research Development	1.7	1.4	1.5	1.4	1.4	1.0
General Programs	5.3	4.9	4.6	5.6	4.9	7.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: Natural Sciences and Engineering Research Council.
Completing the Bridge to the 90s. Ottawa: NSERC, 1985.
 Table 2, p. 7.

FIGURE 7-B
NSERC FUNDING PATTERN, 1970 TO 1984

Source: Natural Sciences and Engineering Research Council, Completing the Bridge to the 90s. Ottawa: NSERC, 1985, Figure 7, p.11.

underfunding of research activities generally, there was a sharp improvement in the relative funding level of NSERC during the post-1977 period. Even a cursory glance at Figure 7-B reveals the sharp contrast with the earlier plot of SSHRC's expenditure pattern and underscores the general deterioration in federal state support for human science research in favour of research in the natural sciences and engineering. This shift of state priorities can also be seen if we compare the overall patterns of state funding for the three granting councils. Whereas in the 1977 restructuring the funding balance was set at four (NSERC), two (MRC), and one (SSHRC), by 1984 these proportions had become six (NSERC), three (MRC), and one (SSHRC).

These disciplinary effects of the 1977 restructuring policies (with their focus on strategic research in the national interest) can also be seen in the expenditure patterns in R&D research over the longer period 1971 to 1981. For example, Table 7.10 reveals that, from 1977 onward, the pattern of research and development expenditures in Canada has involved a marked shift away from the human sciences toward the natural sciences. In constant dollars this has amounted to a 24.4 per cent decrease in human-science R&D and a 32.3 per cent increase in the natural sciences. It is also important to remember in this connection that human-science research programs have also seen a sharper increase in the amount of 'targeted' research required to address priorities enunciated by the state.

If we also look at the data on the federal government's expenditures on in-house research, we find the same pattern of activity. For example, the data on those employed in research and development in

TABLE 10
R&D EXPENDITURES IN CANADA, BY SCIENTIFIC FIELD, 1971 TO 1983

(\$ MILLIONS)

YEAR	GNP	GROSS EXPENDITURES ON R&D (GERD)					
		NATURAL SCIENCES		HUMAN SCIENCES		CURRENT	CONSTANT
		\$	%	\$	%		
1971	94400	1160	88.1	157	11.9	1317	1317
1972	105200	492	88.2	160	11.8	1352	1284
1973	123600	1284	88.4	169	11.6	1453	1263
1974	147500	1504	88.5	195	11.5	1699	1283
1975	165300	1686	88.2	226	11.8	1912	1297
1976	191900	1834	87.9	252	12.1	2086	1285
1977	210200	2055	88.2	276	11.8	2311	1335
1978	232200	2348	89.1	287	10.9	2635	1414
1979	264300	2694	90.0	299	10.0	2993	1459
1980	296500	3204	90.4	340	9.6	3544	1553
1981	339000	3953	91.2	380	8.8	4333	1715
1982	356600	4591	91.6	420	8.4	5011	1800
1983	389400	4969	91.5	459	8.5	5428	1841

Source: Science Council of Canada. Social Science Research in Canada: Stagnation or Regeneration? Ottawa: Minister of Supply and Services, 1985, Table 1, p. 31.

Notes: For "Constant Dollars" two deflators have been used. The Gross National Expenditures Implicit Price Index (GNE-IPI) has been applied to the natural sciences, while the Implicit Price Index of Current Government Expenditures on Goods and Services (IPI-GECS) has been applied to the human sciences.

Canada (see Table 7.11) reveal that in 1977 the number of human-science researchers in the federal administration was reduced sharply by 32 per cent (from 830 to 560). Over the period 1977 to 1981 the ranks of human science researchers were further thinned by 33 per cent (to a mere 370). In addition, the total intramural research expenditures in this area (as measured in constant dollars) fell from 172.2 million dollars in 1975-76 to 155.5 million dollars in 1983-84. This sharp reduction over five years is in marked contrast with the increase in federal-state in-house research staff in the natural sciences -- from 5140 in 1975 to 5350 by 1983. Indeed, this Table reveals clearly that, within the federal government's research programs, 1977 was the year of sharp decreases for human science research only. Hence these data underscore the late seventies' reorientation of state policies and funding patterns toward "productive" and politically useful programs of scholarly enquiry. It is also no accident that the most decisive shift in funding occurred in 1977, the year MOSST imposed a realignment of university-support mechanisms in order to afford greater control over the research agenda.

The growth in strategic research funding and the shift of state support away from human-science research toward the natural science and engineering are quite consistent with Neave's previously cited observations regarding the effects of state-initiated "administrative" changes to lock university research more firmly into state research priorities. They would also seem to bear out Trent's (1985:23) observations that since the late seventies there has been

... a struggle between the government's attempt to orient

TABLE 7.11

PERSONS EMPLOYED IN R&D IN CANADA BY FIELD AND SECTOR, 1975-1981
(FULL-TIME EQUIVALENT)

FIELD:	1975	1976	1977	1978	1979	1980	1981
Human Sciences:							
Scientific:							
Fed. Admin.	820	830	560	490	420	360	370
Prov. Admin.	310	330	340	290	350	390	370
Universities	3210	3270	3370	3370	3380	3390	3370
Subtotal	4340	4430	4270	4150	4150	4140	4110
Support Staff	2930	3000	2980	2990	2990	2980	3030
Total	7270	7430	7250	7140	7140	7120	7140
Natural Sciences & Engineering:							
Scientific:							
Fed. Admin.	5050	5140	5120	5330	5230	5250	5350
Prov. Admin.	940	1020	1130	1100	1180	1190	1260
Universities	3840	3960	4030	4080	4160	4200	4150
Private Enter.	8320	9020	9720	10500	11280	12540	13810
Others	140	140	150	150	200	260	280
Subtotal	18290	19280	20150	21160	22050	23440	24850
Technicians	14900	15100	15440	15720	16110	17620	19110
Support Staff	12970	12900	12790	13460	13970	13270	14730
Total	46160	47280	48380	50340	52130	54330	58690
All Fields	53430	54710	55630	57480	59270	61450	65830

PERCENTAGE CHANGE OVER PREVIOUS YEAR IN R&D PERSONNEL, 1975-81, AND
PERCENTAGE CHANGE 1975 TO 1976 AND 1976 TO 1981

FIELD:	1975	1976	1977	1978	1979	1980	1981	1975 to 1976	1976 to 1981
Human Sciences:									
Scientific:									
Fed. Admin.	n/a	1.2	-32.5	-12.5	-14.3	-14.3	2.8	1.2	-55.4
Prov. Admin.	n/a	6.5	3.0	-14.7	20.7	11.4	-5.1	6.5	12.1
Universities	n/a	1.9	3.1	0.0	0.3	0.3	-0.6	1.9	3.1
Subtotal	n/a	2.1	-3.6	-2.8	0.0	-0.2	-0.7	2.1	-7.2
Support Staff	n/a	2.4	-0.7	0.3	0.0	-0.3	1.7	2.4	1.0
Total	n/a	2.2	-2.4	-1.5	0.0	-0.3	0.3	2.2	-3.9
Natural Sciences & Engineering:									
Scientific:									
Fed. Admin.	n/a	1.8	-0.4	4.1	-1.9	0.4	1.9	1.8	4.1
Prov. Admin.	n/a	8.5	10.8	-2.7	7.3	0.8	5.9	8.5	23.5
Universities	n/a	3.1	1.8	1.2	2.0	1.0	-1.2	3.1	4.8
Private Enter.	n/a	8.4	7.8	8.0	7.4	11.2	10.1	8.4	53.1
Others	n/a	0.0	7.1	0.0	33.3	30.0	7.7	0.0	100.0
Subtotal	n/a	5.4	4.5	5.0	4.2	6.3	6.0	5.4	28.9
Technicians	n/a	1.3	2.3	1.8	2.5	9.4	8.5	1.3	26.6
Support Staff	n/a	-0.5	-0.9	5.2	3.8	-5.0	11.0	-0.5	14.2
Total	n/a	2.4	2.3	4.1	3.6	4.2	8.0	2.4	24.1
All Fields	n/a	2.4	1.7	3.3	3.1	3.7	7.1	2.4	20.3

Source: Science Council of Canada. Social Science Research in Canada: Stagnation or Regeneration? Ottawa: Minister of Supply and Services, 1985, Table 17, p. 52.

research toward national objectives and strenuous efforts by the scientific community to maintain control over the allocation of resources. What may be taking place is a breakdown of an earlier consensus on who should be making decisions about research priorities and on the criteria that should be used.

Emerging out of the break-up of an earlier Keynesian consensus on national economic development through the deployment of science and higher education was indeed the neo-conservative view that state action in support of science and state action to maximize the industrial and economic benefits of science required a fundamental rethinking. Not only was it necessary to secure more direct control over the funding mechanisms for scientific research; it was necessary to restructure the production of knowledge itself -- to serve more effectively state programs of industrial and economic development.

1. These points will be elaborated in Chapter Eight.
2. The exclusively economic focus of the federal education policy is revealed in the comments of the Honourable Allen J. MacEachen, Minister of Finance, before the Breau Committee on Federal-Provincial Fiscal Arrangements. In his remarks on the federal government's support of post-secondary education, the Minister observed the following:

The post-secondary component of EPF is classified as a social policy transfer, but, to the extent that it serves federal policy goals, it is mainly related to long-term economic development.

... as I recollect the original justification for federal government support to the universities of Canada that developed in the days, for example, of Mr. St. Laurent was not that we were entering the field of education which was exclusively provincial, but that we were contributing to national development and achieving the goals of economic

development through supporting the universities who were producing scientists and engineers . . . (Minutes of Proceedings and Evidence of the Special Committee on the Federal-Provincial Fiscal Arrangements, Thursday April 23, 1981, pp. 14 and 27)

Another feature which points to the exclusive focus on economic considerations is the manner in which EPF permitted provinces to allow the standards of post-secondary education to deteriorate. Hence in their analysis of the funding arrangements for higher education, while Gunther and Van Loon (1981:166-167) draw attention to "the strong statements made . . . by the federal government on its commitment to preserving national standards," they also acknowledge that "perhaps it is now necessary to consider whether [the program's] flexibility has begun to result in such a degree of diversity that it is becoming very difficult to ensure the maintenance of basic equality of standards and services to which the federal government is also committed." As for the university community, Savage and Bellaire (1981:147) have summed up much of the frustration in their comment that:

The problem . . . is that the federal government introduced the new system precisely to allow the provinces to do what they are doing -- making their own decisions on allocation of money among programmes. But the federal government also wanted to insure the maintenance of existing standards at least for Hospital Care and Medicare. For post-secondary education the question is less clear-cut. . . the present system gives the federal government no real influence to see that these ideas [of ensuring the maintenance of national standards] are carried out.

3. The Honourable A. MacEachen, as cited in Fiscal Federalism in Canada: Report of the Parliamentary Task Force on Federal-Provincial Fiscal Arrangements. Ottawa: Ministry of Supply and Services, August 1981, p.1.

4. The Honourable L. Axworthy, Minister of Employment and Immigration, Foreword, Labour Market Development in the 1980s (Ottawa: Minister of Supply and Services, 1981), iii.

5. The Honourable H. Breau, Introd., Fiscal Federalism in Canada (Ottawa: Minister of Supply and Services, 1981), p. 1.

CHAPTER EIGHT

PHASE III OF CONTRACTION: RESTRUCTURING ECONOMY AND ACADEMY THROUGH NEW FORMS OF STATE INTERVENTION - 1982 to 1986

In 1982 a world-wide economic crisis saw the aggregate deficit of OECD countries increase from 2.7 per cent of combined GNP to 4.2 per cent, and the Canadian deficit ballooned from 1.1 per cent to 5.3 per cent. With real domestic product dropping from an annual growth of 4.0 per cent to -4.2 per cent, Canada's economy was in a state of profound 'crisis.'² In response the federal government imposed wage controls, introducing its two-year "6 and 5" program, The Public Sector Compensation Restraint Act. Prime Minister Trudeau, in a televised address to the nation introduced this program of wage restraint by arguing that Canadians must become leaner, harder and tougher in order to compete effectively in the emerging international capitalist order (Wolfe, 1983:19). In this connection, Rianne Mahon (1983:152) observes that the Prime Minister's theme of restoring Canada's international competitiveness became translated, as policy, into a renewed shift of already reduced resources for consumption (directed at social wages) to investment as a means of facilitating capital's rapid restructuring. In this way, Mahon (1983:152-153) argues,

... the restoration of international competitiveness seems to imply modification in all of the principal policies that have characterized the intervention of the advanced capitalist state in the post-war era ...

The crisis of 1982 not only intensified state-funded industrial assistance (in the form of corporate tax cuts, forms of subsidization, wage

controls, and reduced expenditures on social programs; it also gave rise to a modification in the forms of state intervention in the economy. Thus, for example, Gordon Ritchie, Associate Federal Deputy Minister of Industry, Trade and Commerce, (1983:43) describes the increasing importance of direct state assistance to industry, assistance aimed at easing the burdens of industrial readjustment:

There is . . . one important rationale [for state aid to industry] which has not been adequately addressed by the theoreticians but which has come to loom increasingly large as a basis for current policies governing government aid to industry; that is the assistance designed to ease the burden of adjustment, by individuals and by communities, to changes in economic circumstances, including provision of aid to permit firms to restructure their operations and tide them over the period of immediate difficulty.

By the late seventies, industrial assistance had become . . . engulfed by deepening economic recession. This had a dramatic impact on the calculus of such aid. First, the costs of economic adjustment, even to tariff changes, became much greater. . . . whereas in the past it was possible to operate on the basis that most of the resources -- people and capital -- in the firms which had become uncompetitive would . . . be re-absorbed in other lines of activities, this became much less likely in circumstances of general economic difficulty. . . . Under generally depressed economic conditions . . . enduring depressed markets . . . challenge the survival of the very strongest in the industry; and if the restructuring fails, the displaced workers may face prolonged unemployment . . .

Second, the scope of the required adjustment was transformed from a relatively limited range of products subject to international negotiations to a whole national industrial economy. The heat was on all industries, processing, manufacturing and services in all regions, including the traditional Ontario heartland and the boom region of the West. Furthermore, it was not only the small, marginal firm that was affected.

Ritchie cites a range of large firms who were bought or heavily subsidized

by government during the restructuring period under discussion. These include de Havilland and Canadair in the aerospace industry, Chrysler Corporation in the automotive industry, Massey-Ferguson and Maislin. Ritchie adds, however, that the industrial assistance mounted by the state is not exhausted by these somewhat spectacular cases involving millions of dollars:

The industrial giants capture the headlines, but the impact is much more pervasive among smaller firms across the country. In response, the government has created new instruments for providing aid to firms with the prospect of restructuring their operations to achieve viability. The most important of these are the Industry and Labour Adjustment Program (ILAP) and the Canadian Industrial Renewal Board (CIRB).

What Ritchie describes is a fundamental reorientation of state economic activities. As Chernomas and Gonick have observed, state action here constitutes a conscious program of coordination, planning and control over the economy's future direction. This reorientation has its structural expression as well, for as Ritchie (1983:46) notes, in January of 1982 Prime Minister Trudeau announced the creation of a new Department of Regional Industrial Expansion both as a means of providing a strategic framework for the plethora of "restructuring aid" programs that had been set up in the crisis years of the late seventies and early eighties, and as a response to the need to design a reprivatization program for those firms bought by the government.

In July of 1982 legislation was also passed to replace the Adult Vocational Training Act with the Industrial Training Act, to be operated under the authority of the Canada Employment and Immigration Commission

(CEIC). As with the industry-aid side of state-sponsored restructuring, this legislation was designed to deal more directly with the "adjustment" problems within the Canadian labour force and to strengthen the state's occupational forecasting capacity through the construction of a massive (and very well funded) data collection and dissemination system, the Canadian Occupational Projection System (COPS).

Hence the billions of dollars "saved" through the contraction of federal state support of higher education (via EPF) became part of the underpinning of a new array of strategic state interventions in economy. Stressing the planned, longer-term coordination of education, training, job creation, and grants-in-aid (recommended by the Dodge Task Force on the Labour Market) to effect a regionally based industrial restructuring, post-Keynesian educational policies reflected a narrowing of purpose and a move away from the social-policy dimensions of federal state support of post-secondary education. Indeed, as if to underscore that the purpose of state support of higher education was henceforth to be perceived primarily as economic development (as the Breau Task Force had recommended) through a more selective production of highly qualified manpower (the "benefit" of which was largely realized in private rates of return), the federal government in 1982 placed the post-secondary portion of EPF under the Public Sector Compensation Restraint Act, limiting the educational transfer payments to increases of six and five per cent in the 1982-83 and 1983-84 fiscal years, respectively. Through this extension of wage control legislation, the federal state realized additional "savings" of \$677 million, savings that, following the recession of 1982, could be directed towards

programs of economic and industrial restructuring.

The contraction of federal support for post-secondary education in favour of expanded programs of strategic manpower training and retraining was also supplemented by the state's intervention to facilitate industrial research and development. Over the period of the late seventies, at the repeated urgings of the Science Council of Canada, the Finance Department put into place a series of tax incentives aimed at stimulating research and development in Canadian industry. Thus, for example, whereas in 1976 only \$40 million of tax expenditures were connected with research and development (through a single tax incentive program), by 1979 R&D tax expenditures totalled \$150 million (across three programs).¹ Following the 1982 recession, the post-Keynesian direction of state policy again gave rise to a significant increase in this form of subsidization. In its April 1983 budget the federal government implemented a variety of changes to the Income Tax Act designed to stimulate R&D in Canadian industry.⁴ As the Science Council (1984:33) notes,

The federal government has recently implemented several changes to the Income Tax Act proposed in the April 1983 Budget. By increasing the flexibility of R&D financing, the changes will be particularly attractive to Canadian-owned firms that are R&D-intensive, lack profits at the early stages of their development, and are still subject to the small business tax rate. This move should help to reduce further the shortfall in industrial R&D.

Additionally, as Symons (1984:179-180) notes, in May of 1983 the Minister of State for Science and Technology announced "A Technology Policy for Canada" which increased funding for several NRC and NSERC programs, new initiatives to encourage cooperative university-industry

efforts in R&D, a National Biotechnology Strategy, the development of a National Microelectronics Design Network, and an annual fund of \$1.5 million to promote awareness of science and technology.

As part of this reoriented program of intervention the federal state also returned to its consideration of EPF post-secondary education arrangements in 1983. The Secretary of State commissioned A.W. Johnson, professor of political science at the University of Toronto who had considerable experience within state circles, having been a former Director of the CBC, and senior bureaucrat in Health and Welfare, Treasury Board and the Department of Finance, to serve as advisor on higher education. This appointment, according to Johnson (1985:ii), quickly evolved into a one-man task force, the purpose of which was a major review of the financing of post-secondary education and the ultimate theme of which was the need to give "greater point and purpose" to federal state support of higher education.

Written over the period 1983 and 1984, Johnson's report captures the various currents of the debate over post-secondary education that had emerged in the early eighties, both in terms of the state relations that framed it and the policy drift toward less accessible education and to more "productive" education. Johnson's report identifies several key deficiencies in the system of state support for higher education, which he sums up as the weakened and distorted finances of universities and colleges, the malaise of federal-provincial state relations shaping financing, and the confusion of priorities in the state's support of higher education. However, while Johnson develops a wide array of arguments in support of major

reforms of federal state financing of post-secondary education, he focuses on two principal themes: (1) excellence and specialization as over against accessibility; and (2) the need to shift federal monies away from core support to research support in the attempt to develop "centres of excellence."

"A System Not Geared to Support or Develop Excellence"

Johnson's criticism of post-secondary education in Canada is not simply that state policies have effectively starved universities and colleges, but that both state and academy have, in the interests of accessibility, ignored a more important aspect of higher education -- excellence and the probing of the frontiers of knowledge. Thus he (1985:20) notes:

... no assessment of the financing of PSE would be complete without reflecting -- indeed underscoring -- the criticism that Canada, and Canada's governments and universities have for too long been preoccupied with a determination to provide a good quality, near universal, system of university and college education, and not enough with the aspiration to develop world-class centres of excellence within that system -- centres which have earned or deserve, an institutional, as well as financial, "special status" within the system.

The facts -- and structures of post-secondary education -- tend to bear out this criticism. Certainly in 1967, when a major infusion of public funds was injected into universities and colleges, Accessibility to a high quality educational system, not pinnacles of excellence within that system, was the goal. And, as we have seen, there are indications in today's public policies that the goal of accessibility has tended to remain the prime objective of higher education financing.

... it remains that the system, as such, is not really geared to support or to develop the kind of transcending excellence that one thinks of when one speaks of world-

class centres: centres which set Canada apart, . . . centres which are the "one of a kind" endeavours that would be seen, by the public and private and university sectors alike, as being important to Canada's economic and technological and social development; centres which are of such breadth and such depth as to evoke the kind of institutional and budgetary "special status" which they need.

Johnson's critique of policies of accessibility reflects more than a generalized concern within state circles over the future direction of Canadian universities. Within academic circles the same critique was being voiced. An extreme version of this view was put forward in 1984 by Bercuson, Bothwell and Granatstein in The Great Brain Robbery: Canada's Universities on the Road to Ruin. The authors (1984:7) asserted flatly that "Canadian universities no longer take only the best students and no longer give their students the best education." As von Zur-Meuhlen (1984:7) notes of The Great Brain Robbery,

The book addresses the alleged decline in the quality of university education, the supermarket nature of the curricula, the democratization of the universities' governing bodies, the unionization of faculty, the role of tenure and the 'publish or perish' syndrome. It attacks the academic credibility of interdisciplinary programs ranging from Canadian and Women's Studies to Northern and Urban Studies as well as the enrolment driven underfunding of universities and their size.

More especially, however, the arguments put forward in The Great Brain Robbery (1984:54) concentrate on the various forms of democratization (ranging from admission policies stressing accessibility to collective bargaining procedures to internal structures of academic governance as "an impediment to excellence and a stimulant to mediocrity." It is this feature that sounds eerily like the more general neo-conservative critique of the

social and political order represented by the welfare state. The retreat from full funding of social programs begun in the late sixties and throughout the seventies had by 1984 become an open attack on their raison d'être; the need to become competitive in an internationally restructured economic order argued for international competitiveness in the production of knowledge and human capital. Equality of opportunity was now being attacked by the new right as a dangerous principle -- one that not only tolerated but encouraged mediocrity.

The "Mistaken Priorities" in the Balance between Core and Research Financing, and the Creation of "Centres of Excellence"

Johnson's (1984:28) analysis also argued for a reduction in state funding of the core (instructional) support of higher education in favour of "the financing of research and excellence." A permanent shift of state support toward the research capabilities of the academy (and more especially those concentrating on research and development activities) are thus the first step in establishing internationally competitive centres of excellence:

... it is a nice question as to whether a proper balance has been found over the years, as between the financing of core operations, on the one hand, and the special financing of research and excellence in the system, on the other. Insofar as the Government of Canada is concerned, the total fiscal transfers for core operations, of \$4.2 billion, compare with the \$458 million which is appropriated for the granting councils for research and scholarship. The fiscal transfers are, in short, close to ten times the appropriations for research and excellence. And a good many critics of PSE financing see in these figures a reflection of mistaken priorities. How, in the face of these funding priorities, they argue, can the university system develop the peaks of excellence that are required if

post-secondary education in Canada is to be great -- not simply very good?

Johnson recommends that \$250 million of the EPF/PSE transfer payment be redirected towards the financing of research and that an additional federal appropriation of \$250 million be made to the granting councils.

Johnson's proposal puts in very concrete terms a mechanism for restructuring the relations between state and academy. A reduction of six per cent in core support (which must be seen in the context of several successive reductions over the period 1982-85), a sharp increase in the priority of sponsored research (aimed largely at increasing the country's R&D profile), and the focus on "centres of excellence" are quite consistent with a retreat from social policies in order to redirect financing toward more "productive" activities within the academy. In this respect, Johnson's underlying approach is very similar to the one outlined in the 1985 Parliamentary statement (1985:3-5) of the British Secretary of State for Education and Science:

The Government believes that it is vital for our higher education to contribute more effectively to the improvement of the performance of the economy.

.....

[There is] the need to increase the effectiveness of the money spent in universities, polytechnics and other institutions on research. Effectiveness in research requires concentration in strong centres. At present our resources are too thinly spread, especially in disciplines where effective research entails high equipment costs. An important thrust of research policy over the next few years will be towards selectivity and concentration.

What Johnson does not address, however, are the effects of such selective concentration. The British statement of policy (1985:21) is very clear on

one such consequence:

Greater concentration and selectivity may mean that some departments or even whole universities will lose research funding from the UGC. Universities will still have discretion over the funds at their disposal, and be able to seek research funds from other sources. Research will be a consideration in the necessary process of rationalization.

The Johnson Report skirts the edges of many "reformulations" of state educational policies that are presented directly in the British statement. Whereas in Britain the UGC sharply reduced core support through its 1982 cuts in both funds and student places, the Johnson Report (and the actions of successive federal governments) by indirection forced the same result -- by recommending a reduction of core support via cuts in the rate of growth of EPF transfers and by proposing transfers of core funds to research activities in selected universities. Whereas the Johnson Report argues that the "mistaken priority" on accessibility should be replaced by an emphasis on excellence, the British Minister (1985:10) states bluntly that the "Robbins principle" of guaranteed access is to be reformulated within the twin caveats of sufficient social rates of return and toughened standards of entry. Whereas the Johnson Report argues for a greater role for the private sector in the creation of centres of excellence, the British statement (1985:4) unequivocally urges that higher education needs to foster in students pro-business attitudes and positive attitudes toward work, in order to develop strong links with industry, especially local industry.

Johnson's final report was not submitted, however, until February 1985, by which time there had been a change in government with the 1984 federal election of a majority Progressive Conservative Government.

Elected on a neo-conservative platform of eliminating the fiscal drain of "big" government expenditures (excepting, of course, the "sacred trust" of certain social programs), the new government set forth its economic program of renewal in Finance Minister Wilson's November 1984 Economic and Fiscal Statement. Wilson's statement clearly indicated that economic recovery would be fueled by private sector growth and that industrial innovation was a key component of the recovery. Hence the direction of state policies were clearly towards "freeing" the private sector to generate wealth, towards controlling all non-essential state expenditures and towards raising investment levels, not through a state industrial policy of strategic intervention, but through tax incentives and a renewed welcome to foreign capital. What educational and research policies there were, were aimed squarely at transferring to the private sector more of the financial burdens (and direction) of higher education and research. To these ends, the May 1985 Budget proposed a further reduction of \$6 billion in overall EPF transfer payments over the period 1985-1990, bringing the redirectable "savings" achieved from reducing state expenditures on social programs to \$12.4 billion over the period 1982-1990. The Wilson Budget also sharply curtailed the resources and the mandate of the Science Council of Canada (the true author of Trudeau's interventionist industrial policy initiatives of the late seventies and the early eighties), noting that the Council's role was "being redirected to focus it more sharply, and with significantly fewer resources, on enquiries related to the federal government's management and investment responsibilities in science and technology (The Honourable Michael Wilson, as quoted in The Citizen, May 25, 1985, E9.)"

By the spring of 1986, the Conservative Government had effected the proposed \$6 billion cut from EPF transfer payments. In addition, federal state support for the national granting councils was put on a distinctly new footing as the Finance Minister announced that for the 1986-86 fiscal year, the requested funding would be provided but that thereafter (for the four remaining years of the five-year plans), the councils would be expected to raise \$369.2 million from private sources in order to secure matching federal funds. If the councils failed to raise the necessary private sector support, their budgets would be held well below levels that kept pace with inflation (The Honourable Michael Wilson, as reported in The Citizen, March 15, 1986, B8). Thus both universities and granting councils were urged to foster ties with industry or to live with a constantly deteriorating resource base. The greater privatization of public education and research had become firmly entrenched as state policy.

Plans for Restructuring at the Provincial Level

At the provincial level of the state, the period 1983-1986 saw a playing out of many of the same themes, for the prolonged recessionary circumstances that had given rise to a Conservative federal government had turned political views sharply rightward at the provincial level as well. In the midst of the severe recession of 1982 some \$5.7 billion had been trimmed from transfer payments (as a result of the removal of the revenue guarantee); this was followed by the \$677 million reduction through the application of the "6 and 5" program, which, in turn, was followed by the announced \$6 billion reduction in transfer payments for the period 1985-

1990. In response, several provinces reformulated policies of accessibility to higher education within the parameters of economic "restraint," and deployed commissions on post-secondary education to explore ways and means of restructuring their university and college systems to address "a new economic order." In 1983 Ontario Minister of Colleges and Universities, Bette Stephenson, announced that qualified applicants would no longer be guaranteed a place in university.⁵ This was followed in 1984 by the creation of the (Bovey) Commission on the Future Development of the Universities in Ontario to present "a plan of action to better enable the universities of Ontario to adjust to changing social and economic conditions."⁶ Detailed terms of reference for the Commission urged a review of the issue of accessibility "in the context of economic realities and in the context of differentiated university structures." The Commission was charged with considering the designation of specific universities as centres of specialization and excellence, the use of entrance examinations, and "the need for a process whereby adjustments can be regularly made to resources allocated for professional programs . . . to respond to changing labour market requirements."⁷ A restructured intermediary body was also urged, as was a review of the formula financing system, to address chronic problems (such as faculty renewal and replacement, and research versus operating funding), as well as the designation of a greater role for the private sector in funding a restructured system.

The decision to strike a commission with such terms of reference and directives arose from the government's rejection of recommendations

put forward by a 1981 (Fisher) Commission on the Future Role of Universities in Ontario. The Fisher Commission (1981:51) had forecast that

If funding throughout the decade is not at the level recommended by the committee in section 2.1 above, but at the level suggested by the May 1981 provincial budget, a major restructuring of the current university system will be needed to provide the best that can be obtainable with the available funding.

This major restructuring would necessitate legislative action, including these or other measures:

- reducing the number of universities;
- changing the character of some or all of the universities, and limiting their range of activity, and;
- grouping universities in two or more categories with different missions.

In announcing the creation of the new Commission, the Minister of Colleges and Universities, Bette Stephenson made it very clear that the provincial Government fully intended the Commission to provide a plan for state intervention:

... the time has come in the relationship between government and the universities for government to exercise leadership through a short-term intervention in the planning process.

The terms of reference for the Bovey Commission also left no doubt that the principal framework for restructuring was to be the new economic order of the eighties. The Minister took pains to point out that this new order called for a fundamental reshaping of the university system to ensure that it can more adequately respond to provincial and national objectives, as well as to industrial objectives, to put in place a more efficient set of differentiated universities, and to redefine what accessibility might mean within such a restructured system. The Minister also made a special point of noting that this restructuring did not mean expansion, since it was to be

accomplished with no substantial change in the funding provided."

In part because of this feature of the Bovey Commission's mandate, the tone set for the Commission's hearings echoed that of the 1981 University Grants Commission exercise in Great Britain, by then infamous for its massive restructuring of the university system to accommodate the Thatcher Government's demand for a more efficient, less costly, and more economically productive knowledge industry. Coming on the heels of the federal withdrawal of EPF monies, and explicitly emulating the UGC, the Bovey Commission set about its task by circulating to universities fifty-one questions, the first of which (to be answered by all) asked what programs and activities would be offered up for elimination over the next decade. From here the questions (1984a:12) moved on to a number of issues loosely tied together under five headings, but most of which dealt with state intervention and ways and means of scaling down and reshaping the university system, questions such as:

What would be the advantages and disadvantages of specific legislative intervention to modify university charters in such a way as to eliminate the offering of certain disciplines in particular institutions, with institutional autonomy maintained within the scope of revised charters?

Would it be preferable to leave adjustment and regulation in the hands of a central body, with adequate powers to monitor and control student intake through funding or other means?

Alternatively, is it better to let market forces rule, but facilitate adjustments through funding incentives? Is it feasible to move even farther in the direction of "deregulation"?

Clearly, the options implied in the phrasing of these questions do not include a university system left to chart its own course with more

adequate levels of funding. Institutional autonomy is, in this approach, a concept to be honoured only after a major restructuring (and presumably to be honoured only until still another such restructuring is called for) through either direct legislative intervention to reshape curricula and research activities, or through the more indirect (but equally effective) siege of operating budgets, forcing less protected programs of instruction and research out of existence.

Such inauspicious beginnings for the Bovey Commission provoked considerable response, including a campaign by the Ontario Confederation of Faculty Associations (OCUFA) to stop the planned restructuring on the grounds that it clearly represented an attack on policies of accessibility.

In announcing the campaign, OCUFA President, Bill Jones (1984:7) observed:

There is unanimous agreement that after years of underfunding the university system is in crisis. Reducing access, making universities more specialized and trying to base programs on hazy job market predictions is not the solution.

Many University Presidents agreed with Jones, for in many of the Commission's hearings, university representatives reacted sharply to the allegation that an overblown and inefficient system needed restructuring. The mood of many was captured by the comment of the President of Carleton University, W.E. Beckel, who closed his presentation with the statement: "Don't fix it, fund it."¹²

The Bovey Commission's final report, when it was released in 1984, reflected a more sympathetic view of the universities' problems than had been anticipated. However, it was still the case that the Commission sounded many of the same themes that had been put forward at the federal

level by the Johnson Report. Principal among these themes was the reformulation of the policy of accessibility:

While Ontario's laudable effort to broaden access to higher education has clearly achieved the highest participation rate among the provinces of Canada, concerns were frequently raised, both by those in the universities and by some from the private sector, that quality both in instruction and research appears threatened, that adaptability (so important in a period of rapid social change requiring responsiveness) has been impeded, and that further institutional differentiation and improvement in balance has been limited by slow growth in the economy and by current funding arrangements (The Commission on the Future Development of the Universities of Ontario, Ontario's Universities: Options and Futures, p. 4.)

The Commission outlined a seven-point strategy for the future development of universities: (1) adopt as the framework for future development the economic role of the university within a new international order; (2) re-orient policies and funding mechanisms to underscore this role; (3) place greater emphasis on excellence and adaptability rather than on accessibility and equality of opportunity; (4) enhance institutional concentration and selectivity; (5) develop specialized (and limited) programs to deal with the accessibility problems of selected groups; (6) establish closer links with, and increased support from, the private sector; and (7) enhance the adaptability of the university system by redefining the intermediary body in such a way as to assign it more proactive, interventionist activities, including a centralized planning and coordinating role regarding institutional programmatic profiles.

In support of this seven-point strategy, the Commission put forward a two-phased revision of the funding arrangements aimed at building incentives for adaptability and differentiation, and at stimulating a policy

re-orientation towards "excellence" rather than accessibility. Specific revisions included a modified formula that created a corridor of funding insensitivity to enrolment changes (so that planned reductions of intake would not generate sharp declines in operating grants), a faculty renewal and adjustment fund, a capital financing scheme, sharp increases in tuition fees and the introduction of a contingency repayment loan arrangement, greater federal financing of research overhead costs, the use of matching grants and tax incentives, and bonuses for industry-university cooperation.

Phase I: Building Incentives for Adaptability and Differentiation

Among these recommendations for providing the necessary incentives for institutional change (1984b:39-40), the most important was the establishment of a corridor of insensitivity to enrolment changes within the funding formula. The width of this corridor would be determined by the research profile of the university so that the basic corridor of $\pm 4\%$ (in BIU terms) would widen to $\pm 6\%$ and $\pm 8\%$ for those universities receiving research council grants exceeding 10% and 15% of their operating grants, respectively. Hence, in relating the incentive to reduce enrolment intake to the research activities of faculty, the Commission reflected the government's desire to shift operating monies away from undergraduate instruction toward research. In addition, the Bovey Commission echoed the government's previous urgings that higher standards of admission be adopted in its proposal that premiums be included in the funding formula for an institution's ability to attract students of high academic quality. At the undergraduate level this ability was to be measured by the proportion of

registrants with Ontario Scholarships, and at the graduate level by the proportion receiving fellowships. Program restructuring was to be "encouraged" by means of disciplinary funding discounts relating to enrolment (in order to modify formula incentives or disincentives in specific program areas, for specific groups of students, and to sustain smaller institutions). These modifications to the formula also included a special levy of 1% of the global grant to provide limited-term grants in support of programs and centres of excellence, and a \$10 million withdrawal for the purposes of capital renewal. Taken together, these changes to the operating grants represent not only a plundering of basic operating grants; they would also force a state-directed re-profiling of academic programs and research.

The second most important recommendation in the Phase I financing strategy was the establishment of a "Renewal and Adjustment Fund" of \$196 million (\$152 million over five years to facilitate faculty renewal, \$20 million to facilitate early retirement, staff retraining and adjustment funding, \$24 million to address the effects of potential disturbances to the retirement patterns as a result of the Charter of Rights clause relating to discrimination on the basis of age). Representing the only portion of Phase I funding that would be new money, this targeted (and heavily audited) fund was proposed (1984b:21) as an extra-formula grant "which would be one-time and not part of the ongoing base funding." Such a proposal was clearly calculated to fall within the Minister's requirement that selective and highly directed restructuring be effected with no substantial increase in the resources allocated to higher education by the province.

Phase II: Financing Excellence at the Expense of Accessibility

The second phase of the financial strategy, it was argued (1984b:23-24) addressed the need to meet long-range "strategic objectives" through ongoing funding sources. As the Commission observed, there are three such sources: the existing funding base, new appropriations to the base, and private sources (tuition and the larger private sector). From the first source, the operating grant, the Commission proposed yet another withdrawal of \$25 million to provide renewal funds for libraries and equipment (to be allocated by the intermediary body). As for the second source, new appropriations, the Commission proposed an \$11 million increase in global funding to offset the 1% levy of Phase I, together with new appropriations set at a minimum of \$20 million annually for new construction and \$26 million for major renovations, as well as appropriations to cover the marginal costs of faculty time and the indirect costs of resource-intensive research and contract research. On the question of additional funding derived from students and the private sector, the Commission recommended annual 8% increases in tuition fees (differentially by program type and level) until they represented 25% of operating expenditures (from a current 16%). These increases in fees were only to be introduced if and when a contingency repayment scheme was introduced for student loans. As for the private sector as a whole, the Commission recommended that the indirect costs of research be covered by those firms contracting research, that tax incentives be deployed to encourage greater private sector funding, and that university campaigns and matching grant

schemes be the vehicles for greater linkages with industry.

In these proposals the Commission had mapped out a strategy for robbing Peter to pay Paul. The university system would, in large measure, finance its own renewal after more than a decade of underfunding, with a sizable injection of funds from the "student-as-user." New appropriations would be directed towards more "productive" ends: selected capital renewal in support of centres of excellence and resource-intensive and contract research.

While the Bovey Commission Report did not, UGC-style, recommend sharp reductions in student places by level and program, reduce operating budgets, or engage in the bitterly divisive pitting of one institution against another, it made two things very clear both in its rhetoric and in its structural proposals. The first was that through mechanisms for enrolment reduction without financial penalty, through increased tuition levels, and through financial penalties for certain types of enrolment, "excellence" would be achieved at the expense of accessibility (a position that clearly implies the incompatibility of the two concepts). The second was that, in addressing both the need for renewal and redirection, a large measure of the necessary financing would be furnished through the redirection of operating grants and through tuition fee increases. Hence in Phase I the redirection of some \$39 million of operating grants is proposed; in Phase II another \$25 million, together with \$91 million in tuition fees, totalling \$155 million. New money to be provided through increased appropriations by the Province totals \$196 million in Phase I and \$184.4 million in Phase II. Thus the Commission's financing strategy would require that 16% of the Phase I

costs of restructuring and renewing the university system be covered by redirecting global funds away from core support, while in Phase II 38% would be financed through a combination of redirected global grants and increased tuition fees. The overall result is that close to 30% of the total financing of restructuring and renewal would be accomplished by means of redirecting funds from core support and increasing tuition fees. Put another way, the recommended \$380.4 million of new appropriations by the Province represents only a quarter of the total calculated shortfall in funding since 1980-81, and only a fifth of the shortfall since 1977, the year block EPF funding made possible the Province's redirection of federal transfer payments away from higher education.

Like the Johnson Report, the Bovey Commission Report argues that the financial support for a "reformed" (as Johnson terms it) system of higher education redirected towards more productive ends must come from within, with state agencies structurally forcing, through a series of incentives and disincentives, the core operations to contract even further their efforts in support of accessibility in favour of a series of projects aimed at specialization, strategic research "in the national interest," and the establishment of firm and lasting linkages with industry.

Planned Capacities and Roles: A More Interventionist Intermediary Body (IMB)

One other aspect of the Bovey Commission Report deserves comment, for it draws the Bovey project closer to the statist model of Britain's UGC. The Commission's proposal for a modified intermediary body

with significantly increased power to direct, coordinate and to sanction programmatic change and institutional differentiation comes very close to the UGC model of a central body designating the number of student places to be funded by program and level. In this connection, the Commission (1984b:30) states:

... current circumstances call for a stronger and clearer mandate and more effective capacity than now exists for overall system planning and co-ordination.

... the Commission advises that the IMB should be given a clear mandate for periodic review and reconciliation of institutional role statements and associated plans for the development of instruction and research in the light of provincial objectives.

With a view to ensuring appropriate standards of program quality, especially at the graduate level, the Commission recommends that the IMB should monitor the COU system of graduate program appraisals, and if it should become necessary establish its own comparative appraisals process and method of reviewing the coherence of graduate programs in each institution.

Adopting what it calls a "planned capacities and roles" approach, the Bovey Commission (1984b:30-32) argues that a recreated Council for University Affairs should be assigned the task of system coordination, planning, and periodic review, with the necessary authority to intervene at a programmatic level if necessary. While the Commission claims that this is an approach that operates by indirection, there is an open acknowledgement that the new IMB would intervene through the agencies of three advisory committees: an Academic Advisory Committee, a Research Support Committee, and a Finance Committee. Additionally, the new Council would be directed to "address" questions such as the support and location of

centres of excellence, programmatic enrolment levels, program evaluation, the forging of links with industry, bilingual education, manpower planning, secondary education and community colleges, distance education, and universities in the North. Both the structure and the agenda reflect a more interventionist IMB.

The new (1985) Liberal Government of Ontario did not formally accept the Bovey Commission Report; however, the "renewed commitment to higher education" claimed by the new provincial government expressed itself in ways that were strikingly similar to the Bovey Commission's recommendations. In essence the revised strategy for state support of higher education, as reflected in funding policies, and mechanisms for university governance, have included the following:

- (a) the continued limitations on core support (with increases in operating grants of only 3.9% in 1986-87 and 3.8% in 1987-88);
- (b) the use of targeted supplementary funding (unprecedented in its auditing requirements) for faculty renewal, library and equipment renewal and research leadership -- each of which is bureaucratically controlled so as to force universities to direct their funds toward institutional specialization and differentiation. In each case the overall approach taken is also very similar to that outlined by the Bovey Commission;
- (c) the establishment of a broad policy of research specialization, incentives for research on industrial technology and firmer linkages with industry.

The Spring 1986 Throne Speech of the Ontario Liberal Government

announced its intention to "encourage the development of centres of excellence in Ontario's post-secondary institutions." And, as the COU Briefing Notes (No. 25, June 1986:1) point out,

While not linked textually (nor indeed necessarily conceptually) to the proposal to establish a Premier's Council, the concept of centres of excellence should be viewed in the light of that Council's announced mandate to establish "broad provincial priorities in support of critical industries and technologies, to concentrate our resources on areas of specialization and avoid duplication." Similarly, the creation of centres of excellence should be linked to one of the proposed early initiatives of the Premier's Council -- "the establishment of distinguished chairs in science and entrepreneurship at Ontario universities."

The COU Briefing Notes go on to argue for an advisory panel drawn from the three sectors: universities, government, and the private sector. More interestingly, however, is the clear delineation of direct state-controlled mechanisms for drawing the linkages between industry and the academy -- outside the influence or control of the normal structures of academic self-governance within the universities. Even more so than the proposed IMB of the Bovey Commission Report, the model here is that of the Premier's Council acting independently or in a manner parallel to (but outside the influence of) the existing government advisory body, the Ontario Council on University Affairs (OCUA). Confronted by this development, the COU is forced to argue, in effect, for the recreation of a OCUA-like buffer body to advise the state:

The Premier's Council will have responsibility for identifying the priority areas in which centres of excellence should be established. In addition to economic considerations, the Council, in arriving at its judgments, will have to weigh existing strengths and potential in the universities and the private sector, present provincial investment in research and development, and federal

government initiatives of a similar nature being undertaken in Ontario. The siting of centres of excellence will be a particularly complex . . . task . . . [which] will clearly benefit from expert advice.

We believe such advice would best be formulated within a framework of an independent expert body drawing together personnel from universities, from government and from the private sector.

In July of 1986 this consultation did take place as COU was asked by the Premier's Council for assistance in developing guidelines for the allocation of centres of excellence. This assistance was to take the form of providing information on what disciplinary areas might be selected for designation as centres of excellence and for advice on current university research strengths (COU Circuletter 3915, Sept. 2, 1986). More specifically, COU was requested to outline a three-stage selection process for both centres and disciplinary areas to receive grants, and to provide a summary paper on existing research strengths, as well as general information on the magnitude of costs associated with university chairs and centres of excellence.

The COU paper produced in August of 1986 suggests strongly that the Premier's Council had requested (and received) a report that would focus on the science and entrepreneurship theme of the Throne Speech, for the framework used within the COU report is strategic research. The Report reads like an outline for research in industrial technology. It highlights manufacturing (robotics, computer-integrated manufacturing etc.), metallurgy, ceramics, biomaterials and the new materials for industrial application, the manufacturing uses of laser technology within the processing of materials, the development of artificial intelligence, computer

languages and the effects of computer technology on the workplace; and a host of other areas of "productive" enquiry. Even the social science components stress entrepreneurship, market analysis, productivity analysis and Pacific Rim development. Last on the ten-item list of disciplinary areas being proposed as centres of excellence (and appearing very much as afterthoughts) are environmental development and health and health-care delivery.

Hence in the workings of the Premier's Council, and in the major revisions to the funding of higher education (focusing increased state support on research capacities and the development of more highly specialized and less accessible universities) can be seen the post-Keynesian state in action. The effects of this neo-conservative view of the economic role of state-subsidized education and research on the academic community have been to drive home to university planners the need to put in place more selective admissions policies to free up operating monies for greater support of faculty research efforts. Indeed, one of the strongly and persistently vocal advocates of accessible university education, York University, recently announced in its new five year plan that the University will be "renewing its commitment to quality" through more selective student recruitment and through the encouragement and intensification of faculty research efforts ("York Puts Excellence First," Notes From AUCC, 1986-06-26, pp. 1-2).

1. Leo Panitch (1986:102, Table 2-24).
2. Leo Panitch (1986:85, Table 2-6).
3. Task Force on Labour Market Development (1981:115, Table 7-2).
4. Originally conceived as a \$200 million subsidization program, the Scientific Research Tax Credit program ultimately turned into a \$3 billion tax-revenue loss for the federal treasury. An all-party committee of Parliament revealed in 1986 that roughly a third of the companies utilizing the SRTC had performed no research (C. Waddell, 1986:A2).
5. The Honourable Bette Stephenson, as quoted in "Access to University No Longer Assured Says Stephenson," OCUFA Forum, 4:8: 1,5.
6. Commission on the Future Development of the Universities of Ontario (1984b:ii).
7. Commission on the Future Development of the Universities of Ontario (1984b:ii).
8. Commission on the Future Development of the Universities of Ontario (1984b:ii).
9. The Honourable Bette Stephenson, Statement to the Legislature, Dec. 15, 1983, as reported in the OCUFA Forum, 4:12: 3-4.
10. The Honourable Bette Stephenson, Statement to the Legislature, Dec. 15, 1983, as reported in the OCUFA Forum, 4:12: 4.
11. The first question posed by the Bovey Commission (1984a:1) read as follows:

What does your university (or institution) consider to be its distinctive character and role among the range of Ontario universities? Given the funding premise outlined in the introduction to the terms of reference of the Commission, and given the current profile of activities within your institution, what do you envisage as the appropriate areas of activity upon which to focus development and expansion within your institution? Which areas might be contracted or eliminated over the next decade or so?
12. W.E. Beckel, Presentation to the Bovey Commission, September 24, 1984.
13. Commission on the Future Development of the Universities of Ontario (1984b:5).

14. Commission on the Future Development of the Universities in Ontario (1984b:17-29).

CONCLUSION

The point of departure for this thesis is the view that conventional analyses of the post-war history of Canadian higher education are mistaken when they identify the primary dynamic of expansion and contraction as fluctuations in the "demand from below" inferred from changing participation rates and the movement of a demographic bulge through the system. Too often ignored in these analyses is the fact that, in Canada as elsewhere, the post-war expansion of higher education and its later contraction were in large measure state-orchestrated processes.

More importantly, conventional analyses of Canadian higher education overlook the fact that significant and sharp changes in state educational policy, as well as significant increases in state financing, did not, in fact, take place until 1966, a full decade after the effects of increasing participation rates had already been felt. Similarly, state action to curtail expansion and to begin contracting the existing system took place long before the mid-to-late seventies when participation rates declined. A decade of delay in the first instance and precipitate intervention in the second instance point to other more significant causal forces.

It has also been argued that conventional demand-oriented analyses of the post-war circumstances of Canadian higher education fail to take into account the fact that the state's expansion of higher education and research in the mid-sixties and its curtailment of both education and research sectors by the end of the decade signify more than a fall from grace by the academy (or its debasement through a generalized process of

commodification). These policy shifts reflect the profound change in the state's economic activities that emerged, first, in the endorsement of Keynesian principles of state management of the economy and, second, out of the break-up of the Keynesian consensus on the most effective role for the state in the sphere of production. In short, it is in the relations between state and academy that one can discern some of the many expressions of the state's changing role in the reproduction of labour-power and of the social relations necessary to this reproduction. Part of a process Offe calls the post-war "scientization" of industry and "statization" of higher education, the Canadian state's expansion and contraction of higher education and research provide an important measure of increasing (and changing) state involvement in the provision of a non-material infrastructure for production. In the same way, the Canadian state's calculated and increasing encroachments on the autonomy of the scholarly community reflect the growing pressures on state agencies to put in place mechanisms that will enhance its ability to restructure and to re-orient the overall infrastructure of Canadian production.

Hence this thesis argues that a fuller consideration of the political economy enveloping higher education and research must be undertaken, and that a critical first step is an alternative reading of the pivotal role played by state agencies in both the expansion and contraction of higher education and research in Canada. This alternative reading of the nature of state action is, at its highest level of abstraction, drawn from the work of several neo-Marxist state theorists whose approaches stress a materialist interpretation in which the relations between state and civil society must

be understood in terms of their objective relations within a complex interplay of economic, political, and ideological forces (Poulantzas, Offe). This scholarship also stresses that perhaps the most significant force underlying the changing relations between state and civil society in the post-war period has been the expanded and altered economic activities of the state (Offe, Hirsch, Poulantzas). These changes, it is argued, saw the state's role extend well beyond the provision of a material infrastructure and the maintenance of aggregate levels of demand to include the shaping and provision of a non-material infrastructure of knowledge, science, and technology, as well as a direct re-structuring role in the economy. Neo-Marxist state theory also emphasizes that, given such expanded and more direct economic activities (especially in relation to science and technology as instruments of production), the ideological-political role of the state must be reconceptualized to accommodate the state's deep involvement in the reproduction of the social relations of production, the reproduction of labour power and the valorization of capital (Offe, Poulantzas, Wolfe).

At a more immediate level this thesis draws upon the work of several neo-Marxist analysts of the Canadian state in the attempt to explore the political economy surrounding Canadian higher education and research during the post-war period. Several important addenda to an alternative reading of the relations between the Canadian state and civil society (in this instance, higher education) have been drawn from the work of these theorists. First, Canadian political economy has been given its shape and expression by a strong tradition of direct state economic intervention coupled with an ideological tradition of state institutions

functioning as expressions of the collective will of the dominant class (Panitch, Whitaker). Second, Canadian political economy is one in which state activity, and much of state social policy, are dominated by a powerful provincial state system (Panitch, Whitaker, Stevenson). Third, the relations of state and civil society in Canada are profoundly affected by a class struggle attenuated by a regional fractioning of class forces, so that state power and class power intersect in a way that gives rise not only to strong regional state power (Pratt, Stevenson), but also to institutional and social-policy expressions of class power cast more in the mold of class domination than of class struggle (Mahon, Swartz, Walters, Cuneo).

Consequently, it is argued that we must look beyond demographics or economic relations of dependency to consider the economic, political and ideological forces informing the Canadian state's expansion and contraction of higher education and research. For example, as Chapter Four has argued, a reconsideration of the post-war empirical record of the relations between the Canadian state and higher education reveals that the long "Tory" tradition of an economically active and interventionist class state has consistently given primacy to production over either egalitarian or scholarly concerns within state policies on higher education and research. The Canadian state's somewhat tardy policy of planned expansion for higher education only after the mid-sixties emergence of "human capital theory" as a central feature of state economic strategy (and the still later development of "national science policies" at the urging of OECD) illustrate this process. Knowledge and the social institutions dedicated to the expansion of the frontiers of knowledge were almost exclusively defined within state policies

as specific "quality-of-labour" and "technical-innovation" inputs in a model of economic growth and productivity positing a critical supporting role for the state in the development and deployment of knowledge as a productive force.

Similarly, as Chapter Five has argued, the disciplinary patterns of enrolment growth and state subsidization underscore the need to distinguish between the post-secondary expansion that occurred in the 1955-1965 period and that which took place following the adoption of "human capital" state policies in 1964-65. While the former period was one in which minimal, reactive and unfocused state action was largely predicated on only the most general sense of the connection between an educated labour force and economic growth, the latter was one of concentrated commodification of higher education directed toward enhancing the state's role in developing and sustaining national economic growth. State action in the research sector echoed that of the education sector: the first stage of expansion (1957-1964) was characterized by an unfocused and almost begrudging financial support of research; the second stage (1964-69) was marked by an increasingly focused set of state policies and practices directed towards the harnessing of science to serve national strategies for economic growth. By the end of the sixties issues of academic freedom, institutional autonomy and the "production" of knowledge-as-capital had become central to the life of the academy and, more generally, to scientific discourse itself.

More significantly, Chapter Five also argues that this was also a process in which Keynesian state policies for increasing the stock of highly qualified manpower and the state's broad provision of the infrastructure of

production evolved to become much more. As technological transformations of the labour process and of the whole fabric of production began to make possible globally organized production, a new intersection between the state and science emerged -- one that functioned as a critical component of private accumulation (not simply in the Keynesian sense of maintaining aggregate demand), but also in terms of state-financed research, manpower training, and technological innovation in the labour process as leading productive forces.

In this same vein Chapters Four and Five also note that the ideological equation of corporate and national interests within the Canadian state has constituted a powerful force underlying the kind, the degree, and the timing of state support provided for higher education and research. Thus it was not the 1951 call of the Massey Commission on Arts, Letters and Sciences for significantly greater state support of higher education and research that was heeded by state agencies; it was the 1964 "human capital" call of the Economic Council of Canada for a massive expansion of post-secondary education to create an upgraded labour force and an improved industrial capacity for innovation. Less than a decade later, when the political, economic and ideological forces surrounding higher education and research ran counter to the logic of national economic growth through the development and deployment of human capital, the Canadian state measured the success of higher education against the primary criterion of social rates of return and, correspondingly, reduced levels of support for higher education. In each case, the underlying logic was the same: the equation of economic and "national" interests.

In addition, Chapter Six has argued that these forces also called for stronger and re-oriented forms of state intervention in the economy, with the traditional equation of corporate and national interests within state agencies dictating a gradual re-ordering of the state's social-policy commitments to curtail economically less productive programs of state support (post-secondary education and disciplined-based research) as a means of freeing up the necessary tax revenues that would ultimately be applied to state-financed programs of industrial restructuring.

Consequently, Chapters Six and Seven have argued that the dynamics of the state's retrenchment in educational and research policy over the period since 1969 must be understood within the context of two overarching processes. During the initial phase of state retrenchment (1969-1975), the unravelling of Keynesian policies of economic development through the development of human capital (in the face of several powerful countervailing forces within a globally changing political economy) initially gave rise to a sharp and sustained tightening of state financial support of higher education and research. By the mid-seventies chronic underfunding and the politics of system rationalization were the realities of research granting councils and almost every university and college in Canada.

As the seventies gave way to the eighties, the deepening economic crisis in every industrialized country underscored the fact that liberal Keynesianism and the Keynesian principles of state-management held no effective policy response. The post-war consensus began to fall apart. Out of this break-up of the Keynesian consensus on the state's management of the national economy, and out of the changing global political economy,

emerged the neo-conservative, post-Keynesian model of more narrowly focused and direct state interventionist action. Over the period of 1975 to 1986 this meant, for the academy, a shift from state policies of funding constraint to those of fiscal starvation and forced restructuring.

Chapter Seven argues that, within this period, 1977 was a watershed year for Canadian higher education. In that year state policies on higher education and research hardened into a strict economic and political formula as two significant events occurred: a radical restructuring of the financing of higher education, and a fundamental recasting of the research relation. The restructuring of financing arrangements for post-secondary education and the introduction of Established Programs Financing (EPF) saw the abandonment of targeted, conditional federal transfer payments to the provinces in favour of transfer payments to general provincial revenues, thereby freeing the Provinces from the legal obligation to spend the monies on either education or health. Moreover, increases in these renegotiated transfer payments were also firmly (and exclusively) tied to the annual rates of increase of the GNP, thereby spelling out clearly the economic focus of federal state social policies and funding (particularly education and research policies).

As for the research sector, Chapter Seven notes that 1977 also saw the new utilitarian state in action as the Ministry of State for Science and Technology sharply re-oriented the granting councils towards strategic research "in the national interest." New programs of targeted research, in which the Councils dictated the areas of enquiry, were stressed within the new five-year budgets of the three granting councils, while levels of

support for discipline-based research were allowed to decline sharply as a percentage of total budgets. The interventionist and more narrowly economic policies of the emerging post-Keynesian state were also clearly revealed in the pattern of support for research. The level of support provided for the Social Sciences and Humanities Research Council was (in real terms) held constant, while that for the Natural Sciences and Engineering was allowed to rise over the period 1977 to the present. Indeed, the growth in strategic research funding, the shift of state support away from human-science research toward the natural sciences and engineering, and the sharp reorientation of in-house governmental laboratories in these same directions clearly parallel the "administrative" changes observed by Neave (1985) to lock European university research more firmly into state research priorities.

This thesis also explores the "provincialization" of policies on higher education and research. Chapter Six pays particular attention to the ways in which the rising importance of provincial state systems during the post-war period has been reflected in the post-war arrangements for the Canadian state's financing of higher education and research. Long the subject of bitter contention at successive federal-provincial conferences, the clearest expression of the provincialization of state policies in these spheres was the 1977 overhaul of federal grants-in-aid and the introduction of Established Programs Financing described above. The introduction of EPF arrangements not only recast the federal state's policy focus as exclusively economic; it also encouraged a massive redirection of the transfer payments away from higher education toward spending programs thought to be of

greater immediate productive significance to the provinces. The almost total abandonment of the federal state policy of expanded systems of higher education and research as social policy² thus served to accentuate the already strong focus of state educational and research policies on productive economic goals and resulted in an increasing narrowness of these "provincialized" policies as they were directed in greater and greater measure to the particular accumulative needs of the provincial state. Higher education and research were no longer, even in ideological terms, the instruments of Keynesian social policy; they had been redefined within post-Keynesian state policy as ancillary vehicles of regional economic development and, as such, would increasingly face the demand for restructuring over the recession-ridden period of 1977-1984.

Finally, this thesis has also argued that a state traditionally given its cast and character by the regional attenuation of class forces (and, therefore, a state whose class character is expressed less in terms of class struggle than class domination) has meant educational policies directed largely toward the state socialization of productive forces and the relations of production, with very little attention paid to the ideological need to neutralize class conflict or to address issues of social equity. In this connection Chapter Five outlines how, in the period of expansion, funding formulae to distribute and manage the increased state subsidies for higher education were constructed to achieve a significant increase in the production of highly qualified manpower, giving little emphasis to part-time education or to affirmative action programs to increase the participation rates of traditionally disadvantaged groups. Similarly, Chapter Seven

explores how, during the seventies, relatively passively defined policies of accessibility were easily undermined by state financing arrangements which forced universities and colleges to maximize income through increasingly selective program planning and recruitment. Almost every university, but especially those whose programs were concentrated in poorly funded areas such as the humanities and social sciences were thus forced to give greater and greater attention to the recruitment of full-time (and better funded) enrolment at the expense of part-time non-traditional students.

On this question of the Canadian state's traditional lack of emphasis on equality of opportunity through higher education, Chapter Eight has also explored the ways in which the shift from weak to stronger forms of state economic intervention has been accompanied by an ideological attack on those few policies aimed at altering the elitist character of Canadian higher education, as well as a renewed emphasis on the ideology of science as the leading productive force within a global economy. By the early eighties, and with the emergence of post-Keynesian state policies, the clarion call for "excellence" and institutional specialization was everywhere heard within a neo-conservative critique that repudiated the few educational policies aimed at social equity. Expansionist policies of accessibility were condemned for the "great brain robbery" they encouraged. Accessibility as a principle was charged with standing in the way of the development of world-class centres of excellence within Canadian higher education and research. Push had come to shove.

This neo-conservative ideology was quickly incorporated into state policies and state action. Chapter Eight documents how, increasingly over

this period, qualifications were added to both the rhetoric of official state policies of access and to the bureaucratic controls on the funding arrangements underlying such policies. In Ontario, the "new economic realities" following the 1982 reduction in federal EPF transfer payments were invoked by the Minister of Colleges and Universities as the rationale behind a redefinition of the traditional guarantee of access to every qualified student and the creation of a commission on post-secondary education to make policy recommendations on a restructured and "re-profiled" university system. The Bovey Commission was instructed to address such matters as: the reduction of redundancy in the university system by developing an operational plan for effecting greater institutional role differentiation; the designation of specific universities as centres of specialization; policies of accessibility "within the context of economic realities"; and the establishment of greater public accountability in the distribution of operating grants, as well as the creation of a greater role for the private sector within the financing of higher education and research.

At the broader federal level of state action, the Johnson Report of 1984 reflected much the same sort of ideological shift in its critique of the arrangements for state support of higher education and research in Canada. Johnson's argument was anchored in two assumptions: (1) there is a pressing need to develop "excellence" at the expense of accessibility; and (2) to do this, the state needed to shift grant monies, both operating and supplementary, away from core support to specifically targeted areas of restructuring. For example, he argued that curtailed levels of increase for

basic operating grants and the establishment of heavily audited supplementary grants should be adopted as strategies for the development of centres of excellence and greater institutional role differentiation among universities. In the research sector, Johnson urged the use of targeted and strategic grants to encourage policy-related research activities. This type of research, he argues, would serve as a catalyst for the development of internationally respected centres of excellence in research, as well as for the establishment of more focused programs of industrial technology (with firm links to Canadian industry), and the improvement of the national R&D profile. This reorientation of state education and research policies and the explicit rejection of social policies of accessibility underscore, once again, the redefinition of the societal role of higher education and research -- away from being, even minimally, the instrument of broad collective social change to that of ancillary vehicle in stimulating private enterprise.

The same kind of ideological redefinition of knowledge and science as a productive force was even more evident in the state's 1986 policy decision to force the state granting councils to secure matching grants from the private sector, particularly the industrial and corporate sectors. This "encouraged" to foster ties with industry and the corporate world, state granting councils have been operationally forced to accommodate the reorientation of their research programs towards more productive ends and towards lesser and lesser control over the research agenda by the scholarly community.

More generally, however, this alternative to conventional demand-model analyses has argued for an interpretation of the post-war politics of

Canadian higher education that pays closer attention to the ways in which the Keynesian and post-Keynesian revolutions in the relations between state and civil society have acted as a principal dynamic in the expansion of higher education and research and their subsequent contraction. Two decades ago, the application of Keynesian principles of the state's management of national economic growth through the production of human capital was responsible for a vastly expanded, and state subsidized, system of post-secondary education and research. This same application of Keynesian principles also laid the groundwork for state "managerial" intervention in the field of higher education. With the breakup of the Keynesian consensus in the early to mid-seventies and the move to stronger forms of state intervention, there emerged a new conservative consensus on the role and place of higher education in society. This new consensus was nothing less than the view that both state support of education and research and state action to maximize the industrial and economic benefits of research required a fundamental rethinking. Not only was it necessary to secure more direct control over the funding mechanisms for the academy, it was also thought to be necessary to restructure and steer the production of knowledge itself -- to serve more efficiently state programs in support of industrial and economic restructuring.

The analysis just presented has utilized Keynesian and post-Keynesian models of state action as an organizing principle for the reconsideration of the post-war politics governing higher education. Because of this, the criticism might well be levelled that such an approach would seem to be too reductionist and economistic for the kind of analysis

that was initially suggested in the review of the structuralist, derivationist and Gramscian theories of state action. Keynesian and post-Keynesian models of state action should not, however, be understood purely as economic constructs. Rather, as the work of Panitch, Chernomas, Campen and MacEwen, and Marchack reveals, they should be viewed as paradigms of state action that possesses distinct ideological and political dimensions. As Marchack (1985:673) observes,

. . . political economy is the study of power . . . the historical development of power relationships; and [their] cultural and social embodiments.

The ideological and political dimensions of Keynesianism lie in the nature of the post-Depression compromise it represented -- a state that would not only sustain aggregate consumer demand by sustaining budgetary deficits, but that it could, through its social spending on health, welfare, and education, secure less exploitative relations of production, while at the same time ensuring a more stable process of production and a planned reproduction of labour. The Keynesian welfare state was thus more than a macro-economic policy; it constituted a new social contract between subordinate and dominant classes.

Similarly, the post-Keynesian modes of state action are more than an economic policy response to a global crisis of accumulation. They reflect and embody a reconstructed political and ideological consensus. In this connection, Hall (1983) has argued that the success of the Thatcher government cannot be reduced to the alternative macro-economic policy she and her Party offered during the crisis years of the late seventies. Thatcher's success, Hall contends, must be attributed to the country's

acceptance of the new-right ideology Thatcher espoused. Her Party's new "pragmatism" in social policy was coupled with authoritarian 'law and order' policies that introduced punitive disciplinary practices into the administration of welfare state programs in an attempt to curtail the increasingly dysfunctional democratic components of the post-war liberal-democratic state.

Closer to home, our own exploration of the shift from Keynesian to post-Keynesian modes of state action in the field of higher education has revealed that the ideological constellation coalescing throughout the seventies was one that no longer defined higher education as a primary instrument for state-regulated national economic growth and social change. Indeed, the ideology of the new right would not only sanction the redirection of state social spending away from higher education; it would put in place a set of financing arrangements designed to restructure the "production" of highly qualified manpower and research and thereby effect greater immediate gains by Canadian industry. This movement from Keynesian to post-Keynesian policies of higher education and research has also involved a significant increase in the number and stringency of the bureaucratic controls over a formerly autonomous academy. Thus, as has been the case in the administration of welfare and unemployment insurance payments, the state's administration of both government operating grants and student assistance has increasingly stressed periods of eligibility, targeted funding, surveillance through more detailed auditing requirements, and punitive measures for non-compliance. All of this is quite consistent with the diminished status of the academy within this new socio-political

consensus.

It goes without saying, however, that there are several limitations to this analysis. Perhaps the most important of these is that there is insufficient documentation of the precise linkages among the individual theories of state power, class power, and the institutional and bureaucratic practices of Canadian state agencies as they bear on higher education and research. Which model, if any, is ascendant at any given moment in the Canadian case? The answer, it would seem, is none -- since it is a matter of considerable debate whether and in what ways the often-observed "anomalous position" of the Canadian state system demonstrates or, in the institutional sense, embodies the principles of state action outlined by any one of the early Poulantzas, Offe, Hirsch, or the later Poulantzas. A more nearly correct answer to the question of which model of state action can be discerned in the relations of the Canadian state and the academy is the one contained in an implicit fashion within this analysis -- namely, not one but a blend of these positions. It is surely no exaggeration to say that the Canadian case forces us to acknowledge that the individual "theories of the state" are simply not dynamic, flexible, or inclusive enough to account for the many diverse ways in which Canadian state agencies have intervened in the field of higher education and research during the post-war period. We are thus forced to utilize insights from the full range of theoretical approaches outlined in Chapter Two.

From the structuralist perspective we have taken the approach that defines the objective relations inherent in higher education's placement within a national and global political economy as the proper context for an

analysis of the state's pivotal role in the shaping of the post-war politics governing higher education. Hence we have explored some of the predominant socio-political forces that have enveloped and changed both academy and state in the post-war period.

From the derivationists and their theoretical debate with Claus Offe, we have utilized the principle that much of the Canadian state's political agenda involving higher education has been determined by its own increasingly direct role in production, particularly as reflected in its subsidization of, and its growing need to orchestrate, the research agenda for the science and technology required for the maintenance of the non-material infrastructure for production.

The work of Hirsch and the derivationists on the questionable functionality of the Keynesian state for capital also lays the groundwork for an analysis that explores the ways in which this questioning was increasingly levelled against one of the primary ideological and economic instruments of the Keynesian state -- higher education. Along these same lines, we have taken from Claus Offe the notion that the political realm has increasingly been informed by the state's need to function in an anticipatory fashion with smaller and smaller margins for error and with a deteriorating ability to maintain the ideology of the neutral state.

Manpower policies, policies on industrial research and technology, and industrial training and re-training schemes must complement an increasingly rapid technological transformation of the labour-process within a global economic crisis. The state is, to a greater and greater extent, forced to rob Peter to pay Paul, as it dismantles "unproductive" social programs and

rationalizes and transforms "welfare state illusions of reform" into productive, efficient, and ancillary vehicles for the rapid restructuring of capital and production.

Finally, from the work of the later Poulantzas and from that of Wolfe we have taken the general concept of the increased politicization of knowledge itself. Critical to an analysis of the post-war "statization" of higher education and research, the observations of Poulantzas and Wolfe that the modern state has an increasingly important hold on the generation of new knowledge and on its application serve to focus attention on the redefinition of knowledge, science and technology as productive, not social, forces. More importantly, these insights underscore the fact that, under this redefinition, knowledge and science are viewed as critical components of the means of production to be "possessed" by capital through the structural agency of a class state. Poulantzas argues for a recognition that the modern state's deep involvement in production brings not only a greater penetration of the political region by the economic; it also necessitates a significant shift in the ideological thrust of the state to legitimate its own role in the reorganization of the relations of production and its restructuring of the production of knowledge.

For his part, Wolfe reminds us that the post-Keynesian liberal-democratic state is one for which democratic modes of action and democratically oriented social policies have become dysfunctional. This is a modern state, Wolfe argues, that has been forced to throw off the ideological cloak of neutrality and, because of this, must create a new ideology of law and order, of disciplined competitiveness, and of a new

pragmatism in the face of economic crisis.

These insights form the basis for our exploration of the evolution from the Keynesian state's harnessing of science and education to serve "national" goals of economic growth within the ideology of social change to the post-Keynesian state's neo-conservative ideology of "excellence" and the restoration of the national economy's international competitiveness. In both research and education sectors the policies and activities of the Canadian state have reflected this radical redefinition of knowledge and the societal role of higher education. In Canada, as elsewhere, the jettisoning of policies of accessibility within an agenda of "reform", the recasting of the research relation to focus more exclusively on "national objectives" within funding programs redrawn along more entrepreneurial lines, and the deployment of financing schemes that increasingly encroach on academic freedom and institutional autonomy bear witness to the reoriented ideological thrust of the post-Keynesian state.

It must be acknowledged that this thesis leaves out of its focus many important questions pertaining to the politics governing higher education and research in Canada. A fuller treatment of the ideology of state systems of higher education would, for example, explore one of the most important and influential changes that state expansion made possible - the increased participation of women, particularly in traditionally male-dominated disciplines. This question takes on considerable importance if one were to explore the ways in which these increased participation rates affected the state's manpower policies or whether and how they might have undermined the state's commitment to open-ended cost-sharing arrangements

for the funding of an expanded system of higher education.

Also unexplored in any detail are the many other dimensions of the politics of higher education. These include, for example, the curricular reform of the sixties, as well as the struggle for student participation in university governance; the disciplinary balkanization and fragmentation of the professoriate within expanded universities, as well as the shift from relations of collegiality to those of unionized labour relations; and the politics that saw loosely affiliated institutions emerge into provincial "systems", with collective voices and problematic internal relations.

Finally, it is certainly true that this thesis has argued that "social demand" cannot be seen as the primary dynamic of change within a period in which the presence of the state has loomed ever and ever larger. This is not to say, however, that the combined effects of the "baby boom" and the sharp and sustained increase in the post-secondary participation rate were inconsequential forces. On the contrary, they represent a considerable force shaping the reality of expanded systems of higher education. These observations notwithstanding, the argument undertaken in this thesis is that a great deal of what is now being termed the "crisis" of the academy has been, and continues to be, given its shape by the predominant and pervasive presence of the state, a state whose own role, modes of action and policies, to a very large extent, circumscribe and constrain all other dimensions of the academy's political relations. To ignore this fact is to ignore one of the most fundamental forces within the post-war scholarly community.

1. The reader is reminded that by the term, "contraction," refers to two features of the state's policy rethinking of higher education. First, the sharp curtailment of financial support that occurred as early as 1972. Second, the diminution of higher education from the status of being the "leading edge" of a human-capital strategy for national economic growth. The latter was a process that began as early as 1969, was formalized in policy terms by 1971, and was increasingly reflected in the declining importance of higher education spending over the seventies. For a fuller elaboration of this point, see the Introduction of this thesis.

2. Evidence of this is not only furnished in the comments of the Minister of Finance to the Breau Committee on Federal-Provincial Fiscal Arrangements (referenced earlier in his thesis), it is provided in the final recommendations of the Breau Committee itself. Taking its lead from the Minister, and reflecting the traditional policy emphasis that was struck most explicitly by the 1977 establishment of EPF, the Task Force recommends that the reality be formalized: "that federal expenditures associated with post-secondary education be transferred from the Social Affairs envelope to the Economic Development envelope." (Task Force on Federal-Provincial Fiscal Arrangements, 1981:xiii).

3. See Neilson and Gaffield (1986).

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