POWER AND AUTONOMY:
TOWARD UNDERSTANDING THE POLITICAL DIMENSIONS OF ENTREPRENEURSHIP
IN HIGHER EDUCATION

by

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Abstract
This study examines the concept of entrepreneurship as it relates to the culture and purpose of the university. An integrative review is employed to examine literature covering entrepreneurial theory, academic culture, and educational initiatives geared toward building enterprising or entrepreneurial competence. Chapter one provides an introduction to the problem, the questions, the terms and the methodology. Chapter two sets the preoccupation with entrepreneurship now shared by most western societies in contemporary historical perspective. Economic theories of entrepreneurship that have long stressed the importance of instrumental knowledge are briefly introduced, with emphasis on the ideas of Joseph Schumpeter, who remains the authority on entrepreneurship. Schumpeter stressed that values are the starting point for any new economic system, a principle that forms the basis for the remainder of the thesis. The chapter concludes with a discussion of the university community's different perceptions of entrepreneurship as an organizing principle for the creation and diffusion of knowledge, and a contrast of select "enterprise cultures" in western societies. In chapter three, competencies that the literature suggests are part of the entrepreneurial function are delineated. Chapter four discusses educational theories and practices intended to strengthen the enterprising capacities of individuals and societies, focusing upon programs currently implemented and others being proposed. The concluding chapter synthesizes the implications of the study and provides suggestions for further research.
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Chapter One: Introduction

The carrying out of new combinations we call “enterprise”; the individuals whose function it is to carry them out we call “entrepreneurs.”

The entrepreneur is someone who specialises in taking judgemental decisions about the coordination of scarce resources.

Given the conceptualisation of an entrepreneur as someone who sets up and runs a project then the term is not simply restricted to the classical private entrepreneur but now allows the inclusion of social entrepreneur (Bob Geldof, aspects of Richard Branson, General Booth, Baden Powell) as well as the intrapreneur (being enterprising within an organisation).

Entrepreneurs [are] individuals who change the direction and flow of politics.

The appropriate definition [of entrepreneurship] is an all-inclusive one in the important sense that people and societies in all their endeavours can and do go beyond the routinized and the repetitive to create and innovate in response to their environment and, in the process, to reshape the environment.

1. Overview of the Literature

The quotations above serve to illustrate the range of interpretations and ambitions riding on the concept of entrepreneurship. Entrepreneurship is an analytically vague concept with no generally accepted theory or definition (Kent, Sexton, and Vesper, 1982, p. xxviii). It has been held to be an alternative to unemployment (Francis, 1993) and the means to raise lagging levels of national productivity (Farrell and Mandel, 1994). Virtually every country in the industrialized world appears to be in the process of cultivating “entrepreneurial values” and building “enterprise cultures” (OECD, 1989a). Canada’s current federal minister of human resources, Lloyd Axworthy, has also stated that this country needs an “enterprise culture” (Gherson, 1994), an outline of which is implied in the “red book” of election promises (Liberal Party of Canada, 1993, pp. 4, 20). Other countries have been voicing the need to build enterprise cultures over a longer period, and
depending on the traditions and political ideologies at work, have very different interpretations of what this phrase means (Berger, 1991a; Keat and Abercrombie, 1991). However, all seem to agree that universities will play an instrumental role in the restructuring and growth of national economies increasingly dependent on highly qualified labour and new technologies (OECD, 1987, p. 93; Economic Council of Canada, 1990, 1992; Lynton and Elman, 1987; Science Council of Canada, 1987, 1988). In a world in which economic survival is apparently determined on the basis of making rapid technological and organizational change, the "skills" of entrepreneurship—conceived as being an orientation toward accepting innovation as a normal, even desirable activity, and contributing to innovation itself—are thought essential (OECD, 1989a; Shuttleworth, 1993).

As the main institution for acculturating society’s future leaders, universities are encouraged to adapt entrepreneurship as an organizing principle for creating and disseminating instrumental knowledge. The goals are to raise national competitiveness through technology transfer to industry as well as affect attitudinal changes and instill entrepreneurial competence in faculty and students.

Because entrepreneurship is an ambiguous concept and its inclusion in policy discussions has been fairly recent, attempts to stem the confusion and understand how the concept relates to higher education often result in overly narrow conceptualizations. Michael and Holdaway (1992) make one of the more detailed attempts to delineate this relationship. While the authors perceive that in economic literature the “entrepreneur is the catalyst, the agent of change and economic progress, and the one who reaps the loss or profit of an enterprise,” they believe that “In postsecondary education, the terms [associated with entrepreneurship] have several different meanings” (pp. 16-17). No sense of leadership, dynamism, innovation or control infuse their description of what it means to be “entrepreneurial” in the context of higher education:

"Entrepreneurial higher education” may be used to describe a market-system of higher education, in which the administrators of a postsecondary institution think and act similarly to those of a business enterprise. Also “entrepreneurial efforts” may be used to describe activities engaged in by a postsecondary institution to generate funds, for example, renting out an underutilised facility, or buying and selling investments, or selling intellectual property. “entrepreneurial higher education” implies all the conditions previously described, but especially the structuring and administering of a postsecondary institution to reflect a market orientation and less dependence on government funding (1992, p. 17).

Leaving aside the authors’ implication that there is a homogeneous business culture and that all market models are similar,1 this definition, as is the case in higher education literature

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1 Market models range from market socialism to monopolies to laissez-faire capitalism (Bowles et al., 1993; West, 1993, p. 3).
elsewhere, confines entrepreneurship to a profit-seeking form of interaction with the corporate sector (see also Fairweather, 1988; Knowles, 1994; McWilliam, 1990; Neave, 1984).

Other observers of university culture note that in the private sector profits are often derived from increased divisions of labour and deskillling. Therefore they suggest entrepreneurship implies a power struggle over control of the "knowledge workforce" through reducing tenured positions, relying increasingly on contract labour, and introducing new regulations, funding mechanisms, and management positions to manipulate the productivity and direction of scientific research. Critical theorists perceive a shift in attitudes signaled by a shift in the language of university administrators and senior managers that is shown to condone increased supervision of faculty labour (Rhoades and Slaughter, 1991a; Slaughter, 1991). As new managerial posts are created in areas of research and technology transfer, the collegialism traditionally associated with university culture is seen as being displaced by a bureaucratic model of governance (Fisher et al., 1994, pp. 30-31). The literature often associates a loss of institutional autonomy with universities following economic imperatives to commercialize research. As Maclure (1988) put it,

The idea of universities as independent centres of learning and research, capable of standing out against government and society, and offering critical judgments of varying objectivity, informed by learning and protected by the autonomy of historic institutions, is discarded. Instead universities are made the servants of the State and its priorities (p. 88).

However, for Barrow (1990) the increased commercialization of research does not represent a dramatic shift in university culture: he contends that since the onset of corporate capitalism in the late nineteenth century the university's "traditions" have maintained what are often contradictory goals of neutrality and service, and current pressures to bring universities "and their personnel ever closer to the exploitation requirements of capital and the adventurism of state elites" are changes compatible with the ongoing evolution of capitalist societies (p. 9). Another perspective is suggested by Webster and Etzkowitz (1991) who propose that cultural changes occurring within the university combined with the economy's capitalization of knowledge make it far from certain that the university's relationship with industry will be one of subordination. The same argument may apply to the faculty's relationship with administration.

The concept of entrepreneurship is broadened even more in some of the literature on pedagogical and curriculum development. Most recent literature dealing with "enterprise education" has been directed toward influencing the philosophy, approach and methods adopted by teachers involved in Britain's Enterprise in Higher Education initiative, launched in December
1987 to assist undergraduates in preparing for their future careers. The goal was to cultivate “qualities of enterprise” by integrating enterprise training into existing courses. Institutions were given considerable latitude in determining what enterprise competencies were and what methods would be used to develop them (Sommerlad, 1993, p. 181). Teaching staff were allowed to exercise choice on curriculum matters — a decision which was previously perceived to have been externally imposed (Wright, 1990, p. 65). While the initiative’s teaching methods vary considerably, there is emphasis on “empowerment,” or having students feel in effective control of their professional and personal lives, as well as on active learning and building links with employers through placements and live projects (McDowell, 1993, p. 188).

Preliminary assessments of the Enterprise in Higher Education scheme were made in 1993, and it is still too early to understand the program’s impact. It does appear, however, to be generating a philosophical base that was perhaps not foreseen by the Thatcher administration which initiated the program. Working under the assumption that the education system is intended in part to reproduce and legitimize the social relations of the workplace, while also making calculated estimations of what the future of work will entail, British education theorists have proposed changes to pedagogy that will dispose of the “bureaucratic” model of education in favour of “flattened hierarchies” designed to foster “high-trust” cultures based on cooperation and teamwork and requiring skills in making “judgemental decisions” that are “typically of an inter-disciplinary nature” (Brown and Lauder, 1992, pp. 31-35; see also Scase, 1992; Hickox and Moore, 1992; Rees and Rees, 1992). Such proposals are in line with the skill requirements described by economist Mark Casson (1982, 1993), considered by Mark Blaug to have the most promising ideas on entrepreneurship among living economists (Blaug, 1986, pp. 227-228).

In France the concept of entrepreneurship is wider still, and for a period during the 1980s resembled a social movement that some have characterized as a “collective psychological phenomenon” (Berger, 1987, p. 191). The French higher education system had both anticipated and promoted the growth of enterprise culture as early as 1974, well before the onset of Thatcherism. When François Mitterrand’s Socialist government came to power in 1981, it drew upon much older French traditions associated with the entrepreneur (a French creation dating to fourteenth century feudalism and subsequently given mercantilist, laissez-faire, and socialist interpretations) and so the Socialists infused their rhetoric on l'esprit d'entreprise with a sense of personal idealism, social responsibility and communal solidarity that was entirely lacking in the

2. Statement of the Research Problem

Studies of entrepreneurship in the context of higher education are generally framed in ways that make the research and teaching missions of the university seem disconnected and incongruent. On the one hand, educators as teachers are called upon to facilitate the empowerment of students; on the other hand educators as researchers are losing control over the production of their work. The confusion is exacerbated by studies of entrepreneurship in higher education rarely attempting to integrate the dual missions of the university or ground the research in entrepreneurial theory. This results in many incomparable and competing concepts being added to what is already an overly ambiguous subject. However, educators cannot be faulted for ignoring the theoretical bases of entrepreneurship as the subject has long been avoided by economics itself.

It is a paradox that entrepreneurship, clearly one of the major economic and political themes of the late twentieth century, and frequently described as one of the most significant factors contributing to economic growth and development (OECD, 1990, p. 3), has, as virtually every survey of entrepreneurial theory points out, largely been ignored by contemporary mainstream economics, the discipline thought to inform public policy (Blaug, 1986, p. 219; Casson, 1982, p. xiii; Fellner, 1983, p. 27; Hébert and Link, 1988, pp. 151-160; Kilby, 1971, p. 2; Lydall, 1992, p. 1; Parker and Stead, 1991, pp. 2-5). A sociological explanation for this is put forward by Hobbs (1991) who suggests the Keynesian consensus of postwar economics that emphasized the construction of the welfare state and advocated government spending to minimize unemployment created an environment that was not conducive to the growth or study of entrepreneurship; governments became the major employers as did a handful of corporate giants, many financially supported by the state or holding state-endorsed monopolies (p. 107). Policies to encourage economic growth were of little concern to people experiencing unprecedented affluence and optimism. However, historians of economic thought generally attribute the “neglect of the entrepreneur” to method rather than theory (Blaug, 1986, p. 223; Lydall, 1992, p. 2; Demsetz, 1983). Studies in entrepreneurship involve integrating research in economic theory, human behaviour and psychology, sociology, history, statistics, and anthropology, and a field based on so many inexact “sciences,” as David Landes explains, traditionally arouses in economists an “almost instinctive distaste for the whole subject” (1969, p. 527). A more frequently cited explanation for
the state of entrepreneurial studies suggests the neglect began early, with the choice of tools neoclassical theory adopted to understand economics; as Hébert and Link state, "The history of economic theory clearly demonstrates that the entrepreneur was squeezed from economics when the discipline attempted to emulate the physical sciences by incorporating the mathematical method" (1988, p. 158). As the mathematical method was adopted in the late nineteenth century, theories on the entrepreneur that have a legitimate basis in economics are either very old or very few.

Most economic anthologies of entrepreneurial theory are historical surveys that begin in the early 1700s and end shortly after focusing on Joseph Schumpeter’s works which were developed in the first half of the twentieth century (Blaug, 1986; Hébert and Link, 1988; Parker and Stead, 1990). This historical emphasis does not mean entrepreneurship is out-dated, but that the concept has not been kept up to date, as seen in the tendency of discourse on entrepreneurship to invoke images of rugged individualists and other stereotypes of early nineteenth century capitalism. The trend of returning to the origins of economic thought reflects a larger “crisis in economic theory” (Bell and Kristol, 1981), precipitated by “stagflation,” the breakdown of the Keynesian consensus and the subsequent loss of confidence in neoclassical economics, as well as the absence in mainstream economics of persuasive theories of innovation (which Schumpeter equated with entrepreneurship) and long-term economic growth (“The Shock of the Not Quite New,” The Economist, 1994a). Consequently, in an effort to build theories to explain entrepreneurship, innovation and economic growth, The Economist states that the economics of the twenty-first century will likely be taking “economic history far more seriously” (ibid.).

The intrigues surrounding the history of economics and entrepreneurial theory are possibly not well understood by most scholars of university culture, curriculum and pedagogy. Nevertheless, any discussion on how entrepreneurship relates to higher education will need to be grounded in a more profound understanding of entrepreneurship than is found in standard English dictionaries. If there are, as several studies ominously point out, some unseen “powerful forces” pushing the development of “enterprise culture” forward, it is likely that these forces understand the dimensions of the concept very well.

After examining research topics falling under the subject headings “higher education” and “entrepreneurship” in Dissertation Abstracts from 1980 on, as well as performing CD-ROM combination searches using ERIC, Sociofile and EconLit, no study was found that attempted to

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2 English dictionaries adopted definitions from English classical theory, the first school to set the trend in English-speaking countries of either ignoring the innovation function of the entrepreneur or confusing the entrepreneur with traditional management; see Hébert and Link, 1988, pp. 45-56.
link entrepreneurial theory to the culture and the teaching mission of the university. This thesis proposes to undertake such a task. The relationship between higher education and the concept of entrepreneurship will be studied with respect to the cultural changes occurring within universities that result from or are designed to facilitate increased collaboration with industry. Emphasis is on the pedagogic and curricular changes some universities are experimenting with as a means to transmit values, attitudes and skills appropriate to various interpretations of “enterprise culture.”

The study will focus on western industrialized countries in the years following the second world war, particularly from the mid-seventies to the present.

3. The Research Questions

The primary research question is:

• How is the concept of entrepreneurship interpreted by universities?

Subsidiary questions are:

• What are the competencies of entrepreneurship?

• How has the demand to develop enterprise cultures influenced changes to the curriculum and pedagogy of universities?

4. Definition of Terms

• “competencies” of entrepreneurship refer to skills, values, attitudes, behaviours and knowledge required of entrepreneurial action.

• “enterprise cultures” refers to the particular ways in which a social group deals with and understands innovation and wealth creation, ways which may differ significantly across national and institutional borders, depending on traditions and interpretations of “entrepreneurship.”

• “enterprise” and “entrepreneurship” will be treated similarly, as the literature tends to use the terms interchangeably. The OECD (1989a) prefers to limit “entrepreneur,” “entrepreneurial” and “entrepreneurship” to creative and innovative connotations in an economic sense, and to use “enterprising” for “the concept of creative and innovative behaviour in general” (pp. 36-40, italics in original). For the purposes of this study, entrepreneurship encompasses “intrapreneurship” or entrepreneurship occurring within an organization.
5. Methodology

This study employs an integrative research review to examine literature on entrepreneurial theory, university culture, enterprise competencies and enterprise education. It adapts guidelines for conducting integrative research outlined by H.M. Cooper (1982) and Jackson (1980).

The integrative review is intended to summarize the state of knowledge on a given topic, to synthesize arguments derived from different fields of study pertaining to the subject, to infer generalizations from issues that arise and to point to issues that remain problematic. Part of a research tradition that covers a range of methods from the literature review to statistical meta-analyses, the integrative research review is a synthesis of separate findings which, if done successfully, presents results in a coherent order and evokes something original in the process.

The integrative review consists of a five-stage process. First is the problem-formulating stage, which is intended to build a general understanding of the topic so that ideas which are relevant and important may be distinguished from those which are not. A potential source of invalidity originating from this stage is that an overly narrow approach to the study may result in drawing less authoritative conclusions. To protect validity, the research began by asking a very broad-based research question, “what does it mean to be an entrepreneur?” which introduced literally thousands of different works in history, anthropology, sociology, economics, psychology and management theory. The research was subsequently narrowed to studies impacting upon higher education. It was determined that as entrepreneurship is a multidisciplinary field, strands of all disciplines should be included in the study, based on their relevance to university missions and cultures. However, one discipline in particular which is not covered adequately in this thesis provided the most comprehensive yet general overview of the subject. This is economic history, particularly works concerned with the transition to capitalism, the history of capitalism as experienced by different cultures and the history of technology. These works helped to place in context works of economic and entrepreneurial theory which by themselves can be, for a non-economist, fairly dry reading frequently bereft of social and historical relevance. Further searches continued to emphasize the broadest possible understanding of entrepreneurship in the context of issues effecting or being effectd by higher educational organizations, practices and perceptions.

Second comes the data collection stage, requiring a decision as to how data is to be collected and which sources will be examined. Several different procedures for retrieving information were adopted. The “descendency approach” was used to target major theories in the field. Several economic and social science encyclopedias were consulted: *Encyclopaedia of the*

An abundance of contemporary books, articles and journals, most published after 1980, were found using CD-ROM searches with ERIC, Sociofile and EconLit and online computer searches. Key words included “entrepreneur,” “entrepreneurship” and “enterprise” alone or in combination with “higher education,” “university” or “academic.” Upon reviewing these works, however, it was clear the majority were not offering substance. A review of books on entrepreneurship in the Harvard Business Review suggested leaving all contemporary publications aside and attending to the works of Joseph Schumpeter (Gumpert, 1986, pp. 32-36). A more helpful suggestion came from Mark Casson who advised that most academic writers on the subject choose not to use the word “entrepreneur” in their titles (1982, p. xiii). Word searches then combined word variations of “economic,” “capitalist,” “development,” “growth,” “innovation,” “technology,” “market,” “individualism,” “liberalism,” “globalization” and “competition.”

Other approaches to data collection included the “ancestry approach,” which cross-referenced bibliographies of works found through the online and descendency searches. An understanding of current issues and trends was gained through reading book reviews and articles in the Times Literary Supplement; The New York Review of Books; The Economist; The Globe and Mail; Maclean’s; Business Week; and Harvard Business Review.

Third is the data evaluation stage which requires determining what data to include in the review. Because the research was directed toward understanding the role of entrepreneurship in higher education, selection criteria required that the data concern the economic significance of either education or entrepreneurship; the importance of knowledge to economics and entrepreneurship; innovation, research and technology transfer; skills and education. In some areas such as learning entrepreneurship through formal education systems, there were so few sources that most documents located are included in the study. In other cases, such as management theory and sociology, much had to be discarded, for as Casson had forewarned, “most of the literature with ‘entrepreneur’ in the title is either nonacademic or is not about entrepreneurs at all” (1982, p. xiii).

Fourth came the sorting, analysis, interpretation and synthesis of the data. This is the most subjective aspect of the integrative research process, open to broad misinterpretation and misrepresentation. Attempts to reduce threats to validity include reporting negative evidence,
alternate viewpoints and clearly stating one’s personal bias from the start. To fulfill the latter requirement, this research was approached with a basic assumption that entrepreneurship was not simply part of a laissez-faire or neoconservative repertoire of tools which also included individualism, competition and ethics (reflecting “back to basic” virtues) as a means to muster support for dismantling the welfare state. It seemed implausible that a concept so much of the literature had equated with economic empowerment and social change could be derived solely from a neoliberal opposition to social aggregates or a neoconservative support for hierarchy. Subsequent readings in economic and technological history confirmed the assumption that there was something more to the concept.

In the final stage of the integrative review editorial criteria is applied to determine which studies to include and the report is written. Threats to validity at this stage include the basis of the decisions made for including some studies and not others, and the choice of language, structure, order and perspective given to the writing which inevitably reflects the personal bias and shortcomings of the researcher, her level of understanding and experience with the subjects at hand, and her ability to manipulate the text and arguments of others to project a cohesive argument.

The originality of the thesis is to be found in a perspective based strongly in Schumpeterian theory, which facilitates covering a wider range of issues and thereby reaching conclusions which are overlooked by, or in most cases contrary to, the majority of works that study entrepreneurship in higher education. A model for studying the corporate entrepreneur, which may be more appropriate for conceptualizing institutional entrepreneurship and entrepreneurship in the twenty-first century, is proposed in the conclusion and involves a tripartite network of university, government and industrial organizations.

6. Thesis Design

Chapter two surveys some of the major economic theories of entrepreneurship, focusing upon the “Austrian”\(^3\) and Schumpeterian frameworks, which currently predominate in western thought. An attempt is made to relate the theories to a historical context centring around 1973, a year that saw several economic crises as well as the creation of the Trilateral Commission, soon followed by the rise of the “new right” and government and industrial restructuring. Both the Monetarists in Thatcher’s Britain and the Supply-Siders in Reagan’s America based their

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\(^3\) Austrian economics is placed in quote marks to emphasize the theory’s name is based on country of origin not of current practice. The name carries more historic than geographic significance. See Chapter two, pp. 17-19, for a full explanation.
advocacy of the rollback of state services upon theories developed by the Austrian school of economics (Gamble, 1986). An outline of the Austrian vision of atomistic entrepreneurs competing in a laissez-faire capitalist system will be given, but as the Monetarists and Supply-Siders no longer carry great influence in policy formation (Krugman, 1994), there will be less emphasis on Austrian theory than on the theories of Joseph Schumpeter. Schumpeter was a former Austrian who utilized the ideas of virtually every economic thinker who preceded him (Haberler, 1951, p. 46), but principally those of Karl Marx and his antithesis Max Weber (Bottomore, 1992). There are three reasons for deciding to emphasize Schumpeter:

1. He has long been recognized as the authority on entrepreneurship (see Encyclopaedia Britannica, Encyclopaedia of the Social Sciences [15th ed., 1963], Dictionary of the Social Sciences [1964], International Encyclopedia of the Social Sciences [1968]; Social Science Encyclopedia [1985], Sources of Information in the Social Sciences [1986], and the Blackwell Dictionary of Twentieth-Century Social Thought [1993]).

2. His ideas are increasingly mentioned in the popular press, and Schumpeterian economic theory was the cover story of at least two recent magazine issues ("Why are we so afraid of growth?" Business Week, May 16, 1994; "Building the new economy," Maclean's, June 27, 1994).

3. He continues to be taken seriously by conservative, left of centre, liberal, and Marxist economic thinkers (see, for example, Bell and Kristol, 1981, p. vii; Blaug, 1986; Bottomore, 1992; Fellner, 1981; Goodwin, 1986; Heilbroner, 1986a, 1986b; Maddison, 1991; Mokyr, 1990a, 1990b; Romer, 1994a, 1994b; Samuelson, 1981; Scherer andPerlman, 1992; and two separately published collections of essays in Helburn and Bramhall, eds., 1986, and Wagener and Drucker, eds., 1986, written by well-known contemporary economists to commemorate and criticize the man and his ideas).

Following a description of the significance that Schumpeter's ideas may have in shaping the present "new world economy," the chapter will then discuss the impact the concept of entrepreneurship has had on various cultures, beginning with a discussion of the so-called entrepreneurial culture developing in universities with respect to faculty perceptions of changes in the university's sense of purpose, in the values of academics, and in the organization and discretion of professional labour. The concept of "enterprise culture" will then be briefly discussed with regard to "ideal" forms of institutional structures and value systems as seen through the eyes of
neo-Schumpeterian economic thinkers. The chapter concludes with a comparison of three very different contemporary enterprise cultures: Quebec during the Quiet Revolution, and France and England during the 1980s.

Chapter three introduces the predispositions and abilities of entrepreneurship. A brief account will be given of the psychological characteristics that are most often claimed to motivate entrepreneurs: high need to achieve (McClelland, 1961; McClelland and Winter, 1971); internal locus of control (Furnham, 1986); low to medium propensity to take risks (McClelland, 1961; Timmons et al., 1985; O’Neil, 1993); and a degree of social deviance or membership in a marginalized group (Young, 1971; Kets de Vries, 1977). The chapter then turns to a discussion of the entrepreneurial skills that the literature suggests can be learned. An overview will first be provided of the basic attributes identified as essential to any “enterprising” employee—the abilities to communicate effectively, read, write, do math, analyze and problem solve, computerize, get along with others and assume an attitude appropriate to the demands of the workplace (Province of Ontario, 1990; Caird, 1992). The remainder is an analysis of advanced skills that are specific, but not limited to entrepreneurs.

Chapter four focuses on the role of education in enhancing or subverting entrepreneurial competence. Three major forms of enterprise education are identified: “learning for enterprise,” which covers courses that introduce the facets of initiating and running a business. Courses in this category are the most common in North America, and are usually found as electives to core programs that are often restricted to commerce and/or engineering students, or as non-credit continuing education programs. A second type of education, “learning through enterprise,” strives to teach traditional subjects in “enterprising” ways so that students acquire “life skills” deemed necessary for participating in the new economy and perhaps perceive commercial applications for their discipline of study. A third but highly underdeveloped model, “learning about enterprise,” is aimed at providing insight into the many contexts of enterprise and entrepreneurship.

The final chapter integrates the major findings and provides a few suggestions for further research, including a model upon which some may wish to base further studies of the corporate entrepreneur.
Chapter Two: Entrepreneurial Theory in Context

The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas. Not, indeed, immediately, but after a certain interval; for in the field of economic and political philosophy there are not many who are influenced by new theories after they are twenty-five or thirty years of age, so that the ideas which civil servants and politicians and even agitators apply to current events are not likely to be the newest. But, soon or late, it is ideas, not vested interests, which are dangerous for good or evil.


1. Introduction

The words “entrepreneur” and “entrepreneurship” were scarcely used by the generation following the second world war. Rarely mentioned in the popular press and studied only by a handful of academics concerned with economic development in poorer countries or the demise of capitalism in richer ones, entrepreneurs were seen to be “exceptional, often obsessive individuals,” and, Hobbs remarks, the term was used, if used at all, “as one of abuse” (1991, p. 107). In the 1970s the words resurfaced in mainstream western cultures with the onset of an economic crisis. Declining standards of living, high unemployment and unstable patterns of work were also conditions conducive to the acceptance of policy advice from neoliberals and neoconservatives. The self-proclaimed “new right” introduced an understanding of entrepreneurship that associated the term with perfect competition, deregulation, restructuring, privatization, the profit motive and freedom of the individual (Green, 1987). By the mid 1990s, entrepreneurship has become a concept ubiquitous to the popular media and strongly associated with the profit-seeking activities of ordinary individuals and organizations wishing to remain “competitive.” Clearly, industrialized countries have experienced a shift in values over the past two decades. To understand why and how this change took place and what it might mean for universities, this chapter will review theoretical bases of entrepreneurship, provide an economic and historical context of the change and discuss the implications entrepreneurship is seen to have for the culture of the university and greater society.
2. Theoretical Background

As Perkin (1992) remarks, in every culture "there has always been enterprise and there have always been entrepreneurs" (p. 36). Theories on the subject, however, reflect the rise and evolution of the capitalist state in the western world. Early uses of the word "entrepreneur" begin to appear in the fourteenth century and refer to "one who is active, who gets things done," usually in connection with those who were contracted by the state (or its equivalent) to build or fortify its infrastructure or wealth (Hoselitz, 1960, p. 235). In this sense, the entrepreneur may be seen as one of the earliest agents of the state. In the early 1500s conquistadors and mercenaries were referred to as "entrepreneurs"; by 1700, the term described engineers and architects contracted to build public roads, bridges, cathedrals and other edifices (Cochran, 1968). The first theories of entrepreneurship appear in the early 1700s, coinciding with the rise of market capitalism and a surge of interest in economics. While there are now literally thousands of different perspectives on entrepreneurship, this section briefly outlines only a few major theories that broke new ground in defining the entrepreneur's economic function. As most current theorists express either Austrian or Schumpeterian views (Outhwaite and Bottomore, 1993), emphasis is on these perspectives.

Cantillon. The first economic theory of the entrepreneur was written by Richard Cantillon and published, after circulating widely, in 1755, twenty years after his death (Hébert and Link, 1988). Cantillon, an Irish expatriot living in France, developed his theory of the entrepreneur during a frenetic time of financial speculation in what Montesquieu described as a "transient, self-seeking and predatory society" (cited in Crawshaw, 1991, p. 103). Cantillon argued that because uncertainty is pervasive, those who deal with it continuously in making economic decisions are "entrepreneurs"; thus, for him, the origins of entrepreneurship lay in an ability to contend with and exploit the lack of perfect knowledge of future events (Cantillon, 1931; Hébert and Link, 1988).

The Physiocrats. The physiocratic economists of France during the 1760s and 1770s focused upon the application of knowledge, particularly the exploitation of new agricultural techniques to create wealth. They conceived of entrepreneurs as innovating farmers (on land either rented or owned), and emphasized the entrepreneur's ability to collect and process knowledge and information with the goal of increasing productivity and reducing labour costs. These economists were the first to use the term "laissez-faire," though in the context of opposing guild regulations and price controls; most favoured strong government to overcome trade barriers and provide incentives for the startup of new industries (Palmer and Colton, 1984). The physiocrats stressed that efficiency was improved by upgrading human capital or disseminating better information and
were convinced that the right knowledge combined with the incentive to realize a profit would produce beneficial innovations. Thus they added innovation and organization to the bearing of uncertainty as the functions that defined an entrepreneur (Hébert and Link, 1988).

Saint-Simon. In the generation following the French Revolution of 1789, Claude-Henry Rouvroy de Saint-Simon proposed a model society that was intended to instill social order and promote economic prosperity. He acknowledged the importance the physiocrats placed on applying technological innovation to enhance agricultural yield but predicted that the possibilities for creating wealth were far greater by applying science and technology to industry. Saint-Simon was also the founder of French “socialism” and incidentally the only French socialist Marx took seriously (Ionescu, 1976, p. 24). He and his followers outlined a centrally-planned, hierarchical, elitist, meritocratic and mobile “society of producers” composed of technicians, scientists and entrepreneurs. Entrepreneurs were recast as agents of the state and assigned the dual role of being both technological innovators at the helm of publicly-owned enterprises and social engineers responsible for building an ideological climate and moral foundation appropriate for a cohesive, functional, rational, innovative and humane industrial society (Grossman, 1960, p. 515-516; Holton, 1985, p. 217; Ionescu, 1976; Palmer and Colton, 1984, pp. 497-499; Schumpeter, 1963, pp. 460-462; Schumpeter, 1987, p. 307; Screpanti and Zamagni, 1993, pp. 121-122). While Saint-Simon is an under-studied figure in the history of economic thought, his ideas have been taken very seriously by at least two economic thinkers that followed him. Marx has already been mentioned. With Engels he wrote that “In Saint-Simon we find the breadth of view of a genius, thanks to which almost all the ideas of later socialism which are not strictly economic are contained in his works in embryo” (cited in Ionescu, 1976, p. 24). The other admirer was Joseph Schumpeter, who wrote that Saint-Simon’s writings contained “sense and responsibility coupled with considerable analytic power. The goal envisaged was not absurd or visionary. What was lacking was the way: again the only method suggested was government action” (Schumpeter, 1987, p. 307).

The Classical School. The definition put forward by the classical school of economics, which emerged with small scale industrial capitalism, was written during the early 1800s by Jean Baptiste Say, the leading liberal economist in France at the time, Europe’s first university professor of economics and a former industrialist. Say’s entrepreneur starts a new business, then settles into managing the innovative process (Hébert and Link, 1988). Say presented a simple theory of a three-fold division of innovative human labour to which his contemporary, Destut du Tracey, subsequently assigned specific workers:
DIVISION OF INDIVIDUAL LABOUR

<table>
<thead>
<tr>
<th>Individual Entity (Tracey)</th>
<th>Function (Say)</th>
</tr>
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<tbody>
<tr>
<td>Scientist/Inventor</td>
<td>1. Acquire scientific knowledge.</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>2. Apply the knowledge to a useful purpose.</td>
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(adapted from Hébert and Link, 1988, pp. 37-42).

Say’s and Tracy’s theories describe the entrepreneur as the manager of an organization who according to “natural law” is responsible for coordinating, combining and controlling knowledge labour and manual labour with other factors of production. From the above model it appears clear that the “entrepreneur” literally translating to “between-taker” was perceived to serve as a “middle man” between the production of knowledge and the production of goods. Say insisted further that this application of knowledge must create value or utility in order to be considered “entrepreneurial” (Hébert and Link, 1988).

In contrast to the expanding understanding of the entrepreneur put forward by the French, the English made less use of three similar terms, “adventurer,” “undertaker” and “projector”; the only term to come into general use was that of “undertaker” (which originally referred to government contractors) (Cochran, 1968).

As economic theory developed in England, no operative place was found for the entrepreneur. Blaug (1986) and Hébert and Link (1988) argue that Adam Smith, founder of the English classical school, began a trend of ignoring the entrepreneur. Cochran (1968) explains that English classical economists did not include the entrepreneur, first because it was theoretically difficult to incorporate an individual, active agent into a macroeconomic, stationary model; and second, the capitalist structure of the economy obscured the entrepreneurial function, in that “With few exceptions, the men performing [the entrepreneurial] function were also capitalist owners. Their rewards could be seen as a return on capital rather than as special compensations for entrepreneurial ability” (Cochran, 1968, p. 89). In Smith’s time, ownership of capital was a prerequisite to becoming the independent head of a business, and as industry grew and capital costs soared, this tendency became more firmly established. The classical school introduced several economic concepts that continue to influence economic theory and policy making such as the idea that people may be understood as “mechanical, hedonistic atoms”; that economic behaviour reflects the rational pursuit of self-interest; that universal and eternal laws govern economic actions; and
that there is an economic sphere separable and autonomous from the social and political spheres of society (Spengler and Allen, 1960, p. 489).

**German Historical School.** From the mid nineteenth to early twentieth century, the German historical school provided the most thorough rejection of classical tools and methods, advocating instead empirical studies of economic behaviour that integrated psychology, sociology, philosophy and history. Their emphasis on historicism or the process of change and development led them to characterize the entrepreneur as “a creative organizer...whose role is innovation” (Gustav Schmoller, cited in Parker and Stead, 1991, p. 127). Werner Sombardt claimed the entrepreneur was the innovative force directing history from the fifteenth century on (ibid.; Sombardt, 1967). Max Weber tempered this interpretation of history by emphasizing the cumulative effects of entrepreneurial change, as seen in the following text illustrating a stage in the transition to capitalism:

> What happened was...often no more than this: Some young man from one of the putting out families went out into the country, carefully chose weavers for his employ, greatly increased the rigour of his supervision of their work, and thus turned them from peasants into labourers.... There was repeated what everywhere and always is the result of such a process of rationalization: those who would not follow suit had to go out of business. The idyllic state collapsed under the pressure of a bitter competitive struggle, respectable fortunes were made, and not lent out at interest, but always reinvested in the business (Weber, 1958, p. 68).

The German school’s empiricism and stress upon culture and values as influencing economic behaviour was in direct opposition to the Austrian school, which engaged the Germans in a bitter “battle of methods” for nearly half a century.

**Austrian Theory.** Austrian theory was initiated in the 1870s by Carl Menger who sought a means to make economics a “pure” science and thus supplant the anti-liberal, anti-individualistic historicism of the German economists who held that social mores and belief systems influenced economic behaviour. The label “Austrian” was then coined by the German historical school to describe, derogatively, the subjectivist, scientistic, amoral, ahistorical methodology developed at the University of Vienna (Shionoya, 1991). The Austrians still wear the “insult” as a badge of honour; however, with most Austrians now of British or American origin, the label no longer holds geographical significance but merely describes an analytical approach shared by Frank Knight, Ludwig Mises, Friedrich Hayek and Israel Kirzner, among others.

In its adamant support for laissez-faire principles, the Austrian school is the intellectual heir of Adam Smith; however it differs from classical thinking in rejecting macroeconomics, because, it claims, it is not possible to speak of aggregates in a scientific way, and in placing the
entrepreneur and the act of knowledge accumulation at the core of its theory (Screpanti and Zamagni, 1993, p. 172). The Austrians' approach is based upon inductive reasoning, the principle that only individual action (of people or firms) can be reliably studied, then generalized. The focus is on *Homo economicus* which the German school opposed—an analytical abstraction of a human actor which in the interests of scientific objectivity is removed from the influence of ethics, history, culture, politics and all other motivations but that which Austrians consider primal: the pursuit of self-interest. The image that results is a world of atomistic individuals acting rationally and competitively with others in pursuit of self-gratification.

Austrians consider "entrepreneurial behaviour" to be the essence of human nature, and thus in the economy "every actor is always an entrepreneur" (Mises, 1949, p. 253). All individuals are thought to be entrepreneurs compelled by a shortage of information into making economic decisions under conditions of risk and uncertainty (ibid.). Entrepreneurial behaviour is conceived as arbitrage—buying cheap and selling dear—and thus entrepreneurial ability, as measured in profit or loss, is the ability to exploit the fact that others involved in economic transactions will have less information or understanding of the situation (Parker and Stead, 1991, p. 87; Screpanti and Zamagni, 1993, p. 171). As Frank Knight, the Austrian founder of the "Chicago school" explains, entrepreneurship seen through this paradigm is "a poker game, a bluffing contest" which opens "the possibility of large profits to be made by a small number of men who know what they are doing among a large number who do not" (Knight, 1965, p. 286). For Austrians, profit is the entrepreneur's reward for having access to specialized knowledge and knowing how to apply it quickly: "It is the mental acts, the mind of the entrepreneur, from which profits ultimately originate. Profit is a product of the mind, of success in anticipating the future state of the market" (Wieser, 1951, p. 21; cited in Hébert and Link, 1988, p. 130). Those most successful at outsmarting opponents are portrayed as "bold technical innovators, organizers with a keen knowledge of human nature, farsighted bankers, reckless speculators, the world-conquering directors of the trusts" and other "great personalities" of capitalism (Wieser, 1927, p. 327; cited in Hébert and Link, 1988, p. 68). In emphasizing individualism and competition, the Austrians uphold the principles of a class-based society in which individualism among the lower ranks is not strongly tolerated. Frank Knight's writings suggest the entrepreneurial employers "direct economic activity. They are in a strict sense the producers, while the great mass of the population merely furnish them with productive services, placing their persons and their property at the disposal of this class" (1965, p. 271).
Though there are exceptions, most proponents of the Austrian school are avid supporters of individualism and unconditional liberalism and hostile toward socialist or collectivist ideas. Governments are urged to avoid redistribution policies because the unequal possession of property is a “natural law” that government did not create and should not attempt to ameliorate (Kingdom, 1992, p. 12). The opposition to socialism follows the tradition of Böhm-Bawerk, who opposed the Marxist argument that historical developments had produced capitalism. Böhm-Bawerk countered that capital was a feature of production at all times and in all types of economies and therefore not only was capital politically neutral but capitalism was a timeless system incorporating economic principles that could be detached from history and culture (Parker and Stead, 1991, p. 89).

Most Austrians accept some role for the state, but believe it should be limited to protecting private property rights and providing a strong national defence. “For Austrians,” Kirzner argues, “one of the gravest consequences of government involvement in the economy has been persistent mismanagement by governmental monetary authorities—mismanagement that has again and again brought in its train inflationary booms followed by bouts of depression” (Kirzner, 1981, p. 119). Government, the Austrians argue, should stay clear of all economic matters because its involvement tends to support failing or non-viable businesses and this distorts price signals that private agents transmit to one another through the market. As a single unit, the information that a government body has will be less encompassing and timely than that of many entrepreneurs motivated by profit and therefore constantly alert to profit-making opportunities. As Hayek sees it, “the spontaneous interaction of a number of people, each possessing only bits of knowledge, brings about a state of affairs...which could be brought about by deliberate direction only by somebody who possesses the combined knowledge of all these individuals” (1948, p. 79). All forms of central planning are thus held to be inefficient (Gamble, 1986, p. 31). The Austrians assert that free markets force individuals to experiment, adapt, evolve, therefore engendering a learning process that effectively promotes innovation and change (Parker and Stead, 1991, p. 147). But this learning process is entirely subjective, reflecting the individual’s capacity, psychology as well as previous knowledge and experience, and so what works for one entrepreneur may not for another: thus entrepreneurship cannot be codified, quantified or taught—indeed the Austrians assert entrepreneurship defies all these actions (Kirzner, 1981, pp. 115-119).

**Neoclassical School.** The school to predominate economic thought for part of the last century and most of this one is the neoclassical school, which inherited from the English classical economists the problem of finding an operative role in economic theory for the entrepreneur.
Neoclassical economics covers a wide range of economic thinking and political beliefs, including advocates of active government, laissez-faire economists and several others who detract significantly from core principles. Among the economists loosely aligned with this school are the Austrians, Joseph Schumpeter, the Keynesians and Milton Friedman.

With the Austrians, the neoclassicists represent the first generation of university-trained economists, and they too sought to establish economics as a physical science and distance it from philosophy. The founders of the neoclassical school, Alfred Marshall in Britain and Léon Walras in Switzerland, had both intended to integrate the entrepreneur into the new school—Walras went as far as distinguishing the entrepreneur as an important fourth factor in production along with land, labour and capital—but both economists introduced methods that inadvertently cancelled the entrepreneur out, Marshall the mathematical method and Walras the equilibrium model. By adopting a mathematical method, the neoclassical school shifted its focus from long-range social questions that had concerned the classicists to equilibrium analysis with short-run adjustments. Because mathematical tools worked only in a static environment, they removed the entrepreneur from their analyses with the assumption that human nature dictates that there would always be a constant supply of entrepreneurs.

In the period following Marshall and Walras up until the 1960s the entrepreneur is virtually absent from economic literature. Neoclassical theory focused attention on understanding economic behaviour in geometric and algebraic terms under conditions of static equilibrium. "Such conditions," state Hébert and Link (1988), "are analytically robust only within a static framework, which necessarily represses the role of the entrepreneur" (p. 157). By the turn of the century and up until the 1970s, the entrepreneur had virtually disappeared from mainstream economic theory. A notable exception is the theory developed by Joseph Schumpeter (1883-1950) during the first half of this century.

**Schumpeter's Model.** Schumpeter's model is partly the result of reinterpreting the neoclassical model of static equilibrium as a "circular flow" of exchanges between people whose economic behaviour is adaptive, routine and compatible with tradition. The circular flow was equated with an era of economic stability in which people perform relatively the same functions year after year, refining existing technologies and introducing incremental changes, but not introducing radically new methods that would significantly alter the structure of work. Left as is, Schumpeter argued, societies like this will experience diminishing economic returns, then fall to
decline (Schumpeter, 1961, p. 62). This is avoided, he thought, through the kind of economic
growth that is stimulated by technological change of “revolutionary” proportions (ibid.); that is,
that kind of change arising from within the system which so displaces its equilibrium point that
the new one cannot be reached from the old one by infinitesimal steps. Add successively as many
mail coaches as you please, you will never get a railway thereby (1961, p. 64, n. 1; emphasis in
original).

These changes of “discontinuous” nature are introduced into the production process by people who
break with custom—“innovative entrepreneurs”—who are followed by others, thereby setting off
an era of technological diffusion that throws the circular flow of economic life into temporary
disequilibrium (ibid., pp. 62-64).

For Schumpeter, innovation, or “doing things differently,” is the essence of
entrepreneurship (1939, p. 84). Schumpeter’s entrepreneur performs any or all of five possible
functions: (1) introducing a new good or (2) a new method of production, (3) finding new markets
or (4) new resources, or (5) reorganizing an industry to the extent of creating a new economic
system (such as creating or breaking up monopolies) (1961, pp. 54-55). Innovation is viewed as
both an activity strongly influenced by social forces and a form of deviance that always meets
some social resistance—and for good reason, for despite any long-term benefits to society or the
environment that an innovation may offer, changes to production patterns inevitably hurt someone:
skilled workers become redundant or resource suppliers lose their markets. In Schumpeter’s view,
social and psychological barriers accounted for the phenomenon of innovations to be introduced in
clusters, which in turn, he argued, cause the boom-bust turbulence of economic growth under
capitalism: as many new ideas are prevented from being implemented, they sit idle while many
more accumulate. Schumpeter argued that those who wish to introduce change must therefore be
prepared to break down social and psychological barriers as well as break up the structures and
routines of a particular industry or business (Schumpeter, 1961, p. 86). His favoured method,
particularly for making a transition to a new economic order, relied on “a process of education that
would reform human souls so as to lead up to the ethical level required” (1987, p. 202). This
process could be accomplished through making “changes in the social environments” which
Schumpeter also referred to as “change by reconditioning” which would be accompanied by
observing how “the fundamental pattern itself may be changed either within the same stock of
human material or by eliminating refractory elements of it; human nature is certainly malleable to
some extent particularly in groups whose composition may be changed” (ibid., pp. 202-203). Once
social resistance is eroded, what follows, Schumpeter argued, is a "swarm" of innovations as entrepreneurs and their imitators take advantage of a weakened society to introduce change. 

During this era of economic turbulence or "creative destruction," many conservative industries decline and are driven out of business, while innovative ones may experience rising investments, prompting production levels to increase in those and related industries; prices and profits also rise, attracting new entrepreneurs to the market. People whose skills were suited only to the needs of the former economy are thrown out of work, while new jobs are created. As technologies diffuse throughout a competitive industry, profits decline, productivity growth levels off, unemployment levels rise, some entrepreneurs return to routine work, the economy meets a new equilibrium and the "circular flow" of economic life resumes (Macdonald, 1971, p. 76; Screpanti and Zamagni, 1993, p. 245-46; Schumpeter, 1961, p. 223-255). This feature of capitalistic growth leads to a higher level of output and efficiency than before, and in these terms the process may be viewed as an economic success. But Schumpeter did not think it was a sociological success because the dislocations incurred justified ideological arguments for bringing the system down (1987, p. 143). To reduce the instability provoked by the "swarming" effect of innovations, Schumpeter favoured the idea of business leaders forming a coalition or some other monopolistic means of coordinating the introduction of innovations (Schumpeter, 1961, p. 230), and he supported elements of central planning and social welfare as a means for diminishing the harmful effects of technological change (Schumpeter, 1908, pp. 93-94; cited in Bottomore, 1992, p. 19; Schumpeter, 1987, p. 424).

Schumpeter developed the bare bones of this model while completing his doctorate at the University of Vienna, and in the process broke with the neoclassical school and its Austrian branch over several major points. His argument that discontinuous change is the essence of economic development is based on Karl Marx's "laws of motion" thought to underlie the capitalist economy (Bottomore, 1992, pp. 29-30). Schumpeter's main argument in favour of Marx's economic model was that Marx did not analyze a state of equilibrium, "but on the contrary a process of incessant change in the economic structure" (Schumpeter, 1987, p. 28). In accepting the principles of Marxian dynamics Schumpeter also accepted Marx's definition of capitalism as a discontinuous, turbulent process, which not only must innovate as all systems must to sustain themselves, but innovation at a cost of becoming more rationalized, what Schumpeter and Marx considered more socialized. Schumpeter thought a continuous process of rationalizing industry combined with the cumulative and structured growth of knowledge could lead to demystifying entrepreneurship so that
it consisted of applying principles which could be demonstrated and learned. Back in the 1940s, he perceived that innovation itself is being reduced to routine. Technological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work in predictable ways.... Thus, economic progress tends to become depersonalized and automatized. Bureau and committee work tends to replace individual action (1987, pp. 132, 133).

That innovation, the core of capitalist development, was becoming a process in which individual intuition could be replaced with teams of experts, Schumpeter remarked, “may be summed up in the Marxian proposition that the economic process tends to socialize itself” (Schumpeter, 1987, p. 219). He nonetheless recognized that for the managers involved with technology transfer “a part of the very essence of [the entrepreneur] is bound up with this function” (Schumpeter, 1961, p. 86). Observing innovation engender an increasingly rationalized production system, Schumpeter was certain at one point that “a socialist form of society will inevitably emerge from an equally inevitable decomposition of capitalist society” (ibid., p. xiii). Later, Schumpeter disclaimed any intention of predicting the future, arguing instead that social development proceeded through innovation — “not as an adaptive but a creative response to a changing environment” (1939, p. 229), with the possibility that certain “factors external to the chosen range of observation may intervene to prevent that consummation [of full-fledged centralized socialism replacing capitalism]” (1987, p. 422).

Schumpeter avoided the historical determinism of Marx by insisting that human beings create change rather than change being propelled by market forces or class antagonisms. This perspective borrowed ideas from virtually every economic thinker that had come before, but primarily the cultural focus of the German historicists. In the writings of Max Weber, Schumpeter found a means of countering Marxist and Austrian arguments. Weber had sought to show on empirical and theoretical grounds that economic conduct is inseparable from social and cultural influence, an analytical attack on Marx's materialistic interpretation of history as well as on the idea that economics is an autonomous science (Macdonald, 1971, p. 73). Like Weber and the historicists, when it came to discussing the motivations of entrepreneurs, Schumpeter stated “I do not adopt any part of the time-honored picture of the motivation of the ‘economic man’” (1961, p. 90), but thought people were driven by many complex factors, often noneconomic and ethical in origin (ibid., pp. 92-93). He accepted that most economic activities were performed as a means to satisfy basic needs and hedonistic wants but argued that “in no sense is [the entrepreneur's]
characteristic motivation of the hedonist kind" (ibid., p. 67). To be innovative meant exposing oneself to censure, and such a break with the past, he agreed with Weber, was motivated by an "irrational impulse" originating from any one of three factors: (1) a need for social status and respect; (2) a need to conquer or be seen as better than everyone else; or (3) a need to experience "the joy of creating" by changing the way things are (Schumpeter, 1961, pp. 92-93). Only the first motivation is linked to the accumulation of capital, and then, in Schumpeter’s view, only tenuously as “Entrepreneurs will be few and without great importance in situations where this activity is despised and frowned upon” (Schumpeter, 1965, p. 62).

Schumpeter thought it would be the middle classes who would unconsciously bring about the downfall of capitalist society by losing faith in bourgeois culture. This was a clear rejection of Marx’s assumption that change would be led by the working classes. “Capitalism,” Schumpeter stated, “creates a rational frame of mind which, having destroyed the moral authority of so many other institutions, in the end turns against its own” (1987, p. 143). He thought that when entrepreneurial activity is held in low regard, those most suited to changing the economy would turn their talents toward noneconomic activities, leaving business to those who were motivated by rational self-interest—greed in its purest form—thus reducing the number and quality of innovations and providing verification for viewing the entrepreneurial type as “a homogenous globule of desire of happiness” (Veblen, 1898, cited in Macdonald, 1971).

Unbridled capitalism, Schumpeter felt, was a system that unwittingly conditioned society to be intolerant of innovation, a result which was neither socially nor economically sustainable. But the only alternative Schumpeter took seriously, “scientific” socialism, he thought dehumanizing, a rationalizing process that repressed the individual contributions of “leading personalities.” All other forms of socialism he dismissed as maudlin expressions of “nothing but the longing of the human heart for paradise” (cited in Bottomore, 1992, p. 37). His sense of individualism, however, was compatible with social policy intervention and various forms of collectivism (Bottomore, 1992, p. 19). His proposal for a “halfway house,” never developed beyond rudimentary sketches, would combine elements of capitalism and socialism (1987, p. 422), but would be nothing like the disdained Keynesian model which he referred to as “irritating nonsense” because, among other reasons, he thought it encouraged dependence on the state for creating and subsidizing employment but did not encourage thrift as an essential prerequisite to investment in innovation (cited in Haberler, 1951, p. 41). Schumpeter thought the most innovative societies emphasized elements of cooperation as well as competition, an idea which became known as the “Schumpeterian
hypothesis" (Mokyr, 1990a, p. 267), which has always been a highly contentious argument for in effect it advocated the formation of industrial cartels, indeed they were seen as essential to the survival of the capitalist process (Haberler, 1981, pp. 82-84). But while arguing that large-scale industries were responsible for the majority of innovations since the rise of corporate capitalism, Schumpeter thought small business was important for the tangible sense of property ownership it gave (1987, p. 156), which, he implied, would be a valuable sentiment to cultivate if policy makers wished to stem the socializing forces that he, after Marx, believed inherent to capitalism.

Schumpeter's "halfway house" will be discussed further in this chapter in connection with Trilateral Commission initiatives.

Schumpeter's theory of economic growth synthesizes ideas derived primarily from the neoclassical and Marxian schools to result in a model of continuous dynamics which distinguishes between two different kinds of economic action: routine action carried out within a structured process, and entrepreneurial action which changes the process itself (Macdonald, 1971, p. 90). Thus the economy is seen to evolve gradually, but through discontinuous steps, with each sea-change succeeded by a new equilibrium and a new traditionalism, which will be subsequently upset by the next series of innovative entrepreneurs. Ideas such as these have gained Schumpeter the label of being a "rich man's Karl Marx," meaning an intellectual authority having substantial knowledge of Marxism, holding views less threatening to the establishment than those of Marx, and regarded by his followers as having provided a sufficient answer or alternative to Marxism (Bronfenbrenner, 1986, pp. 22-30). Schumpeter, however, claimed his analysis consistent with almost any social philosophy or economic system, Marxist, capitalist or feudal (Macdonald, 1971, p. 92, n. 79). He differed from Marx primarily in emphasizing that the entrepreneur was the force that precipitates economic change rather than change being propelled by market forces or class antagonisms. With Schumpeter's observation that "the captured surplus value [essential for financing innovations] does not invest itself but must be invested" (1951, p. 155, emphasis in original), we are led from Marx's "social forces" which predetermine "the inner necessities of any given situation" (ibid.) to the observation that social forces are more likely to oppose than facilitate change (1961, p. 86), and the argument that the process of innovation is set in motion by an initial decision made by an individual or group of individuals that Schumpeter designated the "entrepreneur."

While perceiving capitalism as a stage in history, Schumpeter saw entrepreneurship, defined as innovation, as a timeless activity both inherent to the human condition and
extraordinarily susceptible to deterrence and repression by social forces. Because he drew on the older, continental version of the entrepreneur rather than on the English definition, Schumpeter saw the entrepreneur as an innovator at work long before the onset of capitalism. Heilbroner argues that Schumpeter saw entrepreneurs as an elite in all societies whose qualities would, under collective conditions, be reoriented toward management (Heilbroner, 1986b, p. 308; 1992, pp. 99-100).

Seeing innovation as the essence of economically viable societies, Schumpeterian entrepreneurs appear in multiple forms: as self-employed individuals, as dependent employees (1965, p. 53), as the state (ibid.) and as central planning authorities in socialist economies (1939, pp. 91, 96, 111-112). In the transition to a new economic order, he assumed many entrepreneurs would turn toward political leadership or be among those “ready to put their hands to the helm, both able and willing to keep up discipline and to use rational methods that will minimize the shock” (1987, p. 221).

Schumpeter’s ideas of innovation and change are becoming popular now, but were not well known outside scholarly circles in his own time. Part of the reason is technical. Schumpeter’s paradigm is complex and difficult to decipher, requiring, in Stolper’s view, “a greater degree of work and tact than any other theoretical framework I know” (1951, p. 109). A major impediment to communicating his ideas, Macdonald points out, is that “Schumpeter nowhere presented [his theory] in systematic form, and it is certain he never had the opportunity to explore fully its many implications” (1971, p. 89). Former students of his such as Richard Goodwin, Robert Heilbroner and Paul Samuelson provide some clear insights into his thinking but even they must rely solely on his writings as “Schumpeter would never lecture on his own theories despite entreaties from his students and colleagues” (Heilbroner, 1986b, p. 310). Schumpeter was a prolific writer, necessitating an immense body of work be read before the pattern of his model emerges. Moreover, his ideas are often shrouded by a way of reasoning that is “rarely formally complete or consistent” (Wagener and Drukker, 1986, p. 2), presenting “an array of conflicting ideas” (Bottomore, 1992, p. 54), showing “reluctance to use anything but the minimum of postulational scaffolding” (Macdonald, 1971, p. 90) and using a literary style even friendly critics have called “baroque” (Haberler, 1951, p. 45). “I never wish to say anything definitive,” Schumpeter admitted, “if I have a function it is to open doors not to close them” (cited in Haberler, 1951, p. 46). Thus, Haberler argues, Schumpeter was “prevented by a self-imposed injunction from constructing a neat simplified version of his theory as Keynes did” that is, he was prevented from giving “his readers exactly what they craved—a message which was both high minded and comforting—and at the same time to answer to the call of his conscience” which is a strategy “apparently necessary for the
formation of a compact group of disciples" (Haberler, 1951, p. 46). The formation of a “school” of thought provides some assurance of a theory’s popularity and longevity, but Schumpeter opposed such an action, stating “I have never tried to bring about a Schumpeter school. There is none and it ought not to exist” (cited in ibid., p. 47). Being “neither a reformer nor an enthusiastic partisan of capitalism, socialism, planning or any other ‘ism’,” Haberler explains, Schumpeter’s “lack of fighting spirit for any particular approach [and] the fact that he found something useful and acceptable in almost every theory and method helped to prevent development of a Schumpeter school” (ibid., p. 46).

In any case, the conditions Schumpeter’s theories are most applicable to are those of fundamental economic change and instability, which does not accurately describe the climate prevailing during the period following the second world war. T.W. Schultz has described the economic conditions of that era as those of relative equilibrium with competition but without scarcity—circumstances that neither required nor promoted entrepreneurial activity (1980, p. 439). The neoclassical paradigm, on the other hand, was an especially appropriate framework for providing analysis and policy advice during the postwar period of economic equilibrium.

3. The Postwar Economy

For the first three-quarters of this century, the predominant model of industrial capitalism was the giant manufacturer. Capitalism had made a shift from small business units to large corporate enterprises at around 1880, in a flurry of mergers and acquisitions meant to combat the insecurity of private capitalism during a global economic crisis. Mergers and acquisitions allowed business to reduce competition and protect themselves against fluctuations in prices and markets through “vertical integration.” Largeness was also an essential long-term economy of scale because equipment was expensive, requiring a large pool of capital to finance. From the late nineteenth century to the 1980s big business was the rule for the developed countries. Mechanized processes were introduced at the turn of the century, making assembly line mass production the standard form of producing all kinds of consumer goods. “Fordist” assembly-line techniques broke labour functions down to the essential elements and organized labour into hierarchical structures. Prices and employment stabilized and costs of production were reduced. And the workforce was overwhelmingly male, receiving steady paycheques for what might be a lifetime with the same company if not the same job (Chandler, 1990, pp. 3-46).
At the national level, the structure ran almost like clockwork. The postwar years were a period of unprecedented prosperity, economic growth and rising living standards. The "Keynesian consensus," lasting roughly from 1955 to 1975, brought disparate political views together in agreement with economic policies designed in part to stem the forces of socialism; these policies favoured active government management of the economy to achieve high employment and to create a welfare state based on progressive taxation. This was the era of the neoclassical "synthesis" in which the neoclassical mainstream accommodated Keynes's "radical" monetary theory, an act which legitimized Keynesian economics in the postwar period but served to discredit it later (Dean, 1981). This economically stable and relatively predictable world was suited to the neoclassical school's mathematical interpretations of an economy in equilibrium and the ability of neo-Keynesian economists to steady market anomalies by adjusting the money supply (Bell, 1981, pp. 69-70). In this world, Blaug points out, there is no room for the dynamism associated with entrepreneurship, risk, uncertainty, technological innovation, motivation, competition, demographics, or any social, cultural and economic change of fundamental importance (Blaug, 1986, p. 223).

Nevertheless, at a supranational level, the postwar years were a period of great institutional innovation. Industrialized nations were in the process of rebuilding a worldwide capitalist trading network. The previous world economy had been built during the nineteenth century on principles of unregulated laissez-faire capitalism, reflecting the predominant economic thinking of the time. That global trading network came into effect in the 1860s, collapsed in the 1870s, set the world into a depression that lasted until the 1890s, and resulted in laissez-faire economics being held in wide disrepute (Palmer and Colton, 1984). The new global economy was to be built upon a much more stable infrastructure. Gradually, the trend of raising tariffs that followed the first world war was reversed, and under the Marshall Plan a system of international alliances and agreements was established. Supranational agencies such as the European Economic Community became the basis for increased economic and political cooperation. Private enterprise began to expand into the international arena and soon outstripped the public sector in terms of investments (Marchak, 1991). By the early 1970s, a network of "transnational" capitalists had spread production, research and merchandising activities across many nations and had transcended the authority of national interests (ibid., p. 22; Kymlicka and Lenihan, 1994).

In the 1970s the emergent global economy suddenly took a downward turn. Initially the oil crisis was viewed as the cause. In 1973 the world experienced the first of several unexpected and
dramatic increases in oil prices. Productivity growth slowed everywhere.¹ Wages were forced up
and inflation shot to double-digit levels. Over the next five years, unemployment doubled while the
focus of fiscal and monetary policies in all capitalist countries shifted to containing inflation. The
Bretton Woods agreement that held the U.S. dollar equivalent to gold broke down, and with it the
international monetary system. The balance of payments deficits sharply increased, accelerating an
inflationary spiral already under way. A worldwide recession spread. But once the price of oil
crashed, the American economy (and those industrialized nations tied to it) did not recover. It
appeared the Middle East wars had merely exacerbated a productivity slowdown which a few
observers claimed was underway as early as 1965 (Krugman, 1994, p. 4).

The neo-Schumpeterian or technological explanation for the slowdown holds that the cause
laid within the industrial structure of western, particularly American, industry. Krugman (1994)
makes the case that most of the technologies that had driven the postwar boom had been around
“since before the first world war” but “could not come into their own during the long years of
depression and war” (pp. 60-61). He argues these technologies had been fully exploited by the
early 1970s, and the breakthroughs made in telecommunications and computers during the 1960s
and 1970s would require massive economic restructuring before they made any impact on
productivity or living standards (ibid., pp. 60-62). Similarly, Peter Drucker had pointed out in the
1960s that the industrial structure and organization of firms had changed little since the 1920s, and
though great progress was made during the postwar boom, the changes came from making
incremental improvements within well-understood paradigms. He cautioned that this could not go
on: the old technologies had nearly spent their course and the new ones needed a radically
overhauled economic structure before their potential could be realized (1968, pp. 3-10; see also
OECD, 1984, p. 11). But, instead, during the 1960s, as Chandler points out, a “mania” for
mergers and acquisitions led to extraordinarily complex management systems, a breakdown in
communications between various levels, inappropriate purchases and applications of technology by
those who lacked the ability to evaluate it properly, and a general loss in top management’s
capacity to maintain a unified enterprise (Chandler, 1990, pp. 622-624). As Robert Reich argued
in the early 1980s, the new technologies were wasted on American firms whose vested interests
clung to hierarchical organizations of work and stifled the innovative capacity of the rank and file
(Reich, 1983).

¹ Scherer and Perlman (1992) found that among a cross-section of twelve OECD nations the annual growth rate of
output per person employed fell from an average of 4.16 percent in 1961-1968 to an average of 1.45 percent in
1979-1985 (p. 2).
Traditional Keynesian economics could not cope with the crisis. The theory had denied the possibility that stagnation and inflation could co-exist, and now the impossible was real (Screpanti and Zamagni, 1993, p. 311). Further, by accepting the legitimacy that neoclassical economics offered, Keynes had inadvertently locked his theory into a model that could not accommodate anything more than incremental change. Keynesian scholars argue he had not intended this. They point out the theory was meant to be dynamic in the sense that uncertainty, motivation and support of entrepreneurial initiatives and innovations are at the core of the analysis (Parker and Stead, 1991, p. 82; Rothschild, 1986, pp. 193-194). But, having developed his theory during the 1930s, Keynes's primary concern was with the survival of capitalism as a social order, which he thought depended on active state involvement in maintaining high employment, facilitating private investment and offsetting inadequate private demand. Consequently, he came to accept that the market stability of the neoclassical model could be approximated if aggregate demand was sustained (Dean, 1981, p. 19).

In the 1970s attempts to continue “priming the pump” under conditions Keynes had assumed were out of the question may have resulted in political suicide for governments that advocated some form of Keynesian economics. Britain’s Labour Government of the 1970s is a case in point. The crisis affected all industrialized countries but Britain was hit the hardest: in 1975 it suffered the highest rate of inflation at 27 percent; unemployment shot to over a million; the pound dropped to its lowest point in history; and to avert collapse the country was forced to accept loans and advice from the International Monetary Fund—“a humiliation,” Krugman states, “usually reserved for Third World nations” (Krugman, 1994, p. 172).

In most industrialized countries the political shift to the right was surprisingly swift. Two laissez-faire economists won Nobel prizes at this time, Friedrich Hayek in 1974 and Milton Friedman in 1976. Subsequently, Margaret Thatcher was elected in 1979, Ronald Reagan in 1981, followed by other governments in the West that more or less espoused a “new right” approach to economics. This approach was not consistent, but at different times reflected the views of libertarians, supply-side economists, public choice theorists, monetarists, Thatcherites, Reaganites, and neoconservatives (Green, 1987, p. 1). Often the core values of the various factions contradicted each other. Neoliberals or Austrians, for example, support values of individualism, freedom of choice, laissez-faire economics and minimal government. The core values of neoconservatives, on the other hand, are strong government, social hierarchy, self-discipline and
nationalism. Thatcherism adopts a bit of both (Marchak, 1991, p. 95; see also Levitas, 1986, pp. 80-106).

Despite their differences, the new right showed cohesion in arguing that the economic decline was caused by the “dependency culture” that social democracy engendered, and the solution was to roll back the welfare state (Kingdom, 1992, p. 45). Both supply-siders in the Reagan administration and monetarists in the Thatcher administration contended that in practice Keynesian theory caused rather than resolved instability: market economies were argued to be essentially stable but the state’s interference in short-term problems only worsened economic fluctuations; public enterprises precluded private investment; and social policies undermined personal initiative and discouraged enterprise. Both advocated cuts to welfare spending, deregulation and privatization as the means to raise productivity and output (Dean, 1981, p. 25; Edgar, 1986, p. 56; Krugman, 1994, p. 35-37; Parker and Stead, 1991, p. 84; Screpanti and Zamagni, 1993, p. 311).

All factions of the new right advocated that government “clear the way for the entrepreneur” (Green, 1987, pp. 196-208). The entrepreneur was upheld as a cultural hero, an ideal which reaffirmed that capitalism was indeed an open system in which an individual of humble beginnings may achieve power and status solely on the basis of hard work and personal ingenuity. Theories expounded by the new right were simpler versions of ideas long expressed in Austrian economics.

But Austrian theory, being inherently at odds with social aggregates and social support structures, is not an ideal basis for crafting social consensus, even around an “enterprise culture.” As early as 1833, John Stuart Mill had remarked that the laissez-faire principle held potential for performing “work, namely of a destroying kind,” useful for dismantling existing social institutions but not conducive to building new ones (Mill, 1833; cited in Perkin, 1969, p. 323). It has been suggested that the laissez-faire principle is currently being used with the intention to create “a culture emphasizing self-reliance and personal responsibility such that governments could increasingly withdraw from economic management and the provision of a wide range of personal, social and welfare services” (Scase and Goffee, 1980, p. 11; cited in Rees and Rees, 1992, p. 123). Governments have understandably been reticent in stating their intentions. Another perspective, which also supports the view that cutting social expenditures is a means to heighten a sense of “discipline” among the workforce, is provided by Patricia Marchak (1991) who argues that the transnational capitalist interests represented by the Trilateral Commission found the laissez-faire ethic of the new right useful for reshaping the state and the values of its citizens, and so funded think-tanks and other media to build public support for the restructuring of social institutions.
4. The Trilateral Commission

Less than a month after the first oil shock in 1973 the Trilateral Commission was founded by David Rockefeller, then chairman of the Chase Manhattan Bank, and Zbigniew Brzezinski, then national security advisor to President Carter's administration. Initially, the Commission brought together some 200 members from three regions represented by Japan, Canada and the U.S., and Western Europe. Members were and are for the most part closely linked to firms "at the apex of world economic hierarchies and at the vanguard of the transnational process" (Gill, 1990, p. 157). The Trilateralists are largely entrepreneurs on a global scale whose goal, according to Gill, is to create a stable world order congenial to their interests (1990, pp. 1-10).

The Trilateralists wish to facilitate the movement of capital across international boundaries, and to do so, Marchak states, they act as "a self-conscious core of business leaders whose task is to create an ideological consensus and to influence, if not to direct, public policy" (1991, p. 94). In the 1960s and 1970s international business leaders faced impediments to the flow of capital in the form of trade barriers, government resistance, labour laws, unionized workforces, investment regulations and welfare systems which would need to be weakened, dismantled or revised to realize the free flow of goods and capital (Marchak, 1991, p. 3). To accomplish the task, the Trilateralists have been candid in stating their intention is to mold public opinion into a form that reflects their own; or, as one of the Commissioners stated, the purpose of the Commission is to "seek a private consensus on the specific problems examined in the Trilateral analysis ... [and then] to educate attentive audiences in the three regions, so that public opinion in Japan, North America, and Europe will come to reflect the private consensus" (Gerard C. Smith, then U.S. ambassador-at-large, 1974; cited in Sklar, 1980, p. xii). This task is facilitated by being an autonomous body answerable to no one and consisting of a membership wielding remarkable power, influence and expertise. Their wealth is unparalleled: in 1985 the UN Center on Transnational Corporations reported the combined sales of the 350 largest transnational companies equalled one-third of combined GDP of all developed countries and exceeded the aggregate GDP of all developing countries, including China (cited in Heilbroner, 1992, p. 59). Over 500 people have at one time been members, not all of them corporate leaders; some were political leaders such as Jimmy Carter, Henry Kissinger, Margaret Thatcher and Pierre Trudeau (Gills, 1990, p. 171; Marchak, 1991, p. 104); editors from The Chicago Sun Times, The New York Times, and The Economist, among other presses have been members, and so have large numbers of academics,
primarily economists and political scientists from the most prestigious universities. Trilateralists have also been found among influential people in other organizations such as the Brookings Institution, the OECD, the Club of Rome, the European Commission, the Nobel Peace Prize Committee, the World Bank and the International Monetary Fund (Sklar, 1980, pp. 90-122; Gills, 1990, pp. 158, 234-237, 263 nos. 27-29).

Criteria for membership in the Trilateral Commission, aside from having power and influence in an area of expertise, are an international outlook and moderate political views (Gills, 1990, p. 5). There are no communists, left-wing socialists, ultra-nationalists, populists, or extreme right-wing elements. It excludes “value-oriented” intellectuals on the left or right, like Noam Chomsky and Irving Kristol, who wish to diffuse a world view disagreeable to the Trilateralists’ view. Also missing are representatives for peace groups and the anti-nuclear movement. At the time of Gill’s in situ study there was one environmentalist. There is no one representing the underprivileged or small-scale capital. There are, however, a handful of labour leaders representing the more well-established and conservative unions. Gill states that there are also “significant numbers of moderate socialists and social democrats” with the bulk of members being “internationally oriented conservatives or liberals” (Gill, 1990, p. 159). Others view the Trilateralists as old school conservatives wishing to see democracy tempered, authority deferred to and inequality sustained (Marchak, 1991, p. 111; Sklar, 1980, pp. 36-46).

Upon formation, the primary concern of the Trilateralists was the productivity slowdown, which they attributed to the misplaced complacency of American industry and its resistance to organizational and technological innovation (Marchak, 1991, p. 22)—an understanding that dovetails with what has been called the technological or neo-Schumpeterian explanation for the slowdown. The explanation stresses that for inventions to be introduced and used productively, large-scale manufacturing and resource-based concerns need to reorganize the structure and content of work. This calls into question the utility of the Keynesian consensus, for much of that economic framework had been adapted to approximate the market stability of the neoclassical model by sustaining aggregate demand in an economy based on corporate giants, mass production and mass consumption (Dean, 1981, p. 19). For this reason, Marchak argues, the Trilateralists found “the morality and general assumptions of the new right...useful underpinnings for the period of restructuring” (ibid., p. 111). She rejects the idea that the Trilateralists are a new right organization; on the contrary, “its members would shun the label” (Marchak, 1991, p. 103). Her argument is based on findings which show many similarities of language and ideas in new right and
Trilateralist publications; many corporate sponsors of new right think-tanks are transnational capitalists who likely have connections to the Trilateralists; and in some cases the same transnational corporations that fund the Trilateralists also fund new right think-tanks (Marchak, 1991, p. 112; this last point is also supportable by a list of corporate sponsors found in Gills, 1990, p. 264, no. 37). “This,” Marchak emphasizes, “is not a conspiracy theory. The institutes and think-tanks were well funded and the funding sources were publicly listed in annual reports” (1991, p. 95).

The Trilateralists’ understanding of the productivity slowdown and their procedures of introducing change has similarities with the paradigm of economic development first introduced some eighty years ago by Joseph Schumpeter. Both the Trilateralists and Schumpeter view entrepreneurship as essential to economic progress. To the Trilateralists, entrepreneurship is “the prime mover in the economy” (Trilateral Commission, 1979, p. 88; cited in Sklar, 1980).

Schumpeter noted that large-scale enterprises or units of control had come to be the “most powerful engine of technological progress,” not only rising and thriving in the process of economic destruction but also creating conditions that they could exploit (Bottomore, 1992, p. 73; Schumpeter, 1987, pp. 87-106). The Trilateralists form such a unit of control, a Schumpeterian coalition of entrepreneurs that cooperates for mutual benefit (Schumpeter, 1965, p. 53).

As a means to lessen the turbulence of capitalism and heighten its innovativeness, Schumpeter thought structural components of central planning could be revamped and successfully applied to capitalist societies, thus making it “possible so to develop and regulate capitalist institutions as to condition the working of private enterprise in a manner that differs but little from genuinely socialist planning” (1987, pp. 424-425). Schumpeter’s thoughts on central planning have been called outdated in light of the current emphasis on decentralized structures and local (or individual) control at the level of the firm and regional or national governments (Gintis, 1991; Heilbroner, 1981). However, Giersch (1982) has pointed out that Schumpeter’s system may be relevant to the governance of a world economy. At this level of economic planning, Gill (1990) has observed an emerging consensus among the Trilateral Commissioners which emphasizes that “market forces must be steered by an internationalized policy process, involving dominant elements of the civil societies of the major capitalist states” (p. 214). While he perceives the Commission is moving toward a “transnational liberal economic order,” this process would be substantially illiberal in that much of the coordination and control would be assumed by the Commission itself (ibid., p. 215). Because the Trilateralists view total market liberalization as too destabilizing, Gill
states that “In the Trilateral Commission’s general view, international markets need to be collectively managed by an internationalized political process, led by the United States and the major capitalist nations” (ibid.). Thus a collective of entrepreneurs from the private sector exerting some form of centralized control could be accompanied by a positive role for national governments.

As several observers of the emergent “enterprise culture” have noted, political proponents of enterprise have expressed admiration for laissez-faire principles at the same time as increasing the administrative powers of the state (Cohen, 1992, p. 179; Crawshaw, 1991, p. 95; Kingdom, 1992, p. 51; Marchak, 1991, pp. 100-110). Despite rollbacks to social services, Thatcher’s government got stronger, not weaker during the 1980s. And regardless of Giscard d’Estaing’s avowed admiration of libertarian ideals, the same phenomenon was noticed in France (Crawshaw, 1991, p. 95). Keat (1991) remarks that so-called laissez-faire activities under Thatcher were “quite often...accompanied by new and more stringent forms of state control” (p. 2). Marquand’s (1992) explanation for how this has come about suggests that the new right relegates the market to the “realm of freedom” while the state occupies the “realm of coercion”; therefore, on principle the state’s role should be limited, but pragmatically “the project of creating an enterprise culture can be carried out only by a strong and, above all, intrusive state” (p. 70). The new right held that the growth of the state in the 1960s and 1970s led to waste and ungovernability: “The state’s reach exceeded its grasp: the more it promised the less it could perform; and the wider the gap between promise and performance, the more its authority declined.” Thus it was perceived that the state’s role must be “pruned back—not in order to weaken it, but, on the contrary, to strengthen it” (Marquand, 1992, p. 70). Marchak (1991) argues the anarchy that the libertarians proposed was simply not in the interests of corporate capital, therefore the Trilateralists, like all powerful entrepreneurs in the past, had likely always favoured a large and powerful government as a body to impose rules to assure the protection of private property, the regulation of competition and the maintenance of the social order (pp. 100-110).

Governments would need to be strengthened in order to create conditions inside each country that are more hospitable to mobile capital (Gill, 1990, pp. 212-216; Marchak, 1991, pp. 106, 111). Among neo-Schumpeterian economists, there is also a consensus that “markets provide insufficient incentive for investments in knowledge” (Grossman and Helpman, 1994, p. 37; see also Krugman, 1994, p. 17; Romer, 1994a, p. 19), and so the state is advised to take a leadership role in setting the ideological tone for a culture’s development (Mokyr, 1990a, p. 179), in assisting industries in divesting themselves of inappropriate old technologies (Krugman, 1994,
p. 197-244), in creating an environment that fosters technological progress by supporting the research and training missions of university-based science and engineering (Business Week, May 16, 1994, p. 62-65; Romer, 1994a, p. 18-20; Screpanti and Zamagni, 1993, p. 416), and in continuing to subsidize education (Krugman, 1994, p. 167; Mokyr, 1990a, p. 175; Romer, 1994a, p. 18-20). Governments would also need to be stronger if they are expected to coordinate and plan economic growth policies with one another. A logical next step in centralized coordination, suggests the editorial director of The Economist Intelligence Unit, is for a world government to adjudicate disputes over environmental, militaristic, human rights and more specific economic concerns (Colchester, 1994; see also Valaskakis, 1994). Such a structure, as Heilbroner sees it, should provide an “effective political counterforce to undertake the fiscal, monetary and regulatory moves that might be required to stabilize production if the transnational structure should ever begin to shake” (1992, p. 83); and furthermore, Heilbroner argues, such a counterforce is essential for “the viability of the capitalist order itself” (ibid., p. 115).

For Schumpeter, culture and ideology were even more essential to the viability of any economic system. He saw in capitalism a structure that engendered values of private property and individualism which he thought were being undermined by several institutional factors such as the progressive rationalization of the production process, which in turn led to the dominance of large monopolistic corporations, the disappearance of the tangible substance of private property, the elimination of the role of the private sector entrepreneur and with it bourgeois values of private property and individualism. But although capitalism is a rationalizing process that tends to engender attitudes that undermine its legitimacy, this end was being hastened and directed by “groups to whose interest it is to work up and organize resentment, to nurse it, to voice it and to lead it” (1987, p. 145). This role, he believed, fell to intellectuals in universities, the media and government agencies.

Both the Trilateralists and Schumpeter attach considerable importance to the ideological climate as a basis for an economic structure, and both believe intellectuals represent a threat to an ideology conducive to enterprise (Schumpeter, 1987, pp. 146-153; Crozier et al., 1975, pp. 6-7). In both cases intellectuals are considered those who, as Schumpeter states, issue “criticism that stings” and are thus distinguished from those pursuing professional interests and the system’s own apologists with whom Schumpeter and the Trilateralists generally found no fault (Schumpeter, 1987, p. 147; Sklar, 1980, p. 40). Schumpeter thought that through their employment in the media, government bureaucracies and institutions of higher education, intellectuals were able to cast their
"moral disapproval of the capitalist order" upon public policy and public opinion and were thus able to impress their views on "almost everything that is being done" (ibid., pp. 153, 154). The Trilateral Commission also found government bureaucracies, the media and universities threatening to the "governability of democracy" because they house "value oriented intellectuals" who "assert their disgust with the corruption, materialism and inefficiency of democracy and with the subservience of democratic government to 'monopoly capitalism'" (Crozier et al., 1975, pp. 6-7).

The Trilateralists and Schumpeter express similar concerns that intellectuals were undermining the motivation and culture of the middle classes through criticism of capitalism. The Trilateralists assessed the higher education system as "the most important value-producing system in society" but felt that it "works poorly or at cross purposes with society" (Crozier et al., 1975, p. 185). Schumpeter argued that as a result of the intellectuals' influence over public opinion and public policy, the higher education system was expanding to include people from the working classes, many of whom would end up unemployed, underemployed or because of the nature of their education, unemployable (1987, p. 152). Dissatisfied with their narrowed opportunities and dissuaded by their education from participating in the capitalist enterprise (as entrepreneurs), these people "swell the host of intellectuals" who are hostile to capitalism, which meant not only a decline in the pool of entrepreneurial talent but raised the possibility of social upheaval (ibid., p. 153). The latter prediction would be taken very seriously by several influential people including Paul Samuelson, a former student of Schumpeter's and a Keynesian economist. Observing the student militancy at Berkeley, Harvard, Heidelberg and Paris, Samuelson wrote in 1970 in his popular Newsweek column that "It is just twenty years since Joseph Schumpeter died. Although it is not my practice to tout profitable speculations, today I'd like to suggest that Schumpeter's diagnosis of the probable decay of capitalism deserves a new reading in our own time. The general reader cannot do better than begin with his 1942 Capitalism, Socialism and Democracy....Nothing that has happened in recent years at Berkeley or Harvard would have come as a surprise to those who have absorbed this work" (Samuelson, 1981, p. 3). In retrospect, the OECD commented that "institutions most affected by the acute student militancy that occurred in some countries from the mid-sixties to early seventies tended to be those with the highest proportions of students in arts and social sciences. Students working for vocational and professional qualifications, especially in potentially high status fields such as medicine, veterinary science, engineering and law, were generally speaking non-militant or even anti-militant" (OECD, 1987, pp. 51-52). A similar...
observation had been made by the Trilateral Commission in the 1970s which recommended that to maintain social stability more young people should be steered from a liberal education toward vocational training, that the career expectations of “surplus” university graduates be lowered and that education be directly related to the needs of the labour market (Sklar, 1980, p. 41).

Fiscal restraints are advocated as a means to discipline the intellectuals. In Capitalism, Socialism and Democracy, his only publication intended for a general audience, Schumpeter explained that the ability to criticize is not invulnerable but pendent on an intellectual’s degree of autonomy from the subject being criticized. He described autonomy as being based on the intellectual’s “absence of direct responsibility for practical affairs” and “absence of that first-hand knowledge...which only actual experience can give” and thus the “critical attitude” arises “from no less than the intellectual’s situation as an onlooker—in most cases also as an outsider” (Schumpeter, 1987, p. 147). But, Schumpeter argued, the intellectuals’ critical edge would be less sharp if they were made directly dependent on patronage for their livelihood (ibid., pp. 147-148). The Trilateralists added that academic disciplines most critical of corporate capitalism could be controlled by fiscal restraints (Marchak, 1991, p. 106).

5. Entrepreneurship in Higher Education

Since the 1970s, universities have experienced several profound cultural changes affecting curricula, mission, purpose and distribution of power.

The concept of Bildung, roughly translating into a personal cultivation of the values of western tradition, embodies the “idea” of a university in the arguments of John Henry Newman and is usually represented by a liberal arts or humanities education. It has come under attack for transmitting norms and values that are in serious conflict with, and often in direct opposition to, the norms and values needed to sustain contemporary society (Ringer, 1979, 1987, 1992). Ringer argues that all subjects must be taught in a “framework of inherited truths” because “neither logic nor language is reinvented afresh by every generation” (1979, p. 6), but nevertheless, what universities of western societies have promoted is “the survival of preindustrial social roles and attitudes into the industrial era” (p. 7). As this has had the effect of conferring an “aristocratic quality” on those immersed in this program, its value may be expressed more in terms of fulfilling “middle-class aspirations to aristocracy” and of being a socially sanctioned form of escapism than it is preparation for the world students will inherit (Ringer, 1987, p. 69). Focusing on the nineteenth century origins of Bildung, Ringer’s studies of bourgeois values contend
Large segments of the middle class...refused to identify fully with the new world of industry and commerce. A few tried to imitate the aristocracy in their outward manner of life. Many more were captivated by more or less frankly anticapitalist or antibourgeois mentalities and social norms. They preferred old wealth and gentility to new wealth and efficiency. They wanted to be gentlemen or cultivated amateurs, not entrepreneurs or technical specialists. They flocked to the liberal professions because they felt the stigma traditionally attached to commerce. They were attracted to government offices and to the ideal of communal service because they feared and despised plutocracy and the politics of undisguised class conflict (1979, pp. 7-8).

While Bildung was initially associated with meritocratic ideals of self-enhancement that posed a “universalistic challenge to permanent social distinctions” (1992, p. 103) by conferring “status at variance with the existing distribution of wealth and economic power” (1987, p. 69), as the century wore on Bildung came to exhibit a more exclusionary and defensive class-based ideology, a shift made possible, Ringer suggests, because Bildung “always contained an ideological potential that merely had to be activated” (1992, p. 103).

Indeed, at the core of Bildung is Renaissance humanism, itself founded by “new men, men on the make” coming from “families of the middling sort, often professional, rather than from well-established upper-class families” who identified more with the ruling classes than with their status of birth and “more faithfully than men to the manor born...were able to articulate the values of the elites” (Martines, 1980, p. 206). The Renaissance humanists intended their program for the ruling classes, not as preparation for the “mercenary trades” which for them included every occupation “from petty shopkeeping to medicine and even the practice of law” (ibid.).

In turn, the Renaissance, representing the “rebirth” of classical culture, draws its source of legitimacy from classical virtues which hold economic life to be “devoid of nobility and hostile to perfection of character” (Aristotle cited in Heilbroner, 1992, p. 32) because “no man can practice virtue who is living the life of a mechanic or laborer” (Aristotle cited in Mokyr, 1990a, p. 196) which was rather like stating the obvious in an elitist society that based its wealth upon slave labour, perceived practical innovation to be the “work of slaves” (Seneca cited in ibid.), discouraged those of higher birth from applying their intellects toward “ignoble or vulgar” practical purposes and instead directed them toward “those studies the beauty and subtlety of which are unadulterated by necessity” (Plutarch cited in ibid.). In diluted form, such are the norms and values Bildung is said to embody and reproduce, which prompts many to suggest the principles of liberal education are inherently hostile toward the values required of an industrial state. Rossides (1987) argues this view misses the point. Conditioning students to reject the legitimacy of commercial life is, for him, a questionable and in all likelihood unintended outcome of a more resolved conditioning
process. He contends that it is not by accident that the contemporary liberal arts bears little relation to the problems confronting current capitalist societies, for it provides the means “to subordinate the young to abstract authority” (p. 417), by inducting students “into a largely unexamined liberal (capitalist) way of life” (p. 416), which leaves students with the impression they have studied something very important while in fact they are intellectually ill-prepared to challenge the legitimacy of social and economic inequality or offer serious alternatives to match the times.

With the current decline of a traditional liberal education that focuses on the humanities, and as the means to instill a work ethic deemed more appropriate to western societies shifting from elite to mass systems of education, there has been increasing emphasis placed on the more timely (and less critical) acculturating properties of a general education (Brubacker, 1982). As students now place more instrumental or vocational importance on the value of university education than they had in the 1960s or 1970s (OECD, 1987, p. 53), this shift also reflects a change in student values in response to economic pressures.

One of the most frequently applied tools used to “shape the behaviours of academics” have been funding cuts (Trow, 1994, p. 11). Michael and Holdaway (1992) report that “since the mid-1970s, Canada, the United States, the United Kingdom, Germany, Sweden, the USSR, and Japan experienced a continual decline in educational spending relative to their gross national products” (p. 19). As relative funding declined, mechanisms of financing were introduced by several governments of industrialized countries to influence publicly-funded universities toward directions that would address perceived economic needs. Axelrod (1986) states that in Canada

In the fall of 1981, Ottawa promised to reduce dramatically its support of higher education through the Established Programs Financing arrangement and to redirect its funds toward university programs and research designed to serve the country’s economic needs. In every region, provincial governments took initial steps to control the growth of academic programs, to avoid “duplication” of facilities, and to encourage universities to “rationalize” their development in accordance with economic demand (p. 56).

Most countries in Western Europe have taken similar steps since 1974 (Neave, 1984; Michael and Holdaway, 1992; OECD, 1987). In Britain, once among the most autonomous of university systems (Burn, 1971), one consequence of the cuts in public spending has been a reduction in academic criticism of government: “The only aspect of university life that seems to be immune to ‘assessment’,” observes Martin Trow, “is the quality and wisdom of central government policy towards higher education” (1994, p. 14).

Most universities in the industrialized world have experienced cuts in public spending from the 1970s on, and many such as those in Canada are being encouraged to form partnerships with
industry as a means not just to make up the difference in funding but to encourage industrial
innovation and economic growth in an era of increased global competition (OECD, 1987;
Corporate-Higher Education Forum, 1984, 1985). The emphasis on the university's role in
economic development does not abrogate traditions of North American institutions. The land-grant
movement of the United States during the past century provided colleges substantial public funding
in order to assist industrial and agricultural development through training in “agriculture [and] the
mechanical arts,” service to economic and political segments of society and research related to the
technical advancement of farming and manufacturing (Kerr, 1964). In Canada, federal interest in
postsecondary education has since the turn of the century been associated with fulfilling utilitarian
and predominantly economic needs linked to “Increasing industrialization and urbanization and
[resolving] manpower shortages in agriculture and manufacturing” (Government of Canada, 1987,
p. 2), a focus which has been reflected in the mission statements of some of Canada’s most well-
established universities since the early 1900s (Axelrod, 1986). But this economic orientation of the
university’s missions of education, research and service traditionally allowed for the broad
dissemination of research for the good of all. What is new to North American universities is the
proprietary nature of some industry-funded research which constrains the diffusion of knowledge
and information (Fairweather, 1988).

As knowledge has become “the principal source of comparative advantage in virtually
every area of our economic life” (Strong, 1987, p. 42), a shift in the language of policy analysts
and university administrators has been observed which promotes the view that the primary value of
higher education is economic (Slaughter, 1991). Language may be used to clarify or reinforce
various roles and relationships in a society and therefore serves as a means not merely to reflect but
also to facilitate or inhibit cultural change (Crawshaw, 1991, p. 101). As the Science Council of
Canada implies in its publication Winning in a World Economy, the inability of academics to
clearly articulate what “service” means leaves the word open to broad interpretation (1988, pp. 32-
35). The Council has suggested service be thought of as “entrepreneurial, technical, research,
training, investment and management services” designed “to help business adapt to current
economic circumstances” (Enros and Farley, 1986, p. 16). Lajeuness and Davidson (1992) argue
that until recently Canadian academics had defined service in social and cultural terms as an
informal, ancillary activity directed toward the general public; now they state it is being defined for
them in terms more economic and directed toward fulfilling the technology transfer and training
needs of private sector commercial interests. Similarly, in the U.S., Rhoades and Slaughter (1991)
found in comparing the language of university administrators with faculty involved in technology transfer that the administrators frequently equated the land-grant university with current technology transfer activities, concluding that in effect the public service mission of universities may be "equated with private-sector economic development" (p. 203). A view among faculty in North America is that university administrators have found it expedient to reconstrue serving corporate needs "as a case of the university serving 'community' needs" (Axelrod, 1986, p. 59).

Because of increased economic uncertainty and demands for more academic accountability, changes in resource allocation have effected a shift in power and influence toward the university's central administration (OECD, 1987, p. 86). As power shifts away from faculty, there have been claims that university governance is moving toward a bureaucratic model (Fisher et al., 1993), which Williams (1984) defines as a model that places power "in the hands of the political authorities and the administrators who translate political priorities into operational rules for distributing funds" (p. 85). Many educationalists have commented that the increased emphasis on management has not translated into more effective or innovative organizational structures but into increased bureaucratization and hierarchical control and a loss of autonomy. Bilik and Blum (1989) comment that current management changes in higher education are "becoming remarkably similar to American business management of twenty years ago.... [with] the adoption of intrusive, top-down management styles," approaches which are "already considered counterproductive in the corporate sector" (1989, p. 12). As universities come to rely more on private sector funds, there are also suggestions of moving toward a market model of governance, in which "the continued existence of the institution is directly dependent on the sale of academic services" such as teaching, research and consultancy (Williams, 1984, p. 95). As Michael and Holdaway see it, the market model may have much the same effect on non-administrative university personnel as the bureaucratic model: "In a market-led educational system where leaders would be expected to act decisively and promptly, the planning and monitoring of changes within each institution would have to be much more centralized" (p. 33). Trow (1994) perceives a hybrid of the market and bureaucratic models to be predominant in Britain—a "managerial" model which in its "soft" form is concerned with "improving the 'efficiency' of existing institutions," and in its "hard" form advocates that "higher education must be reshaped and reformed by the introduction of management systems which then become a continuing force ensuring the steady improvement in the provision of higher education" (1994, p. 11). By emphasizing continuous management-led
innovations to the university’s culture, the “hard” form of managerialism in effect transforms the university’s senior administrators into institutional entrepreneurs (or “intrapreneurs”).

Both Martin Trow (1994) and Clark Kerr (1994) point to the withdrawal of trust by government from universities in the U.K. and the U.S. as the predominant factor leading to the increased bureaucratization of universities and the subsequent decline in faculty autonomy. Trow’s study of British universities proposes the withdrawal of trust was politically inspired: Thatcher and her ministers assumed British universities were not only “among the established institutions that impede Britain’s economic progress” (Trow, 1994, p. 12), but were also partly responsible for the “gentrification of the industrialist” which led to the decline of British industry over the past century (Wiener, 1981). Kerr’s analysis of American universities concludes the erosion of trust followed naturally from an erosion in the ethical conduct of academics: “Universities enjoyed their autonomy historically as a result of their ethical conduct,” he states, “and now, for the first time in American history, it may be said that they could be in the process of losing some of it for the same reason” (Kerr, 1994, p. 15). A similar understanding appears to be held by Michael Skolnik, who links a rise of unethical academic practices with pressures to be productive and exercise personal “entrepreneurship” in research. In reaction to the “Fabrikant incident” in which a Concordia University professor went on a killing rampage in August 1992 after his allegations of “misappropriation of authorial credit” went ignored by administration (and subsequently found true), Skolnik explained to the Globe and Mail that universities “haven’t yet had time to develop the appropriate kind of managerial structures to deal with [an explosion of relationships with industry]” (Lewingston and Nasrulla, 1994). Others have argued the imposition of layers of management in a bureaucratic structure is more than an indication of a loss of faith in the ability of universities “to govern themselves in an ethical manner,” as Kerr put it (ibid.). It indicates a conviction, as Judith Maxwell clearly holds, that “the governing structure in universities has been so badly eroded that these institutions are incapable of reform from within” (Maxwell, 1994, p. 57). A similar argument had been put forward by George Keller a decade previously in which he contended that “the university’s institutional paralysis derives chiefly from the neatly balanced powers of the campus executives and professional scholars” (1983, p. 29), thus making an argument against bicameral governance. Likewise, the OECD has stated that during economic recessions “collegial-governed universities do not always find it easy to reallocate resources internally, particularly in ways that coincide with official priorities” (1987, p. 8). The primary advantage of the bureaucratic model is that national priorities and reforms for higher education can
be implemented swiftly (Williams, 1984, p. 88), but from the academic’s standpoint, the model represents a loss of professional autonomy and the subsequent transformation of the academic workforce into “skilled workmen” (Trow, 1994, p. 15).

One study on the subject of control of professional labour observed a power shift occurring through central administration implementing “strategies to assert control over the coordination of technology transfer” which had been done for years previously by the faculty researchers themselves (Rhoades and Slaughter, 1991a, p. 202). Specifically, the administrators used public media to communicate an image of faculty members as “naive and inept” in terms of managing innovation and making financial decisions; they legitimized “their own expertise with regard to technology transfer by aligning themselves with state and national economic elites”; and they articulated “an ideal of service that not only promoted the interests of the university, but advanced [their] position and interests within the university” (pp. 202-208). The faculty, on the other hand, appeared to be passive agents who criticized the university’s handling of technology transfer but offered few alternatives; accepted the authority of central administrators in terms of policies and procedures concerning technology transfer; did not contest the active management of central administrators by calling upon traditions of professional autonomy because by engaging in commercial research they had broken the contract intended to support the pursuit of disinterested research; and did not attempt to build alliances with faculty not involved in technology transfer in order to forge a new social contract to protect their interests.

The literature on entrepreneurship theory acknowledges that there are entrepreneurs in the public sector (Baumol, 1983a; Casson, 1982; Kent, 1989; Van de Ven, 1993), but, as Kent states, “the reward these entrepreneurs seek will not be profits, but peer approval, public recognition, or just ‘love of accomplishment’” (1989, p. 159), thus restating the three motivations Schumpeter identified for engaging in innovative activity. Casson (1982) suggests that power is the prime motivator for entrepreneurs in the public sector, therefore “the entrepreneur’s objective is quite simply to get to the top of the hierarchy” (pp. 349-351; see also McClelland and Burnham, 1976). The research of Rhoades and Slaughter (1991a), however, indicates that the university administrators attempting to induce faculty participation in technology transfer activities were not appealing to these motivations but viewed the academics as “inventor-scientists who were driven by and would respond to material motivations” (p. 191). The administrators were thus invoking an Austrian or neoclassical view of entrepreneurs as rational actors; the Schumpeterian view, in contrast, might suggest that as rational motivations are more attributable to employees than
entrepreneurs, the administration was influencing a transformation in faculty status that in effect would place the faculty in the position of being highly-skilled employees. The researchers found the faculty members’ expressed varied motivations for engaging in applied research activities. Some faculty members acknowledged the importance of material concerns, but others “did not see money as primary” but “emphasized the joy of discovery”; some “stressed problem-solving or a desire to have a positive effect on society”; and one professor stated that technology transfer offered possibilities for “the development of a commercial organization” in which “a person can exercise his creativity, and invest his time, leadership qualities, and desire for dominance” (Rhoades and Slaughter, 1991a, pp. 194-196). Unfortunately, Rhoades and Slaughter do not extrapolate on the potential for conflict arising from the different perceptions held by administration and faculty, because the researchers do not seriously consider their respondents’ suggestions that there are motivations other than profit at work in a faculty member’s decision to engage in technology transfer; they state:

A mechanism [inventor-scientists] used to ease the tension between the two sets of values, one stressing entrepreneurial activity [that is, applied research], the other autonomy and disinterestedness, was attributing the pursuit of profit to others engaged in technology transfer, and proclaiming their personal delight in the discovery aspect of creating patentable products and processes” (p. 196).

The researchers contend further that because of the profit motive, research academics may lose their freedom to choose their research projects and instead “the university may attempt to direct faculty activity toward entrepreneurial science projects that it is financing and promoting” (p. 208), and therefore faculty “may come to be defined less as independent professionals and more as full-time employees as the university attempts to induce and control faculty participation in technology transfer and the profits generated by that faculty activity” (ibid.). Paradoxically, research academics are perceived to be losing aspects of control over their work in the process of acting “entrepreneurially,” an activity generally identified with independence, autonomy and control. Perhaps faculty members in this position are not entrepreneurs or in the process of becoming entrepreneurs, but are losing what entrepreneurial qualities they had and are becoming instead the envoys of another potentially more powerful agent of change—the university.

The idea of a corporate entrepreneur has its origins in Schumpeter, who thought that as the complexity of innovation increased but its processes became better understood and conducive to systems that could control risk and uncertainty, the need for the individual entrepreneur would diminish. The innovator would then become a dispensable employee performing an act of
innovation that had evolved into a rationalized, routinized process subject to or incorporated within professional management. At this stage the entrepreneur would assume a collective or corporate identity.

Finally, as has been often pointed out, the entrepreneurial function need not be embodied in a physical person and in particular in a single physical person. Every social environment has its own ways of filling the entrepreneurial function. For instance, the practice of farmers in this country has been revolutionized again and again by the introduction of methods worked out in the Department of Agriculture and by the Department of Agriculture’s success in teaching these methods. In this case then it was the Department of Agriculture that acted as an entrepreneur....

Again the entrepreneurial function may be and often is filled co-operatively. With the development of the largest-scale corporations this has evidently become of major importance: aptitudes that no single individual combines can thus be built into a corporate personality; on the other hand, the constituent physical personalities must inevitably to some extent, and very often to a serious extent, interfere with each other. In many cases, therefore, it is difficult or even impossible to name an individual that acts as “the entrepreneur” in a concern. The leading people in particular, those who carry the titles of president or chairman of the board, may be mere co-ordinators or even figure-heads (Schumpeter, 1965, pp. 52-53).

Webster and Etzkowitz (1991) present a conceptualization which holds that the entrepreneur in academic society may simultaneously be a corporate, collective as well as individual entity. In the following statement, the entrepreneurial role is fulfilled by the university and the faculty or department:

State governments are funding universities, both private and public, to take up the tasks of economic development, and corporations are linking themselves to academic research groups to obtain access to new products and production processes. Universities are making arrangements to commercialise the research of their faculty to help finance the academic enterprise, while some faculties, acting as entrepreneurs or as partners of entrepreneurs in founding firms, are transforming their own research into equity capital (Webster and Etzkowitz, 1991, p. 38).

Webster and Etzkowitz recognize a “proletarianisation” of academic scientists but they suggest this is not the only outcome of a global capitalist economy based on knowledge. “As scientific knowledge displaces labour, land and machines as the underpinning of the forces of production,” they state, “the proletarianisation of scientists is accompanied by the capitalisation of knowledge” (p. 38; italics added). This perspective suggests the opportunity is there for faculty members engaged in technology transfer to assume a diverse number of roles, from being individual entrepreneurs to being part of a collective which divides for themselves the tasks of research, innovation and the acquisition of funds. As the university has the potential to increase its autonomy through “the capitalization of knowledge,” that is, through exploiting its position as an entity which transforms knowledge into a utility that can be used to create income (Etzkowitz, 1990), so might certain faculty members and departments.
The ambiguous nature of entrepreneurship accounts for its ability to be seen as both a liberating and a subjugating dynamic. Skillen suggests this is because the concept is "a formal virtue," meaning that its "values are more or less neutral with respect to goals, to the content of activities" and may be expressed in pursuits that are "altruistic or disinterested," "egoistic" or "reprehensible" (1992, pp. 79-80; italics in original). Consequently, political interpretations of entrepreneurship vary widely. It has been argued to be as important to traditional and socialist economies as it is to capitalism (Aitken, 1965; Casson, 1982; Schumpeter, 1987). After twenty years of a new right prevalence in media and politics, the common view of what entrepreneurship means is likely to be defined in Austrian or new right terms of competitive individualism within a capitalist enterprise. Keat (1991) suggests these representations of enterprise are not essential to the concept but rather serve "to delineate a particular variant or species belonging to a more broadly defined and generic category" (p. 15). Arguing that entrepreneurship, defined as innovation, is part of any economically viable society, and taking exception to how political authorities have characterized its attendant values in Britain where the building of an "enterprise culture" has been a pet project of the state since Margaret Thatcher's election in 1979, Keat observes the goal of Thatcherism "is both to construct enterprise culture in a specifically capitalist mode, and to reconstruct capitalism in a distinctively enterprising form, [while] the problem facing many of its opponents is how to socialize the former without losing the economic benefits of the latter" (1991, p. 15). The following section briefly describes cultural traits the literature associates with "enterprising," "innovative" or "entrepreneurial" societies. The following chapters will discuss the competencies and forms of learning involved with various conceptions of enterprise cultures.

6. Enterprise Cultures

In an attempt to decipher the cultural traits that may contribute to long-term economic development and sustained prosperity, some neo-Schumpeterian economic thinkers focus upon how society can be transformed into being more receptive to technological change. A historical focus is generally utilized in neo-Schumpeterian works, reflecting Schumpeter's suggestion that economics would be best understood by integrating, in order of importance, a study of economic history, economic sociology, economic theory and statistics (Bottomore, 1992, p. 1). The neo-Schumpeterian emphasis on macroeconomics, the study of aggregates, reflects an assumption that innovation is a social event: as the social costs of an innovation are larger than the private costs,
social resistance can be expected to be stronger than individual will (Mokyr, 1990a, pp. 10-12). Mokyr’s works (1990a; 1990b) contain observations of social determinants of innovation in a timeframe spanning the past twenty-five centuries, focusing mostly on the West but also discussing the “technological creativity” and later decline of ancient China and early Islam. Conceiving of innovation as occurring in two forms, one continuous, cumulative and adaptive, and the other discontinuous and nonadaptive, Mokyr’s focus is upon the latter, the “macroinventions” which represent a clear break from known techniques and, he asserts, “need to be born into socially sympathetic environments in order to survive” (1990a, pp. 290-291). Among the factors contributing to being a society open to new ideas, those in which education and culture appear capable of making a difference include: access to science and technology; willingness to bear risks; aversion toward war; religious values that are receptive to social and economic change; esteem for labour, production and the accumulation of wealth; and receptiveness or at least tolerance toward the unfamiliar (Mokyr, 1990a, pp. 155-190). Mokyr argues that as no society offers a set of conditions sufficient for sustained innovativeness, “it is crucial that the world preserve a measure of diversity” (ibid., p. 302).

A perspective that both contrasts and complements Mokyr’s is offered by Van de Ven (1993) who focuses upon innovation as a process of small, incremental steps rather than quantum leaps. The cultural attributes he identifies as desirable are none the less similar to those referred to by Mokyr. Van de Ven outlines the creation of an infrastructure (emphasizing that it is a “social system” inclusive of institutional arrangements, resource endowments and proprietary functions) which he believes is conducive for entrepreneurship and which is based upon the Schumpeterian argument that these attributes “do not pre-exist, waiting to be filled” but rather “they are socially constructed through the opportunistic and collective efforts of interdependent actors in common pursuit of a technological innovation” (p. 214). That is, “the infrastructure at the macro-community level [is] grounded in a theory of action at the micro-level of individual entrepreneurs in private firms, government bureaus, research institutes, or various trade associations” who cooperate in the construction of a feasible infrastructure so that the system which emerges does not reflect “a few discrete events or...the actions of one or even a few key entrepreneurs” but “an accretion of numerous institutional, resource, and proprietary events involving many actors who transcend boundaries of many public and private sector organizations” (p. 218).

A discussion of enterprise cultures led by the state but involving the cooperation of the private sector is found in Courchene (1987) which includes a description of the transformation that
occurred in Quebec during the 1960s. This brief policy paper prepared for the Liberal Party of Canada when they were the official opposition suggests that prior to the Quiet Revolution French Canadians were considered the "eternal losers" of business and commerce, but by the 1980s they were, according to Courchene, "the most entrepreneurial of Canadians" (p. 5). This occurred, he suggests, not through attempting to change the underlying values of the culture but through institutional innovations implemented by the state—what he calls "l'entrepreneurship d'Etat"—that brought about the secularization of education; the nationalization of Quebec Hydro which opened the upper echelons of management to French Canadians and led to internationally renowned technological spin-offs; the creation of Caisse de dépôt for financing Quebec-based enterprises; numerous financial aids and incentives that enabled a broader base of Québécois to invest in home-grown businesses; and Bill 101 which made French the language of the workplace (p. 7).

Government initiatives not only strengthened Quebec’s status as a distinct society but elevated the status of commercial activity. Quebec now has one of the largest proportions of students enrolled in business schools in Canada, and its business leaders are generally held in higher regard than its religious leaders (p. 8). Such internal change, Courchene argues, is an important prerequisite for a society’s capacity to look beyond its borders and place itself in a favourable trading position within a global network; but in Quebec these changes strengthened values already inherent to a large portion of society and did not attempt to impose the norms and ideologies of other societies. The implication Courchene attempts to convey is that institutional and government leadership can transform Canada into an “enterprising society” without losing the characteristics that distinguish it from the United States, such as its emphasis on collective rights as enshrined in the Constitution.

Another example of a state-led enterprise culture was that which developed in France from 1981 to 1986, surprisingly under the guidance of the Socialist government of François Mitterand. When Mitterand’s centre-left government came to power in 1981, it nationalized many industries, introduced a system of wage increases, taxes and company regulations that were designed to redistribute income and stimulate consumer demand, and invested heavily in large public enterprises and government research projects—but it did so, according to Crawshaw (1991), in a way that demonstrated support for entrepreneurship. Mitterand emphasized that a complementary relationship between the state and the business community should exist, advising that the means to resolve the economic crisis was to infuse the nation with a “formidable spirit of enterprise” (cited in Crawshaw, 1991, p. 98). Letters written by the then Minister for Research and Industry to each of the newly appointed chief executives of the nationalized industries advised them to pursue an
agenda that combined job creation with "economic efficiency" and "competitiveness" because their "entrepreneurial capacity would be a major element in enabling the state to achieve its principal objectives" (cited in Crawshaw, 1991, p. 98). Alain Gomez, a prominent socialist and president of Thomson Enterprises, demystifies the apparent contradictory nature of these goals by stating that "To be a supporter of left-wing policies means having a particular view as to how national wealth should be shared out. But this has no bearing on the steps which have to be taken in order to produce that wealth" (cited in ibid.).

Mitterand’s government took a number of steps to stimulate economic growth and protect themselves from rising anti-government sentiment: financial aid to industry doubled and special attention was paid to the support of export, R&D and business creation initiatives. Accompanying these changes, Crawshaw contends, was an "ethos" marked by "radical idealism" and based on "citizenship" and "participation" in "a collective project" (Crawshaw, 1991, p. 94). After two years in office the Socialists faced an increasing number of bankruptcies, rising unemployment, a large trade deficit and depleted foreign reserves. In 1983 Mitterand opted for a deflationary policy in line with other western powers, notably that of Britain and the U.S. The new commitment to a policy of austerity was followed by the government adopting the French media’s romanticism that held the individual to be the wellspring of economic development (Berger, 1987, p. 191). To stem any loss of credibility, the government differentiated its concept of “enterprise culture” from the laissez-faire policies of the new right by drawing a symbiotic relationship between self-interest and the interests of the state: society’s potential for economic well-being was held to rest upon the initiative of the individual (Crawshaw, 1991, p. 100). The previous d’Estaing government had also promoted a “spirit of enterprise founded on realism and a sense of social responsibility,” but the Socialists, which include large proportions of France’s business sector, were more successful at tying together the concepts of community and entrepreneurship (ibid., p. 96). Businesses were encouraged to develop a sense of moral responsibility toward their employees and society. Yvon Gattaz, then president of France’s business community and a socialist sympathizer, argued that entrepreneurship was not just an individual attribute, it was a civic duty (Berger, 1987, p. 191). In the years that followed, France was described as “being in the grip of enterprise mania” with enterprise culture becoming “a collective psychological phenomenon” (ibid.).

No attempt to instill an enterprise culture could be more different than the initiatives taken in Britain since the election of Margaret Thatcher. No sense of social cohesion was emphasized as there was in France; indeed, Thatcher in a 1987 interview in Women’s Own stated “There is no
such thing as society. There are individual men and women and there are families” (cited in Heelas and Morris, 1992, p. 2). The qualities of the reforms designed to build an enterprise culture were inspired primarily by the “language of economic liberalism, with its appeals to the efficiency of markets, the liberty of individuals and the non-interventionist state” (Keat, 1991, p. 1). Perceiving the former glory of the British Empire to rest on the industriousness of a “nation of shopkeepers,” Thatcherism’s goal from the start was to re-create “a set of values, beliefs and attitudes” which would lead “to a high rate of independent small business ownership” (Gibb, 1990, p. 44). Designing the culture entailed a two-part strategy. On one side was a battery of economic and institutional reforms, including the sale of public assets, deregulation of organizations and industries, and the reorganization of publicly funded units in the education and health sectors (Keat, 1991, p. 2). On the other side was a bevy of educational projects, all emphasizing the value of small-scale enterprise, involving every level and format from kindergarten to training programs for the unemployed and the small business owner to programs in over fifty universities. The goal is to inculcate “enterprising” characteristics such as “initiative, energy, independence, boldness, self-reliance, a willingness to take risks and to accept responsibility for one’s actions” (Keat, 1991, p. 3). (See chapter three for a discussion of enterprise characteristics and chapter four for a review of enterprise education goals and initiatives.)

After more than a decade of being assailed with the rhetoric of enterprise, The Economist reported that a poll in France measured 62 percent of the people felt favourably toward private enterprise while in Britain less than a third of the population felt any esteem for the entrepreneur, showing approval ratings in the latter had dropped over the 1980s (“The Unloved Entrepreneur,” May 28, 1994, p. 69). British Social Attitudes surveys have also indicated that since 1983 there has been “growing alienation from” the values that underlie British assumptions of what constitutes an enterprise culture: profits are seen to benefit only business owners, managers and shareholders, and to come at the expense of workers and customers; and there is little support for privatizing health care or education or for cutting public expenses (cited in Rees and Rees, 1992, p. 124). In France, the Socialist government’s success, Crawshaw contends, was due to its ability “to combine its support for individual enterprise with measures that sought to demonstrate its continuing commitment to Socialist principles,” a feat which drew upon a political and cultural history that has persistently shown a predilection for a “utopian synthesis of individualism and communal solidarity” (Crawshaw, 1991, p. 110). Leaders of Britain’s political left have also been urged by social democratic analysts to apply the ideas of entrepreneurship in reasserting a
communal ethic. John Kingdom’s (1992) policy paper, for example, argues that the ideals of community must be concerned with the creation of wealth and not just its redistribution. As he explains,

the communal state cannot be content merely to support market victims; if the interests of the community are to be placed above the self-interest of the capitalist class, it must go further. This it does by becoming entrepreneurial (p. 111).

Likewise, various analysts associated with the now defunct (and misnamed) social democratic publication, *Marxism Today*, have suggested that to revitalize the Labour Party “Labour needs to develop a network of social industrial institutions, decentralized, innovative and entrepreneurial” (Murray, 1989, p. 52; see also other articles in Hall and Jacques, eds., 1989). They caution against rejecting the ideas of the “new economy” wholesale, arguing that “Thatcherism represents...an attempt...to harness and bend to its political project circumstances which were not of its making, which have a much longer history and trajectory, and which do not necessarily have a ‘New Right’ political agenda inscribed in them” (Hall, 1989, p. 117). Such ideas are undoubtedly held by a small minority of social democratic thinkers, though they appear to have influenced Tony Blair, current leader of Britain’s Labour Party: in the spring of 1995 proposed changes to Labour’s constitution express a commitment to “a dynamic economy, serving the public interest, in which the enterprise of the market and the rigour of competition are joined with the forces of partnership and co-operation to produce the wealth the nation needs and the opportunity for all to work and prosper” (cited in *The Economist*, March 18, 1995, p. 59).

While significant cultural and traditional differences may have enterprise societies evolve differently, there appears to be some convergence. All advanced industrial democracies are in the process of redesigning their social institutions. The primary challenge of this activity, according to Romer (1994a), is to achieve “a balance between support for economic progress and tolerance for economic change” (p. 16; see also Grossman and Helpman, 1994, pp. 24-42; Mokyr, 1990a, pp. 176-178). In other words, the most serious policy goal is to employ institutional reforms aimed at altering existing values and cultivating new ones appropriate to the new economy. In most countries and to varying degrees attempts to rejuvenate capitalist values have been through the rollback of social programs, deregulation of industry, sale of state assets and encouragement of small business development (Heelas and Morris, 1992, p. 7). The goals are to transform an individual’s belief system including the most personal aspects of the concept of self. The stakes are very high. As Margaret Thatcher once remarked, “Economics are the method. The object is to change the soul” (quoted in *Sunday Times*, 7 May 1988; cited in ibid.).
7. Summary

The economic theories introduced in this chapter describe the entrepreneur as a change agent, which, according to Schumpeter, may take the form of an individual, collective or corporate body, adaptive to feudal, capitalist or socialist conditions. Entrepreneurial activities involve the acquisition and application of knowledge to create wealth, actions which are highly sensitive to social censure and may be subverted or redirected if viewed negatively by those whose opinions predominate.

In many ways, values, attitudes and beliefs are shaped by institutional arrangements. For structural reasons, the postwar years were not especially hospitable to entrepreneurial activity. Large bureaucratic industries engaged in standardized, mass production are insufficiently flexible to allow for experimentation and are ill-suited for introducing innovation. Such structures were none the less effective at fully exploiting technologies initially introduced prior to the first world war, but they are viewed as not conducive to either exploiting the knowledge and talent of an educated workforce or to implementing new information technologies that could raise quality and productivity. The policies that held the capitalist economy of the industrial era stable for so many years following the second world war were informed by the Keynesian synthesis, not “pure” Keynesian economics but a compromise which bore a resemblance to the economy itself, and for reasons of political expediency, when put into practice, often crudely translated into deficit financing. For different reasons, both left and right supported the tenets of the Keynesian synthesis. Such compromise was not difficult in a world experiencing remarkable prosperity, economic growth and rising living standards, but was shattered with the onset of an economic crisis which revealed the economy had outgrown the “Keynesian” paradigm as it was then interpreted.

The economic crisis also demonstrated once again the vulnerability of capitalism in an unplanned global economy, and coincides with the formation of the Trilateral Commission, a coalition of powerful business leaders with global influence joined by a smaller number of political, academic, media and union leaders. The Trilateralists expressed an agenda to restructure the global economy by influencing public opinion toward accepting changes that would enable capital to move freely across national borders. Marchak’s study contends that while the Trilateralists themselves may not be members of the new right, they found the libertarian principles of minimal government useful in providing a transitional ideology that would justify a period of massive social restructuring. For their part, members of the new right argued that government had undercut
entrepreneurship by interfering in the free market, and stressed the importance of privatization, deregulation, downsizing and fiscal restraint to release entrepreneurial potential. In little more than a decade the Trilateralists’ plans were set in motion in many western countries as evident in steps to privatize, downsize or reshape the public sector, deregulate industry and finance, and restrain government spending, particularly in social services and areas of education not directly linked to the labour market.

Currently, two entrepreneurial theories predominate, the Austrian and Schumpeterian views. During the 1980s, Austrian theory was adopted by the new right and was the first to be broadcast. Consequently, it is likely that many understand entrepreneurship only in terms framed by the Austrians and the new right. Because the Schumpeterian view is open to alternate economic and political arrangements, it is also much more complex, so much so in fact that many critics of entrepreneurship either misrepresent Schumpeter, or betray themselves as not having read him by categorizing him an Austrian (see Gamble, 1986; Levitas, 1986; Parker and Stead, 1991). This is unfortunate, for unlike the largely inflexible libertarian stance of the Austrians (a stance Schumpeter repeatedly refuted; see Schumpeter, 1987, pp. 81, 187), Schumpeter’s ideas are open to being exploited by a spectrum of social, economic and political possibilities, and have therefore, as stated in chapter one, attracted economists whose politics range from Marxism (Goodwin, 1986) to neoconservatism (Kristol, 1981). Schumpeter’s views appear to have much in common with those of the Trilateralists, much more so than those expressed in Austrian ideology. The libertarian views of the Austrians are not appropriate for rebuilding social institutions or creating an infrastructure to support a “new economy” based upon an “enterprise culture.” Studies that examine what factors make some societies more innovative than others concur this work requires the long-term cooperation of government, industry and university sectors, which may lead to strengthening the role of central government in some instances, and will certainly elevate the importance of management and administration in all sectors.

The role of universities in transmitting cultural values is a significant one, but the values they do transmit are often perceived to impact negatively upon the economy, both upon measures to stabilize the present system or to change the system itself. Both the Trilateralists and Schumpeter have argued that there are too many critics in academe and the media, and too many educated people for the number of available jobs; they have suggested the values imparted in higher education undermine an economically sustainable society; and they have recommended education
be directly related to the job market and that disciplines most critical of corporate capitalism be
trolled by fiscal restraint.

Every educational system in the developed world is currently experiencing fiscal restraint
and is re-evaluating fundamental questions of mission and purpose. According to some observers,
funding cuts have reduced academic criticism, while a period of economic stringency has
contributed to a shift in university enrolment toward programs tied more closely to job market
requirements. In many instances the responsibility for transforming university culture has been
assumed by the university’s senior-level managers and administrators, and the process of managing
change increasingly appears to be modelled after a bureaucratic, market or “managerial” model, all
of which shift institutional power from faculty to management, nullify forms of collegial
governance and reduce the faculty members’ control over their work. In part, increased demands
for accountability and the faculty members’ imminent or actual loss in autonomy reflect the
government’s (and the public’s) perceived decline in the ethical behaviour of academics and a
consequent loss of faith in the ability of the academics to bring about substantial, long-lasting and
socially beneficial reform. From a Schumpeterian perspective, this loss of power and control
combined with the act of attributing only the profit motive to faculty scientists engaged in
technology transfer may be seen as a strategy to transform faculty into little more than skilled
workers, an act given a twist of irony by granting the title of “entrepreneur” to those who, in effect,
lose control over their work by conducting research for hire.
Chapter Three: Entrepreneurial Competencies

At work, the potter sits before a lump of clay on the wheel. Her mind is on the clay, but she is also aware of sitting between her past experiences and her future prospects. She knows exactly what has and has not worked for her in the past. She has an intimate knowledge of her work, her capabilities, and her markets. As a craftsman, she senses rather than analyzes these things; her knowledge is "tacit." All these things are working in her mind as her hands are working the clay. The product that emerges on the wheel is likely to be in the tradition of her past work, but she may break away and embark on a new direction. Even so, the past is no less present, projecting itself into the future.


History, it has often been observed, moves in a spiral; one returns to the preceding position, or to the preceding problem, but on a higher level, and by a corkscrew-like path. In this fashion we are going to return to entrepreneurship on a path that led out from a lower level, that of the single entrepreneur, to the manager, and now back, though upward, to entrepreneurship again.


1. Introduction

The qualities, characteristics and behaviour patterns that contribute to "enterprise" or "entrepreneurial" competence, as the citations above are meant to convey, combine the tacit understanding of the craftsman with the instrumental and analytical knowledge of management. "Competence," like enterprise or entrepreneurship, is an ambiguous term which may denote the capacity of an individual for self-sufficiency (Tuxworth, 1989, p. 10), or the minimum totality of skills, knowledge and attitudes deemed necessary to perform a task successfully (Ellis, 1992, p. 78). A "competency" and its plural "competencies" can be defined as single skills, attitudes and pieces of knowledge that can be narrowed further to express motives, traits, aspects of self-image and social roles (Boyatzis, 1982, p. 21). A part of discussions concerning education since the 1920s, competence is generally associated with accountability and the involvement of industry in curriculum matters (Tuxworth, 1989, p. 10).

To establish some guidelines for the kind of qualities educators may now be expected to cultivate, the Training Agency, Britain's ministry of education, suggests "enterprise competence" be understood as

the ability to transfer skills and knowledge to new situations within the occupational area. It encompasses the organisation and planning of work, innovation and coping with non-routine activities. It includes those qualities of personal effectiveness that are required in the workplace to deal with co-workers, managers and customers (Training Agency, cited in Caird, 1992, p. 6).
These cognitive and interpersonal skills are action oriented, intended for coping with, or even creating, change. But they neither express the complexity involved in innovation nor differentiate the qualities of an enterprising person from a competent person.

2. The Parameters of Entrepreneurial Competence

There are several problems in defining (and assessing) entrepreneurial competence, the main one being the absence of an established or accepted definition of enterprise or entrepreneurship. All theories of entrepreneurship contend that knowledge is central to the economy, but the two predominant perspectives, the Austrian and Schumpeterian views, understand the entrepreneur’s use of knowledge differently (Casson, 1993; Outhwaite and Bottomore, 1993). The Austrian (and neo-Austrian) school emphasizes arbitrage or the transfer of resources from one ownership unit to another to be the primary activity of the entrepreneur, which tends not to be concerned with the management of resources but deals with problems exclusive to ownership; the literature does not emphasize the skills involved in arbitrage, other than discussing attributes associated with negotiation and withholding information. The Schumpeterian (and neo-Schumpeterian) perspective, in contrast, sees innovation as the primary activity of the entrepreneur, and places the entrepreneur in judgement-intensive activities that are primarily concerned with the creative management of resources; while the literature here is scant, it is growing.

It has often been argued that for analytical purposes entrepreneurs should be distinguished on a functional basis from capitalists, inventors, small business owners and managers (Hébert and Link, 1988, p. 107). In some instances the demarcation of these functions is straightforward. Small business owners, for example, are not thought of as entrepreneurs unless their business activities include some value-added improvement and are not merely the duplications of others’ practices (Gunderson, 1990, p. 47). In other instances the lines drawn between these functions may be artificially imposed. This occurs frequently when attempting to differentiate the work of the inventor from that of the innovator. While economists generally call the creation of new information an “invention” and the implementation of the invention an “innovation,” in practice these activities tend to blur into each other: since diffusion often requires adaptation to local conditions or to the requirements of a specific industry, inventions may be improved upon during the implementation stage to the extent that they constitute new inventions in themselves (Mokyr, 1990b).
The difficulties of specifying the entrepreneur’s function increase when attempting to
differentiate capitalists from entrepreneurs. In entrepreneurial theory, the tradition of separating the
two goes back to Richard Cantillon, who insisted in the early 1700s that the entrepreneur was
anyone who was not a hireling or a rentier but one whose income was uncertain and subject to risk.
According to this view, entrepreneurs include artists, all types of freelancers providing a service
and all varieties of criminals seeking capital gain as well as traders and owner-managers actively
engaged in industry (Hébert and Link, 1988, pp. 19-28). On the other hand, the tradition of
equating the entrepreneur with the capitalist is almost as long, beginning with Turgot in the 1770s,
who argued that all entrepreneurs were capitalists, but not all capitalists were entrepreneurs, only
those who “look[ed] to [their] own labor for [their] distinctive return” (Hébert and Link, 1988,
p. 34), thus distinguishing the capital investor from the owner actively engaged in the affairs of
business. This view predominated under industrial capitalism, as firms were characterized by mass
production and required such heavy outlays in materials and equipment for startup that financial
logistics often dictated the entrepreneur have either substantial capital to draw upon personally or
at least close associations with capital.

Currently, the predominant interpretation differentiates the entrepreneur from the capitalist
(Hébert and Link, 1988). The basis for this argument is Schumpeter’s definition of the
entrepreneur as an innovator who creates (1) new products, (2) new production techniques, (3) new
markets, (4) new sources of supply, or (5) new forms of organization (1961, pp. 54-55). These
activities, it is argued, have been fulfilled long before the advent of capitalism, and will likely
continue afterwards (Mokyr, 1990a). Schumpeter recognized that capitalists could also be
entrepreneurs, but for analytical purposes he confined their specific function to investing in new
ventures (Schumpeter, 1965, pp. 48-49), and moreover often conceived of capitalists as those who
exploit the knowledge and labour of entrepreneurs (Rothschild, 1986). Blaug and Casson have
argued that capitalists offer a necessary service under a capitalist system, but their role of
providing the funding has been or may be assumed by a monarch or the state or some other despot
or social unit under non-capitalist regimes (Blaug, 1986, pp. 227-230; Casson, 1982, pp. 24-25).
Essentially, capitalism may be understood as a particular stage of economic development, while
entrepreneurship is the force of that and other developments—a timeless activity which propels
change and is fundamental to the success of any social system, even those not based on the private
ownership of capital (Mokyr, 1990a, 1990b; Skillen, 1992).
A more controversial distinction is the one drawn between entrepreneurship and management. Describing the unique functions of entrepreneurship touches on an old dispute over whether the entrepreneur can legitimately be thought of as a special form of skilled labour (Penrose, 1968, pp. 46-50). The idea of the entrepreneur as a highly-skilled worker who combines mental and manual abilities goes back to the feudal era and is the oldest of all conceptualizations (Hoselitz, 1960). The argument was formally introduced to industrial capitalism by the French classical economist Jean Baptiste Say who conceived of the entrepreneur as one who manages the innovative process (Hébert and Link, 1988, p. 37). In the latter half of the nineteenth century the "Ricardian socialists" proposed that since David Ricardo (after Adam Smith) had equated entrepreneurship with the provision of capital and J.B. Say had equated it with management, there was no reason why socialism could not be a practicable economic order because state capital could replace the private capitalist and specially trained managers could replace the private entrepreneur (Hébert and Link, 1988, p. 37; Parker and Stead, 1991, pp. 56-57). This view is implicit in the writings of Marx, who proposed that innovation was not due to any special entrepreneurial quality but reflected the way any normal person would behave in order to survive in a capitalist environment as a capitalist: in this system the same person if thrown into the role of a worker would lead a more passive existence (Rothschild, 1986, p. 190). This fails to explain why some capitalists innovate and others do not, how a socialist society might innovate without access to surplus value (profits), or, as Schefold (1986) points out, "how the dynamic, innovative, therefore unique, but also destructive aspects of entrepreneurial activities could be accommodated in a more or less egalitarian socialist society" (p. 98).

Nevertheless, the idea that it is possible to rationalize and systematize the dynamics of economic innovation, and that this possibility opens the door to a stage of economic organization that is no longer capitalism, has been supported (though not advocated) by Joseph Schumpeter (1961, p. 63) and more recently by Peter Drucker (1968, pp. 42-57; 1985a; 1985b; 1993). Drucker, like Schumpeter, conceives of entrepreneurship as technological or organizational innovation, an activity which progressively becomes subject to the knowledge and skills of professional management. The idea that entrepreneurship can be reduced to a set of business or management practices often includes a caveat that distinguishes entrepreneurial from traditional managers based upon understanding the role of traditional managers as one which does not create change but which ensures operations are maintained in working order. Wilken (1979) argues that although both entrepreneurs and managers "combine factors of production," entrepreneurship
requires “combining to initiate changes in production” and is therefore a discontinuous phenomenon, while traditional management consists of “combining to produce,” thus involving the ongoing coordination of the production process (p. 60). More simply put, the role of managers, while by no means mechanical, is to make the most of a given, static environment, while the role of entrepreneurs is to improve the environment in which management operates (Gunderson, 1990, p. 46). Stevenson and Gumpert (1985) carry the distinction further by suggesting the entrepreneur has “an external (or market) orientation” which facilitates the identification of new opportunities and tends to have one avoid ownership of a resource or employment commitments in favour of contracting out for services and equipment; in contrast, the traditional manager is portrayed as having “an internal (or resource) orientation” which favours ownership as a means of control and preserving what resources one has rather than speculating on opportunity (pp. 87-91).

If there is an enterprise competence distinct from competence in general it has not as yet been reduced to a routine or a set of best practices, model parameters or operational tasks as is the case with professional education. Educators who find themselves in the position of developing understanding of, or competence in, enterprise, will therefore likely be stressing the cultivation of attitudes and behaviour patterns. The following section gives a brief review of desirable behaviours outlined in the literature, then provides a more extensive analysis of the personality traits and skills associated with entrepreneurial behaviour.

3. Entrepreneurial Behaviour

The literature on entrepreneurial characteristics tends to present lists of desirable personal behaviours, usually without critical discussion, clarification or context. McClelland states that in general these lists “have been generated simply by asking experts what traits, in their opinion, characterize entrepreneurs or by asking entrepreneurs what is responsible for their success” (p. 220). The following list, which McClelland (1987, pp. 219-220) compiled from other lists of this nature, is typical:

**Characteristics of Successful Entrepreneurs:**
- Confidence
- Perseverance
- Resourcefulness
- Creativity
- Foresight
- Initiative
- Versatility: Knowledge of Product and Market
- Intelligence
- Perceptiveness
Because, as McClelland notes, "there is very little empirical evidence to support the contention that any of these traits are more characteristic of successful than average entrepreneurs or than non-entrepreneurs," it may be reasonable to assume that these characteristics "would go with success in any line of work" (p. 220).

In an attempt to find "a factual basis" for key competencies of successful entrepreneurs, McClelland's research team conducted extensive psychological testing and interviews with twelve "average" and twelve "successful" entrepreneurs (selected from manufacturing, service, and marketing/trading sectors) in each of three developing countries (Ecuador, India, Malawi). Entrepreneurs deemed "successful" were those identified as such by "knowledgeable people in the community"; those deemed "average" were business people "who were not mentioned as outstanding by any judge" (1987, p. 224), and so perhaps may even be below average. Behavioural characteristics in which there was little difference found among average and successful entrepreneurs were:

- **Self-confidence.** Expresses confidence in his or her own ability to complete a task or meet a challenge.
- **Persistence.** Takes repeated or different actions to overcome an obstacle.
- **Persuasion.** Convinces someone to buy a product or service, or provide financing. Asserts own competence, reliability, or other personal or company qualities.
- **Use of influence strategies.** Acts to develop business contacts, uses influential people as agents to accomplish own objectives.
- **Expertise.** Had experience in the same area of business, had skill in finance, accounting, production, selling before starting business.
- **Information seeking.** Does personal research on how to provide a product or service, consults experts for business or technical advice.

While most research assumes self-confidence and perseverance are essential for entrepreneurial success, the above indicates these qualities are insignificant *for success*. They may be more indicative of entrepreneurs than non-entrepreneurs, but no testing of non-entrepreneurs was conducted. The following list reveals behaviours that McClelland's study found to be "more characteristic of successful than average entrepreneurs," including professional integrity, perception and attention to quality:
PROACTIVITY

- **Initiative.** Does things before being asked or forced to by events.
- **Assertiveness.** Confronts problems with others directly. Tells others what they have to do.

ACHIEVEMENT ORIENTATION

- **Sees and acts on opportunities.** Seizes unusual opportunities to start a new business, obtain financing, land, work space, or assistance.
- **Efficiency orientation.** Looks for and finds ways to do things faster or at less cost.
- **Concern for high quality product or service.** States a desire to produce or sell a top or better quality of work.
- **Systematic planning.** Breaks a large task down into subtasks or subgoals, anticipates obstacles, evaluates alternatives.
- **Monitoring.** Develops or uses procedures to ensure that work is completed or that work meets standards of quality.

COMMITMENT TO OTHERS

- **Commitment to work contract.** Makes a personal sacrifice or expends extraordinary effort to complete a job, pitches in with workers or works in their place to get job done.
- **Recognizing importance of business relationships.** Acts to build rapport or friendly relationships with customers, sees interpersonal relationships as a fundamental business resource, places long-term goodwill over short-term gain.

McClelland's research focuses on the individual characteristics of "entrepreneurs," ambiguously defined, but apparently leaders in some form of business. Another perspective on desirable behaviours but this time for an entrepreneur who will form part of an enterprise with other entrepreneurs is provided by Jeffry Timmons and his colleagues at the Wharton School of Business (Timmons et. al., 1985; Timmons, 1989). Their understanding is grounded in the following principles:

We do not believe that there is any single set of characteristics that every entrepreneur must have for every venture opportunity. The 'fit' concept argues the opportunity is quite situational and depends on the mix and match of key players and on how promising and forgiving the opportunity is, given the founder's strengths, advantages, and shortcomings. Significantly, among the hundreds of growth-minded entrepreneurs with whom we have worked, not one possessed all of the highly desirable characteristics...to a high degree. A team might show many of the desired strengths, but even then there is no such thing as a 'perfect entrepreneur' as yet. (Timmons et al., 1985, p. 153; emphasis in original).

Consequently, Timmons et al. advocate qualities that will facilitate in the building of interpersonal relationships, such as leadership, teamwork, humility and integrity, as is apparent in the following lists of desirable and non-desirable behaviours:
DESIRABLE AND LEARNABLE BEHAVIOURS
(source: Timmons et al., 1985, p. 153)
- Total commitment, determination, perseverance.
- Drive to achieve and grow.
- Orientation toward goals and opportunities rather than resources, structure and strategy.
- Taking initiative and personal responsibility.
- Persistence and problem-solving.
- "Veridical awareness" [i.e., do not delude themselves] and a sense of humour.
- Seeking and using feedback.
- Internal locus of control.
- Tolerance of ambiguity, stress and uncertainty.
- Calculated risk taking and risk sharing.
- Low need for status and power. These are the consequence not the cause of their behaviour.
- Integrity and reliability.
- Decisiveness, urgency and patience.
- Perceive failure as a learning experience.
- Build teams and make heroes. Successful entrepreneurs are not "loners" but those who know how to attract talented people, give them responsibility and credit their accomplishments.

"NOT-SO-LEARNABLE" DESIRABLE CHARACTERISTICS
(source: Timmons et al., 1985, p. 153)
- High energy, health and emotional stability.
- Creativity and innovativeness.
- "Street smarts" and conceptual ability.
- Vision and capacity to inspire.

CHARACTERISTICS OF THE "NON-ENTREPRENEURIAL MIND"
(source: Timmons, 1989)
- Invulnerability, which may result in unnecessary risk-taking.
- Machismo, which goes beyond over-confidence to describe those who must feel superior to others.
- Anti-authority, or the rejection of outside advice or feedback.
- Impulsiveness, or failure to consider a decision's implications.
- Outer-control, in contrast to an internal locus of control.
- Perfectionism, as opposed to having high standards.
- Know-it-all, or the failure to recognize what one does not know.
- Counter-dependency, an extreme sense of independence in which the individual attempts to accomplish everything alone; afraid to delegate responsibility or teach others how to do the job.

Timmons's lists of desirable behaviours are based on his and his research staff's "strong beliefs" of what entrepreneurship means (Timmons, 1975a, p. 291). A few of Timmons's conceptualizations of entrepreneurship are different from the majority such as the argument that entrepreneurs carry a low need for status and power while virtually all other research suggests this is the primary motivation. In other ways, however, the behaviours suggested by Timmons and colleagues are similar to the characteristics Martin (1982) has attributed to the "new entrepreneur" whose changed economic and social environment "requires a different behaviour" than entrepreneurs who functioned under large-scale industrial capitalism. Martin identified preferred
behavioural responses of subordinates, and, in light of the inherent importance of human resources to the knowledge-based economy, to be "less authoritarian than their predecessors" and more "willing to change at an ever increasing pace" (1982, p. 22).

This section has provided a glimpse of how in general contemporary literature treats entrepreneurial characteristics. The lists of desirable behaviours are tenuously based on more in-depth studies of personality traits and skills required of the competent entrepreneur. The following provides a review of these studies.

4. Personality Traits

Research that approaches entrepreneurial behaviour from a social psychology perspective assumes that behaviour is shaped by the interaction of personality and the socio-cultural environment (Chell et al., 1991, pp. 29-53). From the 1960s to the 1980s, studies in this area predominated all research in entrepreneurship. The psychological characteristics most often claimed to motivate entrepreneurs—need to achieve, internal locus of control, low to medium propensity to take risks and a degree of social deviance or membership in a marginalized group—continue to influence the pedagogical style and curriculum formats of some enterprise education programs. Before outlining the main "entrepreneurial traits" that psychological research has identified, it should be stated that the tendency in all disciplines to avoid following consistent definitions of the entrepreneur is pronounced in psychological research: some studies identify the entrepreneur as an innovator; others suggest anyone who is self-employed or running a new business or a small business is an entrepreneur; still others do not bother to define the subjects of study. Solomon and Femald (1990) contend that this confusion is exacerbated by the absence of a generally accepted and applied methodology to isolate the dependent variables that differentiate the entrepreneur from the general population (p. 242). There is also the problem of drawing comparisons, as there are an extraordinary variety of sample sizes, definitions, locations and analytical tools; and there is a problem with rigour, as many studies are anecdotal (Chamard, 1988/89, p. 25).

4.1 Need for Achievement

The most well known psychological study of entrepreneurship is David McClelland's theory of the need for achievement as presented in The Achieving Society (1961) and Motivating Economic Achievement (1971), the latter co-authored with David Winter. McClelland argued that
entrepreneurial behaviour is motivated by a high need for achievement, and conversely, that people demonstrating a high need for achievement are likely to act entrepreneurially. Characteristics of need for achievement are argued to be: (1) preference for moderate risk-taking; (2) the belief that a goal is achievable through one’s own personal efforts (also known as possessing an internal locus of control); (3) tendency to perceive the chances of success are high; (4) need for feedback on one’s efforts; (5) capacity to plan ahead and awareness of the passage of time; and (6) an interest in excellence for its own sake, seeing pecuniary rewards as mere symbols of achievement (Wilken, 1979, p. 17). At first held to be a factor of parental influence (McClelland, 1961), these attributes were later acknowledged to be influenced by a lifetime of interacting with the predominant values and norms of a society (McClelland and Winter, 1971).

Essentially, as Kilby (1971) points out, McClelland’s thesis is an extension of Weber’s presumed relationship between the “Spirit of Capitalism” and the “Protestant Ethic” with the introduction of “an intermediating psychological motive (the need for achievement)” (p. 7). Kilby represents “Weber’s causal sequence” and McClelland’s extension in a linear manner:

Weber:
ideological values → entrepreneurial behaviour

McClelland:
ideological values → familial/social influence → need for achievement → entrepreneurial behaviour
(Adapted from Kilby, 1971, p. 8).

Extending this diagram further, McClelland contended that entrepreneurial behaviour was the link between need for achievement and economic growth (McClelland, 1971). The argument also emphasized that a high need for achievement could be cultivated in individuals through socialization and training, and could extend beyond the individual to characterize a specific group or society. In societies that are economically underdeveloped or in decline McClelland thought the “shortest way to achieve economic objectives might turn out to be through changing people” (1961, p. 337).

In conducting several cross-cultural studies involving as many as 39 countries, McClelland found that households and societies least likely to exhibit a high need for achievement and therefore economic success were those valuing conservative, authoritarian and patriarchal norms (1961, pp. 342-355). However, these findings are severely undermined by the methodology and analytical standards applied during the research. There are two long-standing criticisms of McClelland’s work (Kilby, 1971; Redlich, 1963; Wilken, 1979). First, it is contended that his studies of the
relationship between economic development and the need for achievement use questionable indicators. In his own words, his measure of the need for achievement consists of the number of references to “doing a good job” in children’s readers in 23 countries around 1925 and from 39 countries around 1950; and “for a measure of economic development, we relied on the amount of electricity produced in each country” (McClelland, 1971, pp. 110-111). Second, in claiming that the two indices are correlated at highly significant levels in western, communist and underdeveloped countries, he failed to take negative evidence into account. In what Kilby calls McClelland’s “only valid test of need for achievement”—the measurement of achievement imagery in primary texts—the findings show a negative correlation, that is, underdeveloped countries exhibit higher need for achievement scores than developed ones (Kilby, 1971, p. 19; McClelland, 1961, pp. 77-79). While it is understandable that individuals in underdeveloped countries would be more strongly motivated to achieve economic success than those in affluent countries, this finding casts serious doubt on there being a causal link between need to achieve and economic growth. Nevertheless, McClelland rationalizes this finding as an indication that “the backward countries realize their backwardness and are now motivated to close the gap” (1961, p. 102), and makes the conclusion that his research provides “concrete evidence for psychological determinism, for psychological developments which precede and presumably cause economic changes” (ibid., p. 112; emphasis added). As Coffield (1992) points out, McClelland’s shift in language from correlation to presumed causation is subtle but not supported by his own research.

Some subsequent studies using more conventional indicators and tools of analysis have, however, lent empirical support to McClelland’s theory. Hornaday and Aboud (1971) report that in comparison with the general population, entrepreneurs—understood as those who start a small business where none existed before, have at least eight employees and have been established for at least five years—exhibit a higher need for achievement (measured by the Edwards Personal Preference Scale) and higher scores on independence and effectiveness of leadership (measured by Gordon’s Survey of Interpersonal Values). Other studies indicate the link between need for achievement and entrepreneurship may be tenuous. Hull et al. (1980) found the need for achievement to be a weak indicator of an individual’s tendency to start a business, and Schrage’s (1965) findings indicate that successful R&D entrepreneurs do not have consistently high achievement motives (cited in Brockhaus, 1982, p. 42). Still other research indicates that while entrepreneurs do exhibit a high need for achievement, so do others holding leadership roles in political, social and cultural fields, and many of these non-entrepreneurs were employed in areas
that were not traditionally or even primarily money-making propositions (Brockhaus, 1982; Chad et al., 1986, pp. 55-56). In the end, as Schumpeter had suggested, there appears to be little assurance that those with a high need for achievement will enter profit-seeking endeavours or contribute to other forms of economic development.

4.2 Internal Locus of Control

Another personality trait thought intrinsic to entrepreneurs is internal locus of control. The theory, touched upon by McClelland, was more fully developed by Rotter (1966) and Levenson (1973) who contended that people with an internal locus of control, meaning those who believe their behaviour is relatively decisive in determining their fate, have a higher tendency to engage in entrepreneurial activities than those with an external locus of control, who feel their lives are fated to be whatever more dominant people or events determine. Several psychological tests have subsequently compared the locus of control of entrepreneurs with professionals involved in economic and non-economic pursuits. They have found that while both groups exhibit a higher internal locus of control than the general population, there is no significant difference between the groups (Brockhaus, 1982; Chad et al., 1986; Kulik and Rowland, 1989; Robbins, 1983; Scheinberg and MacMillan, 1988). In light of Kohn and Schooler’s (1983) research on the impact that social stratification and types of work have on personality development, we might question whether the internal locus of control that entrepreneurs exhibit is an inherent quality or a function of their working conditions. In research spanning over thirty years, Kohn has found that individuals performing cognitively complex functions in which the outcome is in some way their responsibility are more likely to be self-directed and believe they can act on the world than those who work under more tightly controlled and regimented conditions affording little room for personal discretion (Kohn, 1977; Kohn, 1990; Kohn and Schooler, 1983). Furnham’s (1986) research, which found significant differences in people’s perceptions of their ability to be self-directing on the basis of sex, age, education and income, advances further the idea that locus of control lends itself to socialization and experiential learning.

4.3 Risk Taking

Much speculation surrounds the question of whether the entrepreneur is fundamentally a risk taker (McClelland, 1961; Kilby, 1971). Economists often distinguish risk from uncertainty. Risk is defined as a situation in which the probabilities of success of a venture (such as opening a
bookstore) can be measured by historical data (such as the longevity of related businesses in similar neighbourhoods, population mobility, demographics, literacy rates, buying preferences, income levels, proximity to postsecondary institutions, etc.). But for conditions of uncertainty to be present, the venture must represent such a fundamental break with the past that no historical information is available and therefore the probabilities of the venture’s success cannot be measured (Parker and Stead, 1991, pp. 6-7).

Few entrepreneurship theorists accept Schumpeter’s proposition that risk taking is a characteristic of the capitalist while uncertainty is an entrepreneurial feature (Schumpeter, 1965, pp. 48-49; Carland et al., 1984). In this schema, entrepreneurs, with little more than an idea for a venture, convince capitalists to part with their funds: it is the capitalist who takes the risk while the entrepreneur risks nothing, but treads the unknown in building new structures or shaping new paradigms (Schumpeter, 1965, pp. 48-49; Rothschild, 1986, p. 195). Objections to Schumpeter’s simple and unequivocal rejection of risk are numerous (Brockhaus, 1982; Martin, 1982; Schollhammer, 1982). Casson (1993), for example, asserts that “Even if the entrepreneur is a salaried employee...he is still exposed to risk. His reputation for good judgement on which his future earning power depends—is always ‘on the line’” (p. 52).

The question of whether the entrepreneur is a risk taker often leaves the debate on personal attributes and enters a political context. Skillen (1992) has argued that only in a capitalist economy is individual risk-taking behaviour necessary to promote relative prosperity; the procedures various governments are currently undertaking to encourage risky behaviour and individual entrepreneurship, he contends, are more indicative of a concern to rejuvenate capitalist attitudes than to lay the basis for sustained innovation and enterprise (p. 75). The opposing view asserts that the scale of innovations the world has witnessed over the past two hundred years is due to someone assuming the liability for risk in expectation of profit, and therefore individual risk taking, capitalism and entrepreneurship are seen as harmonious, if not congruent, concepts (Baumol, 1983b, pp. 178-188).

If risk is defined as taking a chance when the odds are unfavourable, psychological research tends to support the view that entrepreneurs are fundamentally not risk takers. Rather, entrepreneurs are portrayed as willing to take calculated risks (McClelland, 1961, Ronen, 1983; Timmons et al., 1985; Timmons, 1989); that is, they wish to avoid no-risk situations because they want a challenge, and they also wish to avoid high-risk opportunities because they want to win (Chell et al., 1991, pp. 42-43). Meredith et al. state that “They like achievable challenges” (1982,
p. 25), a proposition which supports both the achievement motivation and locus of control arguments. Julian et al. (1968) found that people with an internal locus of control avoided taking risks, while "externals," or those who feel their lives are controlled by outside forces, showed greater propensity to either engage in high-risk activities or to avoid risk entirely. This research is empirically supported by Miller and Friesen's (1982) study of decision-making patterns of chief executives which found that those testing as "internals" planned "bold and imaginative" strategies while the "externals" were more conservative. Other studies, however, have found that in terms of frequency and degree, the risk-taking behaviours of entrepreneurs resemble members of the general population (Bowen and Hisrich, 1986, p. 398; Brockhaus, 1980, 1987).

4.4 Deviance and Marginalism

One of the oldest and most prominent arguments concerning entrepreneurial characteristics is that the entrepreneur is either a social deviant or a member of a socially marginalized group. In the western world empirical support for this view can be found as far back as the collapse of the Roman Empire and the rise of feudalism, when the only people engaged in trade were the "outsiders" of society, either those excluded from feudal society on the basis of ethnic or religious grounds, or fugitives, refugees and others pushed or pulled from the manorial system (Gies and Gies, 1972). A similar view may be found in contemporary anthropological studies of traditional societies. In his study of the cultural changes that indigenous entrepreneurs may effect in underdeveloped societies, Belshaw (1965) presents the entrepreneur as someone who cannot completely identify with the norms of the culture but is sufficiently in tune with those norms to understand how they might be manipulated to meet the individual's purposes.

Beginning with the German historical school, sociologists have also argued that many entrepreneurs are from groups deemed "marginal" to mainstream society, and therefore pursue entrepreneurial activity because they lack access to more socially prestigious occupations (Cochran, 1971; Young, 1971; Weber, 1958). According to Wilken (1979), the prevalence of "marginal" relative to "mainstream" entrepreneurs reflects the social legitimacy of entrepreneurship. In societies in which entrepreneurial legitimacy is low, he argues, the mainstream will be attracted to non-entrepreneurial roles and the entrepreneurial function will be assumed by

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1 See also Hobbs (1991) for a historical survey of London's East End entrepreneurs dating from the twelfth century to the present.
those on the periphery; where entrepreneurial legitimacy is high, the mainstream pursues this channel and the marginal groups are pushed into other economic roles (Wilken, 1979, pp. 11-12).

While some psychological literature also postulates that being a member of a marginalized or displaced group creates a psychic propensity to engage in entrepreneurial activity (Hagen, 1971), the majority of psychological research focuses on the entrepreneur as a social deviant. Two classic studies of this nature are those of Collins, Moore and Unwalla (1964) and Kets de Vries (1977). In comparing the Thematic Aperception Test scores of business managers and entrepreneurs (confined to males who start a new business), Collins, Moore and Unwalla presented a profile of the entrepreneur as a dissatisfied social outcast having difficulty with authority and laden with insecurities and oedipal fears. Aspects of this research have subsequently been contested by Stevenson and Sahlman (1986) who report that when age and education are held constant, levels of personal and professional satisfaction are higher for the entrepreneurial group. In the Kets de Vries study, based on Freudian personality theory, the main contributing factor to entrepreneurial activity is thought to be an unhappy childhood and the absence of early socialization into the norms of the group. Despite any appearance to the contrary, Kets de Vries asserts the entrepreneur is essentially an insecure individual, unable to accept the authority of others or fit into an organization, and plagued by problems associated with low self-esteem. Such individuals, he argues, cannot fit into "normal" organizational environments and naturally gravitate toward occupations that allow independence and some means to exercise self-direction. Several social psychologists have criticized this theory. Gibb and Ritchie (1982) state that it lacks empirical evidence. Chell et al. (1991) suggest the range of possible motivations is too narrow. Levinson (1978) disputes the importance of early childhood experiences and contends that events occurring throughout an adult's life are just as significant to the ongoing development of personality.

5. Criticizing Personality Trait Research

The foregoing discussion of entrepreneurial traits has outlined major theories of the social psychology of entrepreneurs. Unfortunately, much of those findings are not well received. In part, this may be due to disciplinary bias. Economists, for example, have traditionally played down non-economic factors, emphasizing instead that economic conditions, the level of government involvement in the economy and various institutional factors influence the emergence of

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2 Factors affecting the "carrying capacity" of entrepreneurs include venture capital availability, technical expertise of the labour force, incubator organizations, universities, regional loan and zoning policies, tax structure, infrastructure and the costs of doing business (Mokry, 1988, p. 20).
entrepreneurship. Sociologists, in contrast, have been more inclined to stress society’s values and status hierarchies as prime determinants of entrepreneurial behaviour (Kilby, 1971, p. 3; Wilken, 1979, p. 4). By and large, however, the criticisms against psychological profiles come from other psychologists. Pate et al. (1990, pp. 42-56) conclude that research on personality traits of entrepreneurs has contributed little to the ability to predict the success of new ventures. Brockhaus has conducted several verification studies and has found no significant support for research results that differentiate entrepreneurs from various professions on the basis of personality traits (Brockhaus and Horwitz, 1986; Brockhaus, 1982). A study of the psychological profile of leaders in the not-for-profit sector found that they too exhibit traits typically associated with entrepreneurs, such as risk-taking, opportunism, creativity and need for achievement (Young, 1983; cited in Caird, 1990b, p. 50). Overall, however, psychological research has contributed to understanding that characteristics of entrepreneurship (and other non-economic forms of leadership) include a high need for achievement and an internal locus of control, qualities the research suggests may be open to development.

Among characteristics specific to entrepreneurs, there is one personal attribute that finds some empirical support and agreement among psychologists and sociologists; this is the long-standing claim that the profit motive is not the primary operative among entrepreneurs (Cochran, 1950; Parsons and Smelser, 1956). In many respects this relates to Alfie Kohn’s (1993) research which indicates that high achievers tend to be, at best, indifferent to monetary incentives. Surveys of entrepreneurs consistently rank opportunities for creativity and independence above income (Business Week, 1993, p. 108; Gunderson, 1990, p. 51; Knight, 1987, p. 24). Cole (1959) suggests security, prestige, power and social service are potential motives in addition to a perceived strengthened capacity for making money. Stepanek (1960) lists non-monetary motives as including the desire for independence, community esteem, power and the chance to prove one’s superiority. In a comparison of values expressed by entrepreneurs and non-entrepreneurs in nine countries, Blaise and Toulouse (1990) found that “non-entrepreneurs have special attitudes compared to entrepreneurs. For example, money for its own sake and fringe benefits are rated far more highly by them than by entrepreneurs” (p. 17). After conducting open-ended interviews with 23 owner-managers of innovative and growing businesses, Ronen (1983) found the motivating factor for becoming an entrepreneur was “more than anything else, an inner pressure to be noticed, to be different, to gain power, prestige, recognition and all this by being creative, by implementing new ideas, concepts that would elicit respect and admiration from peers” (p. 140). According to Ronen,
the objective of these entrepreneurs is to be free from the control of others, and this motivates an accumulation of wealth, not as a hedonistic end in itself but as the means for an individual in a capitalist society to gain "power and authority over others" (ibid.). Other objectives Ronen identified were the possibility of proving one's superiority over others, and in doing so gain their respect.

**6. Socio-Cultural Factors**

To pinpoint "the key competencies demonstrated to be needed for success," personality research of entrepreneurs has been mainly focused on the most successful members of the American business population (McClelland, 1987, p. 220). As these are generally white, Protestant males, it is questionable whether the values of autonomy, social esteem, superiority and personal power expressed by men of this sector and culture apply as well to others. In a cross-cultural study of the values of entrepreneurs from fourteen different countries, Blais and Toulouse (1990) found that although "entrepreneurs in all countries share the basic [American] motivations of independence and achievement" (p. 14), other values such as communitarianism, need for social recognition and need for money were often rated higher than need for independence or need for achievement. Scheinberg and MacMillan’s (1988) research reports similar findings, noting in their survey of eleven countries that American entrepreneurs scored highest in the need for independence category while Italian entrepreneurs scored lowest; on the other hand, communitarianism was identified as the only value of importance to Italian entrepreneurs, but was seen as insignificant to the Americans. When contrasting the value responses of entrepreneurs from developed and developing countries, however, Blais and Toulouse (1990) found that in general those from the developing world "are more strongly motivated than individuals in more affluent societies" and registered higher levels for all entrepreneurial values, including the need for money (p. 13). This provides some support for McClelland’s earlier inadvertent finding that entrepreneurs from underdeveloped countries have a stronger need to achieve than those in developed countries. As for there being gender-based differences in motivation, a study comparing American male and female "growth oriented" entrepreneurs with revenues exceeding $100,000 (U.S.) reported that women held higher levels of autonomy and of individualism and a stronger aversion to risk taking (Sexton and Bowman-Upton, 1988).

Significant attitudinal differences have been found on the basis of age, reflecting not only different phases of an individual’s development but the impact that historical events and social
norms have on shaping an individual's expectations. Kaplan (1988), for example, found that women in their twenties and thirties typically have higher career expectations than older women and are primarily motivated to become entrepreneurs by negative experiences of corporate employment—blocked mobility, organizational rigidity or disillusionment with the organization's culture. Their dissatisfaction may not be surprising, since women entrepreneurs of this age group have been found to be better educated than either their male counterparts (Brush and Hisrich, 1988) or the general population (ibid.; Kaplan, 1988). By contrast, dissatisfaction with corporate life was not a factor for the women surveyed who were embarking on entrepreneurial careers in their forties and fifties since few had been part of the corporate world; instead these women were "primarily motivated by the desire to control their own lives" (p. 650).

There are also significant differences based on the socio-economic backgrounds of the entrepreneurs. From the findings of 52 detailed interviews with founders of manufacturing firms, Smith's (1967) study of the relationship between type of entrepreneur and type of business contends there are essentially two kinds of entrepreneurs: craftsmen and opportunists. Craftsmen come from working-class backgrounds, are relatively narrowly educated and possess solid résumés of successful employment. As employees, they identified more with workers than management; as owner-managers they tend toward paternalistic relations with staff, rely on personal (often familial) relations for marketing, sales and capital requirements, and rigidly adhere to long-range strategies. The opportunists, in contrast, are usually from middle-class backgrounds, possess broad-based educations and a variety of work experiences in which, as employees, they identified with management. The opportunists tend to delegate more than the craftsmen, are market-driven, strive to be alert to new opportunities, have a broad financial resources base, are proactive and innovative in developing strategies, and have experienced much higher rates of growth than the craftsman type of entrepreneur.

Brockhaus's (1987) study of American entrepreneurs suggests the majority may be from working-class backgrounds, with an affluent image in the popular press that is very much at odds with actual living standards: business growth is rare, almost 50 percent of the entrepreneurs studied gross under $25,000 (U.S.) and on average most entrepreneurs earn less than comparable salaried workers (pp. 1-6). Similar conditions were reported in Hakim's (1988) survey of self-employed persons in Britain, which, contrary to other research, found little or no difference in the attitudes of the employed, the unemployed and the self-employed in terms of the significance they placed on work as a means to find self-expression or a sense of personal achievement. Rees and
Rees (1992) suggest that great caution be taken in questioning and interpreting the attitudes and values expressed by those who go into business for themselves. The authors argue that by giving expression to individualistic attitudes and commitment to autonomy, flexibility and freedom, small proprietors may simply be rationalizing their long hours, arduous work, insecure incomes and unstable lifestyles (p. 127).

As more people enter self-employment as a means to avoid unemployment, it is possible that increasingly larger portions of the population will be justifying their job and lifestyle "choice" in individualistic terms. The problem of defining the personality traits that distinguish the entrepreneur is thus made redundant because what was once considered deviant economic behaviour will be the norm. It is such a collective transformation of values which is required in order to build an enterprise culture (Berger, 1987, p. 191). Schumpeter had touched upon the idea that such transformations occur during periods of economic turmoil which tend to decrease social resistance to change and enhance the ability of an economic elite to reshape social values (Schumpeter, 1987, pp. 202-203). Crawshaw's (1991) research suggests that such an event occurred in France during the 1970s and 1980s.

The successful cultivation of the "spirit of enterprise" that Crawshaw (1991) studied among postsecondary students in France during the 1970s and 1980s involved the cooperation of higher education institutions and the media to promote a "mass psychological condition" that he calls "exteriorization" defined as "collective participation in the process of myth creation" (p. 102). He argues that the precondition for this state was that of "anomie"—the absence of accepted social standards or values brought about by great uncertainty and social turmoil. As a manifestation of society's state of mind, Crawshaw states that anomie is "linked to a desire for the immediately unattainable. It implies a preoccupation with appearance bred of uncertainty, a readiness to accept status symbols at face value and correspondingly to believe in the individual's or organization's ability to translate myth into reality" (1991, p. 102). In other words, when society is vulnerable, in a state of flux, wanting something better and willing to believe in the capacity to transcend reality, there is opportunity to condition a culture to "the ethical level required" (Schumpeter, 1987, pp. 202-203). Alternatively, understanding the meaning and skills of entrepreneurship, if such a concept and its behaviours can be adequately delineated, may be a means of raising awareness and recognition of entrepreneurship. If, as Skillen remarks, "the capitalist entrepreneur, unlike many of his predecessors, requires lack of enterprise on others' part[s] to generate his competitive
advantage” (1992, p. 80), then an understanding of the skills of entrepreneurship may be a means of using knowledge to diffuse the abuses of power.

7. Skills

Attempts to describe the skills of entrepreneurship are bound to meet with disagreement. The discussions cannot include to any great extent the perspectives of many economists who are among those most concerned with entrepreneurship. The neo-Austrian school, for example, has argued that it is not possible to define entrepreneurial “skill” more specifically than being an innate ability to perceive an opportunity that others are unaware of and the propensity to act on that perception (Hébert and Link, 1988, p. 134). The neoclassical economist William Baumol has argued that because entrepreneurship “cannot be standardized and, therefore, cannot be described in general terms....attempts to offer a detailed and general characterization of [entrepreneurial] activity are virtually doomed to fail” (1983a, p. 29; see also Baumol, 1993).

But even among economic theorists who think it possible to discuss in general terms the skills of entrepreneurship, there is considerable reticence to do so. Many have pointed out the difficulty in describing entrepreneurial skills which change visibly over time and vary remarkably among industries and among different organizational structures in the same industry (Drucker, 1968, p.43; Hébert and Link, 1988, p. 119; Schumpeter, 1987, p. 133; Wilken, 1979, p. xi). The merchant trader of feudal Europe, for example, who hired mercenaries, garnered the goodwill of the local despot and beat a trail through hostile, foreign lands may have only superficial competencies in common with the cotton lord of nineteenth century England or the director of a technology transfer unit at a contemporary Canadian university. Entrepreneurial skill may also be manifested differently in different cultures (Berger, 1991b, 1991c; Kilby, 1971, pp. 4-6). British entrepreneurship, for example, has until the postwar period been individual and private, displaying less state involvement than elsewhere in Europe, while in France the tradition of public entrepreneurship goes back to the Middle Ages (Wilken, 1979, pp. 90-99, 119).

The major difficulty with discussing “entrepreneurial skill,” however, is that the phrase appears to be a contradiction of terms. Entrepreneurship, or the function of “doing things differently,” is by definition neither routine nor automatic. “Skill,” defined as “practical knowledge combined with ability” (Eraut, 1992, p. 109), cannot therefore in this instance be used in the same sense as a professional skill which may “become so routinized through practice and experience that it is performed almost automatically” (ibid.). A more appropriate understanding of enterprise skills
might be adopted from Schon's (1983) work in which a "reflective practitioner" with a sound knowledge base amends and adds to knowledge to resolve issues which are often unforeseen and unprecedented, and is thus engaged in a continuous process of critical learning and discovery. Using this understanding of skill, there are arguably certain abilities that an individual can acquire in a structured learning environment that may act as a foundation for supporting entrepreneurial competence. These include basic coping and portable skills "that enable people to function effectively in their social and economic systems" (Province of Ontario, 1990, p. 5) as well as the more creative competencies traditionally allied with leadership, such as making decisions, building organizational cultures and innovating systems.

7.1 Basic Skills

The Organisation for Economic Co-operation and Development has identified the skills of enterprise or entrepreneurship as among the basic requirements of participating in the new economy. "Enterprise skills," as the OECD understands them, are "those personal dispositions, abilities and competences related to creativity, initiative, problem-solving, flexibility, adaptability, the taking and discharging of responsibility and knowing how to learn and relearn" (1989a, p. 10). The OECD advocates that these skills be learned in conjunction with what the literature elsewhere identifies as basic or portable skills, which for an enterprise culture, may be conceived as the minimal skills to cope with change. These have been described as being analytical abilities, which assist in adapting to new situations; facility in reading, writing, speaking and listening; math and computer literacy; second language skills; the capacity to interact satisfactorily with people from diverse cultural, educational and disciplinary backgrounds in pursuit of a goal; and most important, the ability to learn (Carnevale, 1991; Kunin and Knauf, 1992; Lillie, 1992; Province of Ontario, 1990).

Being enterprising is argued to be the ability "to know how to learn rather than expect to be taught" (OECD, 1989a, p. 30), which enables people to keep on acquiring more specialized or more numerous skills, and affords the intellectual and emotional flexibility to adapt to rapid change (Carnevale, 1991). Employees who know how to learn are appraised as being more valuable to employers because they can add to productivity increases, develop new products or services, as well as be retrained and reassigned as needed (Province of Ontario, 1990, p. 54). Since the more "flexible" firms provide the least job security, people with transferable skills and the capacity to learn are thought more able not only to move among jobs and take it upon themselves to upskill
and find work but to create "flexible" employment patterns of their own that include part-time work, working at home and self-employment (Carnevale, 1991, p. 157).

Bradshaw (1985) bases the ability to learn upon critical thinking skills which he classifies as skills in analyzing, quantifying, synthesizing, communicating and clarifying information. This involves manipulating data and information, detecting general patterns or trends, and relating the insight to some purpose (Cope, 1987). At a higher level of intellectual development, critical thinking involves recognizing, planning for and evaluating the stages of one's own learning processes (Lillie, 1992, p. 125; Carnevale, 1991, p. 167).

Some skills that were once confined to university-level specializations are increasingly assumed to be basic skills that need to be advanced in all disciplines and at other educational levels. The Ontario education ministry and the OECD have identified management training as integral to all employees "in the interests of improving organizations' internal effectiveness and relations with outside groups" (Province of Ontario, 1990, p. 5; see also OECD, 1989a, p. 21). As Binks and Vale (1990) explain, incorporating management education into a general curriculum may have long-term benefits for both the individual and society:

For students and pupils with no sympathy or inclination to be entrepreneurs themselves, an appreciation of the purpose and contribution required within a commercial environment and an awareness of the mechanics by which an effective contribution generates income and profit, would facilitate communication and efficiency within organizations. Simultaneously, an awareness of skills and techniques that can be employed usefully to assess or manage any type of venture operating within resource constraints could in part dismantle the resistance to business and management training at subsequent stages in an individual's career (p. 132).

Desired management skills may include: knowledge of a specific technology and its basic scientific principles so that simple changes, repairs and adaptations pose little difficulty; the use and management of information; making decisions; skills in diplomacy for communicating sensitive issues; and abilities in team problem solving, negotiating, brainstorming and conflict resolution.

The perceived need for a broader sector of the workforce to acquire skills in management and critical thinking reflects, according to some sources, a shift from traditional forms of organizing work known as "Taylorism" or "Fordism," characterized by rigid structures, functions and manager-employee relations, to more amorphous structures, with loosely-defined job descriptions and shared responsibility. This has pushed decision making down, placing new demands on the abilities of individuals. Drucker had nearly three decades ago argued that these changes would need to manifest themselves through the emergence of a new style of
entrepreneurship, which he, after Schumpeter, defined as technological, organizational or systemic innovation (Drucker, 1968, pp. 42-57). This entrepreneurship, he contended,

will not be the entrepreneurship of a century ago, that is, the ability of a single man to organize a business he himself could run, control, embrace. It will rather be the ability to create and direct an organization for the new. We need men who can build a new structure of entrepreneurship on the managerial foundations laid these last fifty years (p. 43).

Although Drucker identifies organization as the fundamental component of entrepreneurial activity, he makes the qualification that this organizing is “for the new,” that is, its purpose is to innovate, which ultimately requires leadership in addition to skills in decision making and management. With the introduction of innovation and leadership, we may make a distinction between the portable “enterprise” skills deemed basic for any valued employee of the new economy and the high-level skills of “entrepreneurship” that the literature equates with senior managers and employers.

7.2 Advanced Entrepreneurial Skills

The skills of “the new entrepreneur” consist of maintaining the creativity a successful firm ideally exhibits during its start-up phase, ensuring high quality information reaches decision makers with few impediments and introducing measures to help the organization more efficiently capitalize on its innovative ideas. This requires implementing a structure which is not only appropriate for the organization’s purpose and its employment positions but able to support such functions as information gathering, decision making, teamwork and organizational learning. The following section identifies the organizational skills of innovative entrepreneurs to be accessing and applying information through building, directing and developing a firm, its culture and the human potential within, activities which are primarily concerned with structure, decision making and innovation.

7.2.1 Structure

Contemporary entrepreneurial firms face a more unstable, uncertain and competitive environment than their predecessors or other organizations. They not only “require that greater amounts of information be processed between decision makers during task performance” (Morgan, 1986) but that the information be of a higher quality with fewer distortions. The entrepreneurial function of tapping the knowledge and information embodied in human resources and technology has traditionally rendered new organizational structures that contribute to marked improvements in the entrepreneur’s information resources (Binks and Vale, 1990, p. 159). Such structures have
included the putting-out system under early capitalism, and Taylorism and Fordism under industrial capitalism; current configurations designed to enhance an organization’s or industry’s synergy levels are project teams and loosely-coupled networks of individuals and private and public sector organizations. A loosely-coupled structure of firms involved in a related industry may balance competition and cooperation in the quest for information resources, with the businesses “competing with each other to develop proprietary products [while] simultaneously cooperat[ing] with each other to develop institutional arrangements and resource endowments” (Van de Ven, 1993, p. 223).

Harold Wilensky’s *Organizational Intelligence* (1967) provides a classic study of the relationship between structure (of organizations or political systems) and the capacity to access information, create knowledge and innovate. At the level of the firm, he suggests “intelligence failures,” or the inability to muster information about customer wants or competitor plans in order to pursue organizational goals successfully, are rooted in the organization’s structural problems, with hierarchy, specialization and centralization forming the major sources of misrepresentation and blockages of intelligence (p. 42). Gains in the quality of intelligence, he argued, would be possible through flattening hierarchies, decentralizing decision making authority, increasing employee autonomy, initiating staff retraining schemes on a regular basis, integrating formerly distinct work functions, rotating staff from job to job and agency to agency, encouraging communication out of channels, developing strong links to informed outsiders and relying on flexible, temporary and informal task forces (or project teams) that would encourage individual initiative and the swift diffusion of information within the team and throughout the organization as members were reassigned to other task forces (Wilensky, 1967; similar, though less comprehensive recommendations followed in the works of Casson, 1982; Drucker, 1968, 1985, 1993; Garvin, 1993; Gibb, 1990; OECD, 1989a; Peters and Waterman, 1982; and Webber, 1993). In effect, Wilensky was arguing that large firms adopt several characteristics which are now generally attributed to the most entrepreneurial of the small-scale firms in order to improve communications and realize gains in intelligence.

Literature extolling “entrepreneurial” organizational structures bases its praise on an ideal type of firm design often seen at the start-up phase (Olson, 1987). At this stage of development, most firms are small and many are run by generalists who employ others possessing broad talents and skills. Ideally, methods of control are flexible, informal and personal. By necessity, communication systems are horizontal, requiring much coordination and interaction because of the
high frequency of making unanticipated, unfamiliar decisions with a lack of knowledge of how decisions will affect the business. Discrete occupational functions are not common (Gibb, 1990). The flatter structures of "entrepreneurial organizations" are thought to promote gains in productivity and morale by enabling employees at all levels of the organization to feel some degree of ownership over their ideas and autonomy in performing their work (Brown and Lauder, 1992; Drucker, 1993; Gibb, 1990; Keat, 1991, pp. 8-9; OECD, 1989a, pp. 21-22; Peters and Waterman, 1983, pp. 89-327; Webber, 1993). Henry Mintzberg's (1979) "missionary" configuration has much in common with entrepreneurial organizations in that both are simple, flexible, adaptable, exhibiting a high degree of employee participation and trust in employees' abilities to make decisions in the organization's interests without supervision. A form of entrepreneurship based on this configuration, ethical motivations and a clear sense of mission has been advocated by some environmentalists as an effective method of fomenting social change (Utne, 1989). It is also thought to inspire high levels of employee performance and commitment (Smeltz, 1990).

The tendency for "entrepreneurial organizations" to sub-contract non-core activities is seen not only as a means to gain effective rather than nominal control over resources but to reduce overhead and the risk of obsolescence, to avoid the natural progression toward vertical integration that ownership entails (Stevenson and Gumpert, 1985), and to maintain a small-scale format. Small-scale is preferred to large-scale operations for its ability to facilitate communications, promote trust and encourage the development of shared values and purpose (Casson, 1993). Webber (1993) points out that frank communications and high-trust cultures are important for achieving efficiency and reducing transaction costs. To counteract uncertainty and high transaction costs, many small firms may enter into long-term relationships with each other, effecting a loosely coupled network, often based on "common values and attitudes" (Brown and Rose, 1993, p. 6) and thus realize some efficiencies of large-scale enterprises.

Loosely-coupled structures have the potential to promote values oriented toward collective survival, for as Van de Ven remarks, "Pragmatically,...entrepreneurs should be concerned not only with their own immediate proprietary tasks and transaction modes but also with those of other firms in their resource distribution channel and with the overall social system" (1993, p. 223). This is because "Switching involvements...is not inexpensive. Influencing one's own existing channel may be more efficient than switching channels or creating new channels" (ibid.). The loosely-coupled structure has the added potential benefit of coordinating the introduction of innovations. In this respect, Van de Ven argues "Entrepreneurial firms that run in packs will be more successful
than those that go it alone to develop their innovations” (ibid.), an argument based upon the understanding that a network of entrepreneurs may “coordinate” their activities, that is, “simultaneously cooperate and compete with others as they develop and commercialize their innovation” (ibid., p. 224). This argument is strikingly similar to Schumpeter’s advice that a coalition of entrepreneurs would be most effective at introducing innovation because it would enable individuals to coordinate their activities.

Despite the benefits attributed to “entrepreneurial structures,” several theorists advise these patterns of organization are not appropriate for all organizations or employment positions. Lydall (1992) suggests that Taylorism will continue to be effective with “unskilled or semi-skilled immigrant workers who have no protective trade unions” but not with employees who have an education, an understanding of their rights and a degree of self-confidence (pp. 87-88). Gibb (1990) indicates an entrepreneurial management style may be detrimental to the survival of organizations that are best left routinized and bureaucratic, requiring an administrative style of management for their success (p. 48). Other research suggests that attempts to inject the “spirit of enterprise” into an organization requires a greater sacrifice of power and control than senior managers may be willing to make; moreover, without this sacrifice, the restructuring will be counterproductive. Slevin and Covin conducted a study which indicated that entrepreneurial management styles were effective only in non-hierarchical firms, while in hierarchies they were largely dysfunctional. The authors categorized the organizations studied as “organic,” meaning those which tended to be adaptable, openly communicating, consensual and loosely controlled, and “mechanistic,” or those inclined toward more traditional, tightly controlled and hierarchical approaches. The research demonstrated that increases in the entrepreneurial orientation of top management tended to encourage entrepreneurial behaviour of employees in organically structured organizations, but tended to inhibit entrepreneurial behaviour among employees in mechanistically structured workplaces. Furthermore, an entrepreneurial management style was less effective than more conservative management styles in mechanistically organized firms, which led to the conclusion that “a strong entrepreneurial orientation...is only warranted when other elements in the organizational system provide a supportive context” (Slevin and Covin, 1988, p. 229; cited Chell et al., 1991).

As the firm grows and competition increases, more efficient means of reaching operative goals are needed. It becomes impossible to avoid some measure of specialization to ensure tasks are properly mastered, some semblance of structure to motivate and control personnel and some
level of centralization to ensure resources are effectively coordinated (Wilensky, 1967). More systematized practices of planning, organizing and control may be introduced. Much of the literature on entrepreneurship suggests that at this stage the firm has probably become too complex for the owner-entrepreneur's capacities to process information and make informed decisions, and the founder should now acquiesce control to professional managers (Drucker, 1985, p. 201; Hambrick and Crozier, 1985, p. 44). If this transition does not occur, it is argued that firm performance may suffer because of delayed or faulty decision making, and an inability or unwillingness to delegate authority (Clifford and Cavanaugh, 1985; Olson, 1987) or master a new set of skills required in managing a larger organization (Buchele, 1967, p. 45). Little support for these assumptions was found in a survey Willard, Feeseer and Krueger (1990) conducted of 100 rapidly growing manufacturing firms. The researchers compared rates of profits, losses and employee productivity (gauged as sales per employee) in firms headed by founding CEOs and non-founding CEOs which were selected from Inc. magazine's annual listing of companies having the highest growth rates in the U.S. This study concludes that the proposition that founding entrepreneurs do not make successful managers of rapidly growing firms is based upon "the assumption that entrepreneurship is an individual act" while in reality "entrepreneurship frequently and certainly increasingly is a team effort from the beginning" (ibid., p. 160).

**Teamwork**

Because they can divide responsibility among themselves along lines of individual expertise, the idea that founding "entrepreneurial teams" may be more successful than individual entrepreneurs has long been promoted in academic and popular literature (Cooper, 1982, pp. 193-205; Cooper and Bruno, 1977; Feeseer and Dugan, 1989; Kotkin, 1986; Maremont, 1993; OECD, 1990; Webber, 1993). Over twenty years ago, Cooper (1973) observed work groups were a major feature distinguishing high-tech companies from others. By 1990, the OECD had estimated that "Between 60 and 70 per cent of the founders of high-tech companies work in groups" (OECD, 1990, p. 28). Reich (1987) contends that the new paradigm for high-tech enterprises is collective rather than individual entrepreneurship because when skills are pooled the collective capacity to innovate is greater than the sum of individual capacities. The view that entrepreneurship is moving from individualistic to collective forms as part of the "evolutionary nature" of economic behaviour.

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3 The years chosen were 1985, 1986 and 1989. To be eligible for listing in Inc. firms must be independent, with shares held publicly, a sales history of at least five years, a minimal sales in the initial year of $250,000 but no more than $25 million, and sales cannot decline between years four and five (Willard, Feeseer and Krueger, 1990, p. 157).
may be compelling, but as Van de Ven (1993) cautions, “historical studies clearly show that most innovations are collective achievements of the efforts of many actors working over an extended period, often in parallel and independent locations....Thus, most innovations are a product of many—not one or even a few—entrepreneurs” (pp. 212-213). Historical variegations of the aggregate entrepreneur have predominated at different times in the West and include instances of cooperative, corporate and collusive entrepreneurship. That innovation is seen as “a stroke of genius or fortune” attributable “to a particular individual entrepreneur” Van de Ven puts down to a “bias in Western culture” (ibid., p. 212) that finds more support in myth than documentation.

The use of teams has been a standard means of introducing innovations in non-individualistic industrial societies. In the collective culture of Japan, the role of lead innovator has since the Meiji era been effectively filled by engineers who work closely with the rank-and-file rather than by individual entrepreneurs. Yasmuro (1993) argues that the Japanese approach to teams builds trust while reducing class consciousness between engineers and workers, thus enhancing communication about the means to improve production practices. By contrast, Timmons et al. (1985) suggest that because of the atypical nature of market opportunities, individualistic perspectives are important and their potential is most profitably realized through teamwork. They believe that as every venture opportunity is different the chances of successful exploitation are far greater when approached by well-balanced teams bringing complementary skills and perspectives than if the opportunity was pursued by an individual entrepreneur. Katzenbach and Smith (1993) agree, adding that “in all the successful teams we’ve encountered, not one had all the needed skills at the outset”; but they suggest that individuals have more opportunities for learning through teamwork, and thus teams have a far greater likelihood of transcending their imperfections. “Accordingly,” they concluded, “team member selection ought to ride as much on skill potential as on skills already proven” (p. 115).

The democracy inherent to some team configurations has led to much speculation on the innovative potential of the “collective entrepreneur” (Bottomore, 1992; Reich, 1987). Such a configuration theoretically existed in the “labour-managed firms” of the former Yugoslavia, which

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4 See, for example, Martines’s (1979) account of the merchant’s leadership role in the rise and governance of city-states in Renaissance Italy for early examples of corporate entrepreneurship. The self-proclaimed “Saint-Simonian entrepreneurs,” policy advisors to Napoleon III whose policies, Holton (1985) suggests, contributed to the rise of industrialism in France through initiating cooperative banking systems, provide an example of cooperative entrepreneurship. Britain’s enclosure movement is an example of what was in effect the collusion of aristocratic entrepreneurs since it was the landed aristocracy who controlled parliament and passed laws which allowed other members of the landed aristocracy to seize the commons and then introduce innovations that would initiate Britain’s “agricultural revolution” (Palmer and Colton, 1984; Perkin, 1992).
Bergson claimed in 1983 represented "the most far-reaching application so far of labor participation in industrial administration" (Bergson, 1983, p. 177). Empirical studies of Yugoslav enterprises conducted in the 1970s, however, suggest the power relations within these firms were far from consistent with the idea of worker management. Zupanov (1975) uncovered "no difference in the distribution of 'executive power' in the surveyed Yugoslav organizations as compared with the American organizations: an oligarchic pattern was found in both of them" (p. 82; cited in Bergson, 1983, p. 188). Similar investigations carried out by Gorupic (1978) reported "professional management has excessive influence while workers have too little" (p. 131; cited in Bergson, 1983, p. 187). Perhaps it is not that hierarchy and dominance are inherent to entrepreneurship per se, but are found in all organizations, more or less, regardless of structural design and innovative orientation. Casson (1993) suggests power relations are a component of "human nature." He argues that although "The most successful entrepreneur...is unlikely to be the ruggedly independent self-employed individual of popular myth" but willing "when necessary, not merely to share responsibility with, but even to subordinate [him or herself] to others" (pp. 50-51), the entrepreneur must none the less always be conceived as an individual, even when part of a team, because "it cannot be assumed that membership of the firm is so cohesive that the firm has a 'will of its own'" (ibid., p. 31). Even if the firm is a workers' collective consisting of a "coalition of entrepreneurs," one entrepreneur will choose or be chosen to settle disputes or take ultimate decisions, either consistently or as special expertise or talents are required, for although "entrepreneurship is not unitary, leadership is" (ibid., p. 44). The problems of balancing team input with individual control become especially evident when performing the entrepreneurial function of decision making.

7.2.2 Decision Making

It has been argued that the core of entrepreneurship is "the making of judgemental decisions, the creation rather than acceptance of circumstances, and the anticipation of future changes in market and other conditions,—all in an uncertain world" (Brown and Rose, 1993, p. 1). By entering into uncertain conditions, entrepreneurs make decisions without carefully specified perimeters and with limited information. Some aptitude for coping with ignorance is required, but the futuristic orientation of the entrepreneur and the desire to reduce uncertainty inevitably translates the entrepreneurial function into one primarily of gathering, evaluating, organizing and utilizing information (Casson, 1982; Corley, 1993; Marris and Mueller, 1980).
The kind of information of most value to the entrepreneur is that which is not widely known and possibly exists only as perceptions of how markets may evolve or may be shaped rather than what they actually are (Kent, 1989, p. 158). This is information that will either, as T.W. Schultz suggests, enable the entrepreneur "to deal with the disequilibria that are pervasive in a dynamic economy" (1980, p. 437), or, as Schumpeter thought, enable the entrepreneur to create the disequilibria itself. Either way, the knowledge an organization has accumulated is valuable and must be kept within that organization for, as Eliasson (1992) points out, "If it diffuses too easily, so does...the firm itself" (p. 253). Knowledge may be protected if it can assume the character of property through patents and copyrights. But the most valuable information anticipates directions for the firm, its market and competitors. This information is best described as "intelligence" and cannot assume the qualities of property (Cope, 1987, pp. 79-89).

Futuristic, subjective, based on rumours from credible sources and quickly gathered, intelligence weds information with interpretation and is commonly hoarded among those wishing to acquire or maintain power and position (Wilensky, 1967, pp. 46-62). At its best, intelligence is clear, timely, reliable and valid, providing both a full account of the context and a wide range of options. It is the heart of the entrepreneur's "superior judgement," the facet which Casson argues distinguishes the entrepreneur from other economic actors (1982, p. 66). Intelligence gathering requires skill in listening deeply and synthesizing ideas. Strategy also comes into play: to maintain a monopoly on superior decision making ability, it is, according to Casson (1993), always in the interests of the entrepreneur to withhold information or understate its importance. This is not quite the same as a firm following a "need to know" standard, i.e., no one is told of a project unless it becomes operationally necessary, a practice to be avoided as it "impairs critical judgement in the production and interpretation of intelligence," "dulls the sense of awareness," "has the idiotic effect of excluding expertise," in addition to seriously undermining trust, demoralizing employees, promoting intolerance toward deviant viewpoints, reducing incentive, encouraging mediocrity and generally leading to a decline in the quality of information passing to the entrepreneur (Wilensky, 1967, pp. 66-73). Withholding information requires great subtlety, for the objective is to maintain one's hold over crucial details that could benefit potential rivals while establishing or sustaining trust among those, unwittingly or not, acting as informants (Casson, 1993, p. 42).

High levels of trust between the entrepreneur and subordinates facilitates the generation of high quality intelligence, which is important for making effective decisions under uncertainty. In
theory, decision making may be conceived as consisting of three stages, each involving specific activities and qualities (see figure 2).

<table>
<thead>
<tr>
<th>Decision Making Under Uncertainty</th>
<th>FIGURE 2</th>
</tr>
</thead>
</table>

### Stage 1: Formulating the Decision

<table>
<thead>
<tr>
<th>Actions</th>
<th>Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>- specify the objective(s)</td>
<td>- self-knowledge (or knowledge of leader’s objectives)</td>
</tr>
<tr>
<td>- specify the options</td>
<td>- imagination</td>
</tr>
<tr>
<td>- specify the constraints</td>
<td>- practical knowledge</td>
</tr>
<tr>
<td>- derive the decision</td>
<td>- analytical ability</td>
</tr>
</tbody>
</table>

### Stage 2: Generating the Data

<table>
<thead>
<tr>
<th>Actions</th>
<th>Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>- data collection</td>
<td>- search skill</td>
</tr>
<tr>
<td>- data estimation</td>
<td>- foresight</td>
</tr>
</tbody>
</table>

### Stage 3: Executing the Decision

<table>
<thead>
<tr>
<th>Actions</th>
<th>Qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>- apply data to decision</td>
<td>- computational skill</td>
</tr>
<tr>
<td>- initiate implementation</td>
<td>- communication skill (in formulating instructions)</td>
</tr>
</tbody>
</table>

source: adapted from Casson (1982, p. 29).

In practice, however, there is no correct procedure for making decisions but rather decisions “must be taken urgently in novel and complex situations where objectives are ambiguous” (Casson, 1993, p. 31; emphasis in original). Both Kendrick (1983) and Ronen (1983) observed the decision-making patterns of highly successful innovative entrepreneurs heading fast-growing firms in the United States. Those that Kendrick (1983) studied preferred procedures in which “decisions [we]re made collegially or decision making [wa]s delegated hierarchically, not only within management but even down to work groups and workers in the employee-involvement programs” (1983, p. 115). In contrast, Ronen’s study found that “Decision making is not democratic”; rather the entrepreneurs he observed were in the habit of exercising the utmost control and “they w[ould] not tolerate much opposition from subordinates” (1983, p. 144). Whatever decision-making model is preferred, Casson (1982) suggests that if the entrepreneur is not a generalist proficient in the qualities required of all decision making stages outlined above, it will be necessary to hire delegates to pursue the entrepreneur’s objectives. Regardless of how much the entrepreneur may wish to keep decision making a solitary prerogative, the information upon which the decision is formulated and executed is not gathered or organized alone.
Delegation

The diversity of information required for decision making means that skills in delegation are essential in order for the entrepreneur to reduce the amount of time spent with each decision (Casson, 1982, p. 251). Delegation is not the same as subordination, but takes on different qualities in different organizational forms. In the case of worker cooperatives, Casson (1993) explains, “workers may collectively delegate managers to coordinate workers’ efforts so that they can operate effectively as a team” while in other respects “the workers may bear the financial risks and take responsibility for recruiting the manager, rather than the other way round” (p. 33). In hierarchical organizations in which there is a single entrepreneur, the entrepreneur may attempt to gain quality information by securing loyalty through creating “organization men”—careerists whose servility to the top-level decision maker may have the unfortunate effect of narrowing the range of communications, with fewer fresh slants or critical questions able to counterpoise or enhance the entrepreneur’s grasp of the situation (Wilensky, 1967, p. 42). Rather than encourage conformity, which limits innovation, it is in the interest of the principal entrepreneur to provide each delegate with discretion in the provision of information and to “encourage everyone to act upon the information they acquire at first hand” (Casson, 1982, p. 270). Entrepreneurs will require effective interpersonal skills to elicit relevant information from delegates. They will also need to know how to share power and make concessions if that is what it takes to see their ends through.

7.2.3 Innovation

For the majority of economic thinkers who came after Schumpeter, economic innovation and entrepreneurship are overlapping concepts. Perhaps their relationship may be most easily conceived in Drucker’s terms, who contends that “Innovation is the specific function of entrepreneurship” (1985b, p. 67). Innovativeness may then be thought of as a characteristic which describes “the degree to which an individual or other unit is relatively earlier in adopting new ideas than the other members of a system” (Rogers, 1983, p. 22).

Innovation is an act of implementing a new idea, which requires an openness to new information, a characteristic strongly influenced by culture (Mokyr, 1990a, pp. 186-190) and possibly also open to enhancement through practising a systematic approach to completing tasks and fulfilling obligations (Drucker, 1985b). A systematic approach involves reducing an overwhelming task to a sequence of manageable tasks, and maintaining “a conscious, purposeful search for innovation opportunities,” which involves being watchful of unexpected occurrences,
incongruities, process needs, or industry and market changes that arise within a firm as well as demographic changes, changes in social norms and new scientific or technical discoveries that arise within the external social and economic environment. Skills and attributes required are knowledge, ingenuity, focus, diligence, persistence and commitment (Drucker, 1985b, pp. 67-72).

There is empirical support for the idea that entrepreneurial creativity is enhanced by taking a systematic approach toward work. Welsch and Plaschka’s (1993) comparative study of entrepreneurs who practise planning and those who do not found the planners more able “to conceptualize the essentials of the enterprise in terms of its comprehensiveness, its strengths, the evaluation of opportunities, goal specification and control mechanism” than those who found planning “a waste of time” (p. 243). Planners were also more prone to practise proactive and rational decision making within a structured time frame, and they placed more stress on using analytical tools such as assessments of strengths and weaknesses, identification of marketing targets, and research of changes in customer tastes. They appeared better at convincing investors to inject money into the enterprise and at persuading suppliers to extend credit. Entrepreneurs with a propensity to plan tended to be more successful: they were not only able to begin with higher levels of capital investment than the others but had made a higher net profit as a percentage of sales.

The systematic approach may afford an orderliness which increases the visibility and significance of unusual events and emerging trends, and makes the need and the means to innovate more apparent. The two major forms of innovation, technological and organizational change, are obverse concepts that Someren contends “cannot exist in a market economy without each other and they also influence each other. Technical changes cannot be implemented without any change in design and/or organizational change and do have consequences for internal and external organization. The reverse is also true: organizational changes create new possibilities for technical changes” (1992, p. 205). The literature identifies both forms of innovation as involving skills in management and human resources development.

**Managing Innovation**

The management of the innovation process involves controlling technological resources, coordinating human resources and the activities of the organization’s different units, providing administrative support and guiding the innovation process, including its research activities (Hyvärinen, 1993, p. 327). Generally, the smaller and younger the firm, the more likely the owner-manager will be involved in the hands-on running of the enterprise, and the less likely the
innovation function will be separate from production and management functions (Thom, 1990, pp. 182-189). Some research suggests the personal and professional characteristics of entrepreneurs and managers determine to a large extent the innovativeness of small and medium-sized firms (ibid.). It has been argued, for example, that higher technical skills on the part of the firm’s leaders may inhibit the team’s ability to exercise its own creativity (Hyvärinen, 1993, p. 327). Human relations skills are therefore important in fostering the team’s creativity and motivating its members. Administrative skills include carrying out planning and scheduling and handling relations between the innovation team and other departments of the firm.

In large research organizations managers may provide support for the activities of the research team. This may involve negotiating with clients for resources and representing the organization’s image to the outside world—functions in which the manager acts as a barrier “protecting the professionals from turbulence in the environment” which Kennerley insists are not feasible activities for the research professionals to assume (1992, pp. 169-170). In an academic research environment, Brown and Sommerlad (1992) argue that management’s role is to facilitate but not intrude into the activities of the research staff: “it integrates goal setting, development review and leadership in ways that are sensitive to academic context and culture, the nature of academic work and the motivations and values of academic staff” (p. 177).

Mansfield (1983) suggests that different management skills are required at the research and development stages of the innovation process. During the research stage, the manager-entrepreneur needs to be “looser and more informal” than when managing other units of the industry; to “resist the temptation to manage projects in much detail”; to restrain one’s involvement to “providing general guidelines and goals, selecting capable persons, and providing a climate conducive to good work” (p. 87). Mansfield suggests the manager-entrepreneur needs to strike a balance in guiding research scientists: too much supervision may produce “technical hack work” that is overly narrow and short-sighted while totally unguided research may result in “waste and frustration” (ibid.). What management can do at this stage is communicate in clear but broad terms the company’s research aims in order to maintain both relevance and range, and ensure the research unit is responsive to information flows from the company’s competitors, its present and prospective customers and the research community at large. While the research unit should not be isolated from the product’s application and development units, some separation is necessary to prevent projects from being dominated by short-term, product-oriented tasks in which “the exploration of fundamentally new areas may be neglected” (Mansfield, 1983, p. 90). Furthermore,
long-term research projects should be accepted to enhance both the morale of the scientists involved and the company's ability to produce important new ideas in the long run. Finally, the manager-entrepreneur needs to realize the R&D personnel are not the only source of new ideas, and attend to ideas for innovations arising from elsewhere in the firm and innovations developing in other firms and industries (Nonaka, 1991, p. 97).

During the development stage, in contrast, there is less uncertainty which means that management can become more closely involved in defining problems and goals, and "can be more confident of a correlation between resources utilized and achievement" (Mansfield, p. 88). At this stage costs escalate dramatically: more labour, special tools and equipment are required. Because of their more expensive nature, projects in need of development not only can but will be scrutinized carefully, and financial commitments may be withheld "until the design concept seems both technically feasible and economically attractive" (ibid.). Once the technology is ready it needs to be transferred into operations. This is an extraordinarily difficult and sensitive task. On the one hand, "the researcher [may] not recognize the commercial implications of his work or [may] not want to release his findings until he has covered more of its scientific ramifications," and on the other "operating groups sometimes resist new technology" (ibid., p. 89).

Depending on the nature of change, the state of the organization at the time the change is introduced, and the process of innovation itself, technological and organizational change may face considerable resistance. As an agent of change, the entrepreneur's role under these circumstances may be one of devising methods to overcome resistance. This may involve providing the organization a new vision and negotiating from employees their motivation and commitment to change (Humphreys and Gomback, 1990). A well-known strategy for gaining commitment is to actively involve the people most affected by the change in implementing the transition (Kennerley, 1992).

Entrepreneurship is often seen as equivalent to innovation, but innovation that extends beyond the development of technical knowledge to include institutional and social arrangements that take advantage of the skills and knowledge of individuals (Gunderson, 1990, p. 46). As revolutionary changes in information and communication technologies have made knowledge the new competitive resource (Machlup, 1984), the technology itself may be viewed merely as the tool to facilitate the movement and development of this resource, with knowledge understood to reside in people and the organizations they inhabit. As Webber (1993) comments, when all industries in all sectors are applying similar technologies, technology can offer minimal comparative advantage.
The logical place left for companies and countries to build comparative advantages is with its workforce. The entrepreneur’s job therefore is to create an environment that will attract those with the sought-after knowledge, and encourage them to share and build upon that knowledge through continuous learning.

**Developing a Learning Culture**

In essence, entrepreneurial organizations, being focused upon innovation, are “learning organizations,” that is, organizations concerned with knowledge acquisition, technological experimentation and constant improvement (Garvin, 1993) as a means to “reduc[e] the economic value of existing structures of knowledge” (Eliasson, 1992, p. 253). “Intrapreneurship,” or entrepreneurship and innovation occurring within the firm, is another way of stating the practice of “organizational learning.” Economic growth is seen to be contingent upon the capacity of each firm “to steadily upgrade its competence through organizational learning” (Eliasson, 1992, p. 253).

The idea of a learning culture emerges in Argyris and Schon’s (1978) seminal work which identifies different capacities for organizational improvement, including “double-loop learning,” a critical stage involving not just changes to assumptions and practices in response to feedback (single-loop learning) but also probing the rationale of organizational norms. Garvin (1993) describes this as the difference between “knowing how things are done and knowing why they occur. Knowing how is partial knowledge; it is rooted in norms of behavior, standards of practice, and settings of equipment. Knowing why is more fundamental: it captures underlying cause-and-effect relationships and accommodates exceptions, adaptations, and unforeseen events” (pp. 84-85). As Lippitt (1982) explains, the process of organizational learning involves “initiating, creating and confronting needed changes so as to make it possible for organisations to adapt to new conditions, to solve problems, to learn from experience” (p. xiv). A learning organization is thus one which is “skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights” (Garvin, 1993, p. 80).

A learning culture pursues the practice of benchmarking, or borrowing and adapting ideas from others. This form of learning is often blocked by bias against the originator of the innovation on the basis of ethnic, cultural, religious, political, industrial or other divisions. Tolerance is therefore a significant attribute to develop for participating in a world economy. However, as Mokyr points out, the practice of benchmarking that gave Western Europe and Japan their technological leads was not based on tolerance but an ability to appreciate knowledge regardless of
its source, that is, these societies were more able than others to separate the people from the innovation and could revere the knowledge while despising the originators of that knowledge (Mokyr, 1990a, pp. 186-190). Effective competition and innovation are thus based on the wholesale rejection of the "not invented here" syndrome. At the level of the firm, Garvin (1993) suggests that "companies in completely different businesses can be fertile sources of ideas and catalysts for creative thinking" (p. 86). According to one analyst, benchmarking "ensures that best industry practices are uncovered, analyzed, adopted, and implemented" (Camp, 1989, p. 12). Far from being an ad hoc activity, at its best benchmarking "is a disciplined process that begins with a thorough search to identify best-practice organizations, continues with careful study of one's own practices and performance, progresses through systematic site visits and interviews, and concludes with an analysis of results, development of recommendations, and implementation" (Garvin, 1993, p. 86).

A systematic approach to benchmarking and other forms of learning from others should not, according to Ikujiro Nonaka (1991), replace but work alongside a more intuitive approach. As his study of the most innovative Japanese companies reveals, "The centerpiece of the Japanese approach is the recognition that creating new knowledge is not simply a matter of 'processing' objective information. Rather, it depends on tapping the tacit and often highly subjective insights, intuitions, and hunches of individual employees and making those insights available for testing and use by the company as a whole" (1991, p. 97). Nevertheless, Nonaka's means of tapping the tacit knowledge of employees is a systematic "process of making tacit knowledge explicit" which he refers to as "the spiral of knowledge" (p. 101): first, engineers and designers are sent to work in the field to understand how their innovations can make improvements to current practices; once these employees have acquired "tacit" knowledge, that is, hands-on experience of how people in the industry in which their innovation is to be marketed will actually use the technology, they then translate their experiences into "explicit" or theoretical knowledge to facilitate communication with other members of the team back at the firm; the production team then standardizes this knowledge by internalizing the newly-acquired explicit knowledge with their own tacit knowledge and thus "broaden, extend, and reframe" the explicit knowledge-base of an innovative firm, which, with the next attempt to acquire tacit knowledge through field experience, will go through the same spiraling process of moving from tacit to explicit and back, with the return representing the acquisition of a higher level of both tacit and explicit knowledge (p. 99).
Learning organizations, particularly those actively pursuing ongoing research and development, are characterized by a high tolerance for failure as an inevitability of dealing with uncertainty (Muzyka, 1989). Both Argyris (1991) and Garvin (1993) identify professional organizations as being in general more resistant to learning than others. Chris Argyris states that it is precisely because “Highly skilled professionals are frequently very good at single-loop learning” that they are also “often so bad at double-loop learning”; that is, since professionals “have rarely failed, they have never learned how to learn from failure. So whenever their single-loop learning strategies go wrong, they become defensive, screen out criticism, and put the ‘blame’ on anyone and everyone but themselves” (1991, p. 100). Professionals may be so accustomed to looking beyond themselves to the problems of others that they lack an ability to “look inward...to reflect critically on their own behavior, identify the ways they often inadvertently contribute to the organization’s problems, and then change how they act” (ibid.). Among universities in particular, Garvin contends that few would qualify as “learning organizations,” for though “effective at creating or acquiring new knowledge” they are “notably less successful in applying that knowledge to their own activities” (1993, p. 80).

In the business world, however, most theorists agree that the more successful entrepreneurs have experienced business foreclosures or other failures in the past, and that fear of failure is a major obstacle to innovation (Drucker, 1985a; Knight, 1987, pp. 22-23; Timmons et al., 1985, p. 153; Vesper, 1982). In their study of 150 new products, Maidique and Zirger (1985) concluded “the knowledge gained from failures [is] often instrumental in achieving subsequent successes....In the simplest terms, failure is the ultimate teacher” (pp. 299, 309). Similarly, Peters and Waterman had earlier observed that

A special attribute of the success-oriented, positive and innovating environment is a substantial tolerance for failure....Tolerance for failure is a very specific part of the excellent company culture—and that lesson comes directly from the top (1982, p. 223).

In order to minimize its cost and impact, the manager-entrepreneur needs to anticipate and know how to manage failure. This involves creating conditions supportive of organizational learning, which Sadler (1989) identifies as a climate that promotes experimentation; is tolerant of error; views mistakes as an opportunity for learning; provides feedback; respects individuals and encourages their questioning of the status quo; provides the highest level of autonomy possible; and does not shirk from confrontation when necessary (pp. 235-236). The means to create this culture have been identified by Kanter (1984), Muzyka (1988), Nonaka (1991) and Pinchot (1985) as including the use of cross-functional teams that would ensure high levels of communications, slack
resources in the form of direct available funding, underutilized employees and a "call option" on resources and management control exercised through developing a culture based on shared values and participative management. Muzyka's (1988) research of innovation managers of the largest corporate and government ventures in the U.S. economy (such as the Trans-Alaskan Pipeline, the Space Shuttle, etc.) also found that "it was not formal controls and contract administration that ensured communication and learning but trust" (p. 516) which was built, fostered and maintained through: (1) mutual respect, (2) the continued ... benefit of the doubt and fairness... in transactions, (3) strong cultural rules which prized honesty over achievement, (4) frequent face-to-face contact and informal discussion, (5) the threat of a return to normal interaction through systems, termination or the public loss of face when trust was violated and (6) inter-organizational interaction at multiple points and levels.

Practising the sixth point also lays the basis for developing a culture of shared values and may be enhanced through such instruments as in-house training programs (Brown and Sommerlad, 1992).

7.2.4 Performance Incentives

Trust and learning potential may be seriously undermined by the choice of incentives and methods of control used to inspire high performance among the workforce. The most commonly practised strategy for improving performance is to provide financial incentives in the form of pay raises or bonuses, schemes that Kohn (1993) claims are "strikingly ineffective" at improving employee performance because "the attitudes that underlie our behaviors" are not altered, no "enduring commitment to any value or action" is instilled, but "Rather, incentives merely—and temporarily—change what we do" (p. 55). The effect of incentives on highly motivated employees is shown to be detrimental. In studies of whether pay at the executive level is related to corporate profitability, "slight or even negative correlations between pay and performance" are often found (Kohn, 1993, p. 55). In one of the largest reviews of the relationship between incentives and productivity, a meta-analysis of approximately 330 comparisons from 98 studies, Guzzo et al. (1985) found no significant relationship between financial incentives and productivity. According to Kohn, "any incentive or pay-for-performance system tends to make people less enthusiastic about their work and therefore less likely to approach it with a commitment to excellence....People who do exceptional work...do not work to collect a paycheck. They work because they love what they do" (p. 62). Introducing manipulation into this work dynamic has employees feel their work is not self-directed, resulting in "a workplace in which people feel controlled, not an environment conducive to exploration, learning and progress" (p. 58). Among employees who were committed
at the start, the experience of being manipulated will normally “destroy motivation and create
defiance, defensiveness, and rage” (p. 58), reducing the value of the employee, because “The more
we experience being controlled, the more we will tend to lose interest in what we are doing” (p. 62),
and resulting in innovation, creativity, risk-taking and other behaviours indicative of employees
enjoying and taking an interest in their work being effectively driven out. This may be particularly
true of entrepreneurial or professional employees who have experienced high levels of autonomy in
their work.

Casson (1993) advocates a more subtle form of manipulation, one which if properly done
may not have the employee feel manipulated. He calls it “moral manipulation,” one of the least
expensive and, according to him, most effective methods of motivating professional and managerial
staff or others whose work is difficult to measure or evaluate and not conducive to direct
supervision. The process requires that the entrepreneur create “a corporate ethic of integrity and
dedication” so that employees feel the need “to punish themselves emotionally for lack of effort”
(1993, p. 44). Direct supervision is replaced by individual self-monitoring, a far more effective
method of transmitting and acting upon information. Moral manipulation also enables the lead
entrepreneur to draw out “that extra degree of effort of which only the employee...is immediately
aware” (ibid). The capacity to engineer a corporate culture in which personal commitment is
assured through moral manipulation is what, in Casson’s view, “distinguishes the true ‘business
leader’ from the mere ‘entrepreneur’” (ibid.). In attempting to establish culture, however,
“everyone monitors the signals given by others to confirm, suspend, or dispel assumptions and
concerns. They pay particular attention to those in authority...And, as always, what such leaders
do is more important than what they say” (Katzenbach and Smith, 1993, p. 118). To be successful,
a strategy that attempts to introduce moral manipulation or any type of work ethic based on shared
values and beliefs will require that business leaders themselves be moral leaders, seen among the
workforce as exemplars of the morals and work habits they wish to cultivate in others.

7.2.5 The Skills of Generalists

The complex skills outlined above have had theorists advocate that, ideally, individuals
going into business for themselves will be generalists whose multi-faceted skills have been honed
through many years of experience and intense involvement in mastering the details of running their
organizations (Casson, 1982, 1993; Corley, 1993; Gibb, 1990; Mintzberg, 1987). Generalists in
this sense are neither those who have a superficial knowledge of many diverse disciplines, nor have
they received a “general” education in a learning institution. Rather, they have acquired a breadth of understanding through first-hand experience and a conscious concern for accumulating knowledge, particularly though not exclusively that which is tacit (Casson, 1982, 1993; Corley, 1993; Gibb, 1990; Kantor, 1988; Mintzberg, 1987; Nonaka, 1991; Yasumuro, 1993). Mintzberg (1987) defines tacit knowledge as an “intimate understanding” of the industry derived through making a personal connection between “thought and action,” between “the work of minds and hands,” which is acquired when “implementors are allowed to be formulators” and when entrepreneurs are “intimately involved with all the details of [their] business[es]” (pp. 66, 68, 71, 74). Cleveland (1985) suggests that tacit understanding be balanced with some concentration in theoretical knowledge, arguing that one’s capacity for assuming a broad perspective is based upon acquiring knowledge in depth. “The best generalists,” he states, “begin as first-rate specialists” who “become saturated in one area” which can lead to drawing connections with other areas and formulating creative ideas (p. 11). Both Casson (1993) and Storey (1982) argue that the best entrepreneurs are likely those who develop their knowledge of the industry by first working for others, assuming “a variety of more functionally specialised roles,” making numerous lateral or vertical moves, and acquiring a “broad range of relevant experience” (Casson, 1993, p. 50). The time it takes to accumulate the diverse skills and experiences necessary to become an industry generalist is long, and “few entrepreneurs acquire the breadth of experience needed for high-level entrepreneurship until early middle age” (Casson, 1993, p. 52).

Unfortunately, the majority of people now entering into self-employment are often very young, inexperienced or may not have had the time or opportunity to accumulate the breadth and depth of tacit understanding desirable for the generalist before the advent of corporate downsizing. Although current high unemployment levels have effected university graduates and skilled professionals to a lesser extent than those with less formal education, the majority of new jobs opening for professionals and other skilled workers over the past decade in British Columbia were consultancies—jobs people had created for themselves (Kunin and Knauf, 1992).

When someone leaves the established routine and set responsibilities of a structured organization and either starts a business or enters some form of self-directed work outside of the organization’s environment, the job responsibilities expand significantly. In addition to providing a service or product, the newly self-employed may need to locate markets, negotiate fees, determine priorities, restructure work sequences, cost and price services, and perform a host of other managerial, clerical and custodial tasks that previously would be the responsibilities of others.
(Gibb, 1990). A more critical relationship between performance and reward is also introduced. In comparison to their counterparts employed in organizations, the self-employed generally find themselves working longer hours for less pay (Brockhaus, 1987, p. 4). Their leisure time is likely either to be curtailed, or enforced through lack of work, or to come at unpredictable periods which can make planning difficult. Stress levels may be higher. In the absence of employer-sponsored health care, training and pension plans, it is possible that the self-employed will forego expenses that are important to their long-term physical, intellectual and economic well-being. Consultants in the service sector and unregulated or unorganized professionals may not collaborate with each other but rather bargain individually and competitively for contracts. Not only are they more susceptible to corporate exploitation but the learning experiences that could be gained through regular interaction with colleagues may be limited to temporary membership in workgroups of various organizations. There is less feedback, less social contact and less opportunity to form work groups (Economic Council of Canada, 1987, p. 102, n. 29). The future of work as Charles Handy (1984) and others perceive it comprises a new form of “hunter gatherers” or contingency workers for whom the majority of new enterprise or entrepreneurship education programs were designed. The following chapter provides a review of these programs.

8. Summary

Entrepreneurial competence is a totality of skills, attitudes and behavioural traits based upon a combination of tacit understanding derived from personal experience and analytical and theoretical understanding acquired through synthesizing explicit knowledge. On the basis of the specific skills and behaviours required and circumstances encountered, little appears to distinguish entrepreneurs from managers who are involved in innovative processes and have to make judgemental decisions over the use of scarce resources during conditions of uncertainty. Whether this observation has any bearing upon economic re-organization and power struggles over control of one’s labour may depend upon the measures and incentives initiated to ensure the effectiveness of increasingly routinizing and systematizing innovative behaviour.

Studies of entrepreneurial traits identify four major characteristics: need to achieve, internal locus of control, risk taking and social deviance/marginality. While the literature provides some support for viewing entrepreneurs as motivated by a need to achieve and possessing an internal locus of control, these characteristics are apparently no more true of entrepreneurs than others in positions of leadership, many of whom are in roles not related to business and commerce.
The idea of the entrepreneur as a calculated risk taker reveals one who seeks out new opportunities as a means to avoid monotony but knows the odds and takes chances only when odds are favourable. Often a social deviant or member of a socially marginalized group, the entrepreneur naturally possesses perspectives that differ from the majority or the predominant culture, perspectives which may lead to visualizing ways of “doing things differently.”

Motivations of entrepreneurs appear to differ on the basis of culture primarily, and to a lesser extent by gender, age and socio-economic group. Studies comparing the values of entrepreneurs and non-entrepreneurs in developed countries indicate that tangible items such as money and benefits are valued more by non-entrepreneurs, giving some weight to Schumpeter’s suggestion that employees are rational actors while entrepreneurs are motivated by irrational factors. However, monetary reward or other forms of manipulating behaviour also appears to have a negative impact upon employees committed to their work. The long-standing claim that the profit motive is insignificant in promoting entrepreneurial behaviour has empirical support, but primarily in the United States where profit making is, in any case, a socially esteemed characteristic thought inherent to the culture; under these circumstances, it is likely that innovation, as an act which sets out to alter socially accepted practices, is motivated by other factors. American entrepreneurs claim to be motivated by numerous incentives other than prospects of profit, including a need to be creative, independent, secure, powerful, in a socially prestigious position, respected, admired, seen as superior to others, standing apart from the crowd and wielding authority over others while having no one wield it over them—all values stressing individualism in a social context, which suggests entrepreneurs whose position carries social legitimacy and are therefore confident of their right to act as they do are less concerned with money and more likely to exhibit the motivations Schumpeter identified than entrepreneurs who do not have this cultural sanction. This may also help explain why, relative to American males, entrepreneurs from the developing world and female entrepreneurs register higher levels of such values associated with entrepreneurialism as need to achieve and individualism; they may be compensating for an absence of social acceptance for their roles. Regardless of how diverse the values are among different groups, however, they all appear open to being shaped and enhanced, particularly during periods of economic turmoil.

Entrepreneurship is a highly adaptive phenomenon which appears differently in different environments and varies with time. Its skills are difficult to define because no two circumstances conducive to entrepreneurial action are sufficiently alike to require the same set of competencies. Nevertheless, the OECD and other policy advisors have suggested the skills of enterprise or
entrepreneurship in addition to management training be added to those which are seen as basic to surviving in the new economy. The kinds of enterprise skills the OECD and others emphasize, however, are those that will condition people who work for wages to accept and adapt to unstable employment. These are not in the same league as the leadership skills entailed in organizing for innovation.

Skills of leadership fall into the realm of entrepreneurial employers who are primarily concerned with the organizational cultures and structures, decision making patterns and innovation techniques that will gain access to and best exploit the economy’s most precious resource—the knowledge, information, perceptions and intelligence stored most abundantly in the minds of the workforce. Work structures that are small, flat, simple, flexible, adaptable, exhibiting cultures that are humane, oriented toward learning and teamwork, trusting in employees’ abilities to act autonomously and encouraging of employee self-direction and a sense of personal ownership over the work process are now seen as the means of getting the best results from an educated workforce in terms of intelligence, productivity, commitment and product quality. Consequently, these structures form the bases of recommendations currently put forward by theorists concerned with finding social arrangements that will tap and utilize the knowledge and expertise of the workforce.

A favoured structure identified in the literature for combining the communication benefits of small, flat organizations with the efficiencies of scale realized in large enterprises is the loosely-coupled network. Such structures promote simultaneous competition and cooperation, a mutually beneficial tension which provides a drive to learn and a framework for diffusing new-found information. Gains in creativity and productivity are in theory afforded on a macro scale in an economy composed of these networks as well as at the level of the firm. Beyond the firm’s boundaries, the networked model enables entrepreneurs from each enterprise to coordinate the introduction of innovations as a group, thus improving individual chances of success.

The literature identifies several components of innovative work cultures. This is a culture capable of adjusting practices in response to feedback, of criticizing norms underlying standard practices and of remaining open to new ideas regardless of source. In this environment risks that result in failure do not incur punishment or deprivation of self-confidence, but rather failure is accepted as a condition of risk-taking, is frequently experienced and is learned from as a means to avoid similar results in future. Despite trends to downsize and increase efficiency of “survivors” who remain employed, innovative and learning organizations are urged to make use of cross-
functional teams and slack resources—including employee resources—as a means to keep communications flowing.

Organizations may improve their innovative capacity by taking a systematic approach to work, which, as Nonaka's (1991) study revealed, may even be applied to expanding intuitive knowledge. A systematic channeling of endeavours consists of seeing work in terms of sequences of activities, of knowing the strengths and weaknesses of the enterprise in order to plan for improvements rather than react to crises, of understanding the external environment and anticipating directions of change, and of having a general idea of where the enterprise is headed. To fulfill these functions, innovative managers need not be experts in the field of technology—it may be better for all concerned if indeed they are not—but they should have a profound grasp of the tensions and anxieties involved in the knowledge creation process and a sufficiently general understanding of the research itself to promote a broadened perspective of possible applications and to inspire confidence and optimism among prospective funders. In addition, the entrepreneurial manager needs effective skills in administration and human relations, particularly an ability to persuade and negotiate.

One of the most important organizational attributes identified in the literature is a climate of trust. Long-standing relations between firms require mutual trust to reduce the transaction costs of contracting for goods and services. Effective decision making relies on information from others, requiring that those who supply it and those who receive it trust each other if lines of communications are to remain open and distortions or concealments avoided. Delegation requires the top-level decision-maker trust those delegated to perform tasks, and that the delegates themselves trust the decision-maker will accept opposing views or unflattering evidence. There is no trick to instilling trust; it comes from showing respect for employees' intelligence, encouraging worker autonomy, directing the enterprise in a fair and ethical manner, emphasizing that ethical standards be maintained despite potential or actual losses, and performing swift, direct and public justice when trust is breached. Similarly, employees will withdraw trust if the boss adopts "need to know," manipulative, unethical or unfair practices. Some studies suggest that a culture based on trust is the most effective as well as most efficient strategy for assuring long-term high standards among knowledge workers, whose performance is especially difficult to evaluate.

The literature on entrepreneurial competence reveals several contradictions. Appearing to be open all the while withholding or understating the importance of crucial facts, the entrepreneur's most effective means of promoting trust avoids the crass and obvious forms of manipulation but
relies on that which is “moral.” A poseur, certainly, but unlike most of this category, the
entrepreneur does not pretend to be more knowledgeable than what is actually the case, but less.
Some of the literature suggests such cunning duplicity is cultivated over a lifetime. The following
chapter describes formal educational programs at the university level designed to cultivate
“enterprising” skills and behaviour.
Chapter Four: Enterprise Education

The kind of vocational education in which I am interested is not one which will "adapt" workers to the industrial regime; I am not sufficiently in love with the regime for that. It seems to me that the business of all who would not be educational time-servers is to...strive for a kind of vocational education which will first alter the existing industrial system, and ultimately transform it.


[A]s economies pass from mass production to high-value-added production, schools ought to be producing more self-confident innovators, and fewer well-drilled drudges.


1. Introduction

This chapter discusses the role of education in preparing entrepreneurial or enterprising people. It first looks at the effects that education is claimed to have on entrepreneurial attitudes, focusing on the educational function of reproducing culturally predominant values. It then turns to a discussion of the forms of enterprise education available, which Jamieson (1984) has divided into three categories. The first, "learning for enterprise," includes courses that introduce the aspects of running a business. These are usually found as electives to core programs (often restricted to commerce and/or engineering students) or as non-credit continuing education programs. This model predominates in industrialized countries. A second type of enterprise education, "learning through enterprise," strives to teach traditional subjects in "enterprising" ways so that students become active learners and perhaps comprehend the commercial possibilities of their discipline of choice. The approach represents a shift in the curriculum from the assimilation of knowledge to the acquisition of skills, and is the model for Britain's Enterprise in Higher Education initiative. A third but highly underdeveloped model, "learning about enterprise," is aimed at teaching the "agents of cultural transmission" and others about the social context of entrepreneurship.

2. The Relationship Between Entrepreneurship and Education

It is not known whether or to what extent entrepreneurship can be taught. A primary difficulty, as the previous chapter indicated, is that "being enterprising" is not easily explained, but "consists of rather slippery notions such as 'dispositions,' 'attitudes,' 'competencies,' [and] 'personal abilities'" (OECD, 1989a, p. 46). Unlike general or vocational education, no clearly defined body of skills or knowledge form the basis of enterprise education. According to the editors of the Encyclopedia of Entrepreneurship, "less may be known about the effects and effectiveness
of entrepreneurship education than any other phase of entrepreneurial study” (Kent et al., 1982, p. xxviii).

Educators have also questioned whether entrepreneurship should be taught, but for different reasons. Caird (1990b) questions the moral legitimacy of teaching a subject that she believes serves as the basis for a capitalist economic structure and will therefore perpetuate capitalism. Chamard (1988/1989) contends the subject would be too upsetting to the social order if it became part of mainstream education, and suggests that perhaps “society is better off with a system of education which emphasizes compliance” (p. 26). The value of attempting to educate for entrepreneurial competence is often questioned by enterprise educators themselves. One of the concluding points that had reached some consensus at a conference of educators of entrepreneurship was that education was antithetical to the process; instead entrepreneurs should be left to learn from their own mistakes. Or, as they stated, “By training, as giving potential entrepreneurs a detailed guide for a business plan, you are artificially raising the [learning] curve. It’s cheating!” (Schreir et al., 1975, p. 247). However, the generally accepted approach of acquiring entrepreneurial skills in a haphazard experiential way of “learning by doing” is extremely costly and inefficient. Binks and Vale (1990) suggest that “The high disappearance and failure rates of new and small businesses...reflects a naiveté and ignorance that is consistent with inadequate and restricted access to relevant training and education” (1990, p. 132).

3. Human Capital Theory

Human capital theorists have contended that higher investments in education would yield improved entrepreneurs in terms of earning potential and the success and longevity of the business. The entrepreneurial function is perceived to be the application of “human capital activities” which involve “not merely the transmission and embodiment of available knowledge” but also promote “the production of new knowledge, which is a source of innovation and technical change” (Mincer, 1984, p. 202). But, as Eliasson states, “You need knowledge to organize knowledge creation or acquisition” (1992, p. 254), and to know which knowledge is important and which is incidental. Theodore Schultz assumed education contributed to entrepreneurial development because it enhances the “ability to perceive and to interpret new information and to decide to reallocate opportunities” (1980, p. 437). Because theoretical, codified knowledge may afford a wider range of possible linkages than knowledge gained through experience, Schultz argued that formal education is “more useful in dealing with changes in a complex technology and also more durable than
[ability] acquired from experience” (p. 445). Therefore, as technology becomes more intricate, the comparative advantage of well-educated entrepreneurs increases. Several studies support the view that entrepreneurs with higher than average levels of education tend to be more successful in terms of profit and growth (Brockhaus, 1982; Gasse, 1982). Robinson and Sexton’s (1994) survey of self-employed individuals using U.S. census data, for example, found that while both years of formal education and years of experience had a positive and significant relationship with self-employment success, the impact of education appeared to be stronger than experience.

Critics of human capital theory suggest the link between investments in education and economic growth is less direct than originally thought (Blaug, 1992). They point out that high rates of investment in education during the 1960s and 1970s were followed by disappointing rates of economic growth in some countries, no growth in others (OECD, 1989a, p. 9). These rates of return are more than disappointing in underdeveloped countries, which generally allocate a larger proportion of scarcer resources to education. The argument human capital theory proposed, that formal education might be able to develop the entrepreneur’s “efficiency in acquiring information and in formulating and acting upon expectations” (Schultz, 1980, p. 443), neglected questions of inculcating values and attitudes thought inherent to entrepreneurship and skills in leadership and interpersonal relations. Singh (1990) suggests that in underdeveloped countries autocratic pedagogical methods of classroom control served to inhibit rather than develop whatever entrepreneurial tendencies might have been present. Educationalists of industrialized countries have also suggested fundamental change to pedagogy and classroom and institutional organization is called for to develop “enterprising” people.

Criticisms of the education system’s ability to develop enterprising people come primarily from two camps. There are those who see formal education, especially in the liberal arts and at the university level, as promoting anti-commercial attitudes. Then there are those who suggest that the education system served society well when the goal was to achieve social stability through reproducing a bureaucratic order, but now that the predominant industrial structure is changing, current educational processes are dysfunctional for meeting economic and social needs. In the first instance, Baumol (1983b) makes a useful distinction between being “anti-business” and “anti-entrepreneurial”: conceiving of entrepreneurship as innovation and change, he suggests many business people are anti-entrepreneurial while many who claim to be anti-entrepreneurial are actually anti-business. Most of the literature does not make this distinction.
4. Criticism 1: Educational Institutions as Sources of Anti-Commercial Attitudes

There is suggestion that the educational system is a wellspring of anti-commercial attitudes. Wiener's (1981) oft-cited and highly contentious thesis holds Britain's education system responsible for having "propagated an antiindustrial bias" (p. 132), which he argues contributed to the long-term decline of the British economy since the end of the nineteenth century. During the Victorian era, Wiener explains, science was associated with "vulgar industry, artisans, and commercial utility" while industry "meant an uncomfortable closeness to working with one's hands, not to mention an all-too-direct earning of money" (1981, p. 18). In an examination of the relationship between education and society in Western Europe, Ringer (1979) suggests the university's role of transmitting the traditions that embody a cultural heritage has in effect led to the transmittal of "a partly idealized past" that upholds the norms and values of a more genteel era that never existed outside the imagination but which contrasts starkly with the more tangible, banal and therefore contemptible shortcomings of present commercial realities. Thus "the traditions and values transmitted by higher education can conflict—and have often conflicted—with the contemporary hierarchy of social norms and purposes" (1979, p. 7).

Among the literature specifically addressing higher education's role in shaping attitudes toward entrepreneurship, Shapero's (1984) perceptions of the American education system's weaknesses and his suggestions for ways it may be improved are fairly typical. Shapero contends that educated people in general have a "deep-seated cultural bias against commerce and trade" which is cultivated primarily during their time spent in universities (1984, p. 30). He suggests that "with every enlargement in the numbers and segments of a country's population participating in the benefits of higher education the greater the odds of a prejudice against trade, commerce, and entrepreneurship" (p. 32). Viewing education as critical to economic growth, he suggests it is therefore essential to shape the values of students within universities.

It is in academia that the greatest socialization of a country's intellectuals occurs....There are the professional teachers and educational administrators. There are the professionals who influence public opinion and values and the policymakers who turn values into legislation. Then there are all of the potential technical entrepreneurs, the engineers and scientists, whose perceptions of entrepreneurship are most readily influenced during the time of their education (p. 32).

He estimates that universities offer "the greatest leverage" of all education institutions in a process of cultural re-engineering. This requires first a change in the attitudes held by the professorate, which Shapero thinks can be accomplished through a series of research grants for entrepreneurial studies "aimed at developing an attitudinal climate that sees entrepreneurship as good and
welcomes steps to develop the skills that make entrepreneurship possible” which will help
determine “what is taught and what is advocated in the classroom” (1984, pp. 38, 37). Shapero’s
tactic for achieving attitudinal change, however, leaves the hierarchical organization of educational
institutions intact.

5. Criticism 2: Educational Institutions as Sources of Entrepreneurial Failures

It has been argued that strategies to develop enterprising attitudes need to be accompanied
by a flattening of the organizational structures that determine the relationship between teachers and
learners within many higher education institutions in order to avoid “perpetuating the inequalities
of nineteenth-century capitalism on new terrain” (Brown and Lauder, 1992, p. 22). This line of
argument contends that despite any intentions on the part of educators to the contrary, if
bureaucratic models continue to predominate in education systems, entrepreneurial skills and
attitudes will continue to be undermined. A very common theme running throughout the literature
claims that students who have a propensity toward entrepreneurial activity have difficulty coping
within the formal education system, and many do not complete secondary school let alone go on to
postsecondary (Chamard, 1988/1989; Secretan, 1985). Chamard argues the reason for this is not
that entrepreneurs resist learning, but that formal education is not primarily about the acquisition
of knowledge or skills; rather its purpose is to pass on attitudes appropriate for developing
compliant, disciplined behaviour and a strong work ethic in people destined to be employees in a
system most concerned with the preservation and legitimization of social inequality (Chamard,
1988/1989; see also Parker, 1970; Murdock, 1974; Russel, 1974). This follows Bourdieu’s thesis
which contends “Programmed individuals—endowed with a homogeneous programme of
perception, thought and action—are the most specific product of an educational system”
(Bourdieu, 1967, p. 340). Gintis’s (1972), “correspondency” thesis is even more specific: schools
of the mass production era were meant to cultivate

the values of docility, degrees of subordination corresponding to different levels in the hierarchy
of production, and motivation according to external reward. It seems also true that they do not
reward but instead penalize creative, self-initiated, cognitively flexible behavior...the individual
as passive receptor replaces the individual as active agent.

A less intriguing but more plausible explanation is put forward by Brown and Lauder (1992) who
counter that mass schooling “has never resembled a simple ‘correspondence’ to the requirements of
the economy” (p. 9), but is merely “an institutional expression of societal attitudes and power
relations” that has “been shaped by the more general processes of bureaucratization, which has been the dominant form of social organization throughout this century” (p. 11).

Regardless of whether the structure of educational institutions explicitly or implicitly corresponds to the needs of industry, the “industrial model” of education is widely believed to drive out the competencies educators are being asked to instill. Hargreaves (1981) argues the existing “social relations of pedagogy” derive from a class-based industrial society and serve primarily to condition people to accept deferential and conformist working roles. Thus the established social organization of the education system is “highly dysfunctional” for an emergent entrepreneurial society needing to foster qualities of autonomy and creativity (pp. 197-210). The OECD suggests that large hierarchically structured educational institutions promote a traditional “teacher-instructs-pupil” relationship that follows a “manager-supervises-worker” model which is inappropriate preparation for the model it assumes will predominate: small, non-hierarchically structured organizations in which employees have greater responsibility (1989a, p. 31). In a rare examination of how middle-class education corresponds to the needs of the workplace and reproduces social patterns, Hickox and Moore (1992) argue that in the postwar period, elite education increasingly abandoned its claims of transmitting “leadership qualities,” as is reflected in the greater emphasis placed on examination success, and instead its primary function has been to furnish credentials to gain entry to jobs in bureaucracies in the private or public sector (p. 105).

Essentially, the bureaucratic education model, Brown and Lauder (1992) contend, communicates that “compliance will lead to credentials will lead to jobs” (p. 22), a formula out of sync with an “enterprise economy.” Watts (1983) agrees the industrial model “reflects, and reproduces, a culture which is alien to, for example, entrepreneurial activity,” adding that it perpetuates an individually and socially harmful view that “jobs are created and shaped by impersonal institutional structures” and “all the individual has to do is find ways of gaining entry to them” which conveys that education is important, not because the student may actually learn anything, but “largely because it controls many of the access points” (ibid.). As for education institutions promoting a “learning culture,” Chamard (1988/1989) suggests that if knowledge and learning are not entirely removed from the education process, they are at least subordinate to it; as he sees it, the primary activities of the education process centre around grades and promotion. These rewards, Harris (1982) suggests, are distributed unevenly not as a reflection of intelligence, creativity or originality but to indicate a student’s preparedness for hierarchical situations and the willingness to conform to gain social acceptance and success.
Not only does the industrial model act as a screening device for employers concerned that future employees be inculcated into appropriate behaviour and attitudes, Brown and Lauder (1992) contend that the system “seeks to promote a ‘talented’ few while cooling out the majority” (p. 19); that is, it offers greater equality of opportunity to a larger number students and at the same time limits “the aspirations and ambitions of the majority by defining them as academic failures” (p. 22). Furthermore, the authors claim that the bureaucratic model “is designed to create failures—people who do not believe they have the capacity to think creatively or have the capacity to influence decisions about the world in which they live” (p. 30). But even the “winners” screened to lead the pragmatic world of business are, according to critics of the bureaucratic model, indoctrinated to be unexceptional in every way. Richard Scase (1992) argues that managers are educated to be “compliant, dutiful and reliable....they are not expected to be exceptionally ‘creative,’ ‘entrepreneurial’ or ‘individualistic’ since these qualities could lead to an undermining of the bureaucratic or ‘fordist’ principles upon which modern management techniques were established” (p. 80). Ronstadt (1990) also criticizes management education for ignoring entrepreneurship “in favour of producing bureaucrats, euphemistically called middle managers” suited for employment in large corporations (p. 73). These arguments follow the classic thesis of W.H. Whyte who noted in The Organization Man that the purpose of higher education systems was to teach people how to become “the technicians of society, not innovators” (1960, p. 66).

Under these conditions, entrepreneurs, generally thought to have a high need for achievement and internal locus of control, may, as Chamard states, “feel like outcasts in a system that rewards subservience and conformity” (1988/1989, p. 26). As he sees it, “The conclusion is inescapable—at best, education is not particularly supportive of entrepreneurship. At worst, it is an agent which suppresses...the very characteristics which are most important for entrepreneurs” (ibid.). This outcome might be perceived beneficial if the goal is social and economic stability, for as Chamard points out, “the world would be a quite different place if [students] were actively encouraged...to be self-directed, anti-authoritarian, high achievers” and were prepared “to do subversive, entrepreneurial things” (ibid., pp. 26, 27).

The studies above may be overstating the case. Other findings argue education must have had some beneficial effects on entrepreneurship for the myth of the uneducated entrepreneur has long been refuted by evidence. An early U.S. survey conducted by Douglass (1976) found “the formal education level of entrepreneurs has been rising over the past fifteen years” in relation to the general population: while the proportion of people in the U.S. holding college degrees increased
from 7.5 percent to 10.7 percent from 1960 to 1970, the proportion of college-educated entrepreneurs increased from 9 percent to 37 percent from 1961 to 1975 (p. 40). Studies show Canadian entrepreneurs also have higher levels of formal education than the general public (Thompson, 1986). Still other research suggests that education may increase the likelihood that an individual will have sufficient confidence to enter some form of self-employment and may also have a positive effect on entrepreneurial outcomes. In their survey on education levels of entrepreneurs, Robinson and Sexton (1994) concluded that not only do the self-employed “have a higher level of education than those in the wage and salaried sector” but that “higher levels of education increase both the probability of becoming self-employed and the success of individuals in that sector in terms of earnings” (p. 150). The findings that suggest higher education increases the likelihood of entering self-employment and chances of success are highly disputable, however, as the researchers failed to examine other possible contributing factors such as the respondents’ socio-economic or cultural origins or the employment backgrounds of parents or other possible role models.

Studies that indicate entrepreneurs are becoming better educated than the general population are perhaps not surprising. As entrepreneurship is an economic function based on knowing more, applying knowledge more effectively and networking for sources of information, and as knowledge itself has become more subject to codification and increasingly essential to the economy, those with a propensity to enter into economic entrepreneurship might reasonably be expected to perceive the importance of receiving a formal education, if not for structured knowledge then for business contacts. None of the arguments above showing how well-educated entrepreneurs have become profess the education system to be a success; they cannot, precisely because they do not separate education from other cultural factors such as capital availability and familial support or from wider processes of economic and social change. As Rees and Rees (1992) point out, “the diversity of small businesses and self-employment is not a random phenomenon. Rather, it is structured by virtue of the differing characteristics and resources which individuals bring with them when they set up on their own; and by the highly uneven distribution of opportunities for successful small enterprises in different local economies” (emphasis in original; pp. 126-127). If formal education as it stands can do little to correct the imbalance of wealth or cultural capital, but serves to dissuade those with potential to lead change from entering economic activities or directs them toward less influential or less pivotal forms of self-employment, it may after all be a beneficial institution for social stability.
6. Enterprise Learning

Enterprise education initiatives are linked to a vast array of aims identified with economic development. In the field of education and training, the words “enterprise education” may refer to anything from developing enterprising behaviour or “life skills” to reducing unemployment, gaining practical work experience, restructuring the labour force’s skills and attitudes to prepare it to more effectively cope with new technologies and changing work patterns, managing innovation processes, changing pedagogical approaches to business studies, influencing career choice toward business ownership, teaching skills for small business management and development, and understanding the political, historical, economic and cultural contexts of industry and markets (Caird, 1990b, p. 47; Gibb, 1990, pp. 36-37). An initial attempt to systematize the various approaches to enterprise education was undertaken by Jamieson (1984), who began by identifying three reasons educational institutions would offer enterprise education, each requiring different models of practice: (1) to educate students about starting up and running a business; (2) to develop enterprising students with the skills, attitudes and knowledge to create their own futures and solve their own problems; or (3) to develop a curriculum that would communicate the skills, values, attitudes and contexts appropriate to enterprise. These three positions were classified in terms of whether the education was primarily “occupationally oriented” (education for enterprise), “process driven” (education through enterprise) or “content laden” (education about enterprise). In general, discussions on enterprise education focus on education for and education through enterprise, with little attention paid to education about enterprise.

The following discussion uses Jamieson’s basis for distinguishing forms of enterprise education, although the two major forms have also been categorized by the OECD (1989a) as the “narrow” approach to learning enterprise (education for) and the “broad” (education through). Based on the “processes” and “products” of education, Johnson (1988) makes a further differentiation between training and education. Enterprise training, he suggests, is a process of learning the “nuts and bolts” of business with the product being more new enterprises and entrepreneurs. He feels the process of enterprise education, however, can be either education about, through or for enterprise, “and the products respectively will be people better informed about business, more enterprising people, and better prepared potential entrepreneurs” (p. 62). Underlying these various distinctions are two separate but not contradictory versions of “enterprise culture”:  

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The first is dominated by the concern to regenerate the economy through educational programmes that promote an understanding of the processes of "wealth creation," foster positive attitudes to entrepreneurialism and employment, and provide relevant skills. The second takes the broader view that enterprise or the ability to be enterprising will be an essential survival tool for the individual in a rapidly changing society and that this approach will be required to solve a variety of social, environmental, political, and economic problems. This second perspective demands that enterprise is seen as a theme for the whole curriculum and not as a specific component of education for "working life" (Crompton, 1990, p. 17; cited in Rees and Rees, 1992, p. 131-132).

Education for enterprise and education through enterprise grew out of quite distinct movements, and significantly, neither were inspired by educationalists or ministries of education (OECD, 1989a, p. 7). Education for enterprise developed from a concern to help set up and improve business operations for immediate economic application, and is targeted at those who are or intend to be business owners and managers. Support comes primarily from the private sector. It is the most well-developed form of enterprise education, and with some innovative exceptions, its approach emphasizes changes to the curriculum over changes to pedagogy (OECD, 1989a, p. 7).

Education through enterprise is less occupationally specific and may be relevant to either entrepreneurs or employees. It developed from criticisms of traditional education formats and concerns over graduate competence and capability expressed by several sectors of interest and government departments (usually dealing with employment). The educational process uses projects and activities to develop "qualities and competencies that enable individuals, organisations, and communities, societies and cultures to be flexible, creative and adaptable in the face of, and as contributors to, rapid social and economic change" (OECD, 1989a, pp. 6-7). The focus is more on "developing particular competencies for life in general" (Johnson, 1988, p. 62) than skills specific to business management, and will require "changes in education methods and pedagogy...rather than...changes in curriculum" (OECD, 1989a, p. 7). While the various forms of enterprise education have been argued to share certain pedagogical features in common such as being participant centred, focusing on active rather than passive learning and developing management skills in the set up and running of a project or business (Caird, 1990a), the format and philosophy underlying the approaches to learning enterprise are quite different.

7. Education for Enterprise

Education for enterprise began in the United States during the 1960s, apparently in response to student demand for courses that offered alternatives to corporate employment (Kent et
The programs aim to assist current or potential managers and business owners with the creation and development of usually small (but not necessarily innovative) businesses through direct training. These types of courses generally fall into four categories (Caird, 1990b). In one area are programs intended to develop people's need to achieve and other entrepreneurial characteristics and behaviours. These programs are often based on research conducted by McClelland and Winter (1971), and are most frequently directed toward underdeveloped regions or countries (Caird, 1990b; Cortes, 1975). A second category deals with the management and growth problems specific to small business. This category is underdeveloped because it requires training tailored to the specialized needs of an industry (Curran and Stanworthy, 1989). In a third area are courses concerned with innovation and new ventures (Kent, 1990). A fourth category covers courses that focus on the specific occupational skills required to establish a small business or enter self-employment, covering such areas as drawing up a business plan, raising capital, finding premises, and dealing with legal, organizational, marketing and financial issues (Vesper, 1975). Programs in this last area are the most common, found at most universities across Canada, community colleges and school boards. This section will focus on programs available in the third and fourth categories.

Some generalizations can be made of programs concerned with entrepreneurship and small business development. Course content is skill rather than knowledge-based; courses are practical and applied rather than academic and theoretical; and the emphasis is on active learning (Gartner and Vesper, 1994; Kent, 1990; Vesper, 1975). Ideally, entrepreneurship programs include simulation exercises, venture design projects, case studies, readings, lectures by guest speakers, field trips to meet entrepreneurs at work in their own commercial environment and forums for networking. Most courses culminate with students presenting a venture plan to the class or to professionals for feedback (Kent, 1990; Vesper, 1975). Business faculties may offer one or two "integrative" courses which focus upon marketing, operations, control and strategic planning. Engineering faculties may offer their students training in accounting, economic analysis and a host of other business subjects (Vesper, 1982). A common criticism educators make of these courses is that they lack context and few attempts are made to connect the practical nature of the studies to academic research on the subject. Kent (1990) states that not only is there little discussion of either economic theory, the history of entrepreneurial contributions, or the sociology and psychology of entrepreneurs and their role in business and society but that the problems of innovation and starting

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1 See Robinson and Long (1992) for an inventory of course offerings at Canadian universities.
entirely new ventures tend to be neglected in favour of more mundane courses on small business management. This may be due to the underdeveloped nature of entrepreneurship education. Because there are so few courses offered at each institution, those available can “cover little more than a good basic introduction to the field” (Robinson and Long, 1992, p. 67).

The stark “nuts and bolts” approach of many education for enterprise programs may also be due to educators having no agreed upon operational definition of what entrepreneurship is or what kinds of attitudes or skills would be appropriate to develop. Petrof (1975) states that when he and some of his colleagues set about designing an entrepreneurship education program at Laval University, they began by attempting to define the concept. After several months of “painful” if not “almost impossible” discussions that amounted to “academic hair-splitting” they decided “the important thing was to get started somewhere” and so Laval’s program, like most elsewhere, was implemented without an agreed-upon definition of entrepreneurship (p. 275). Similarly, in the absence of coherent and persuasive literature on the economic importance or psychological and behavioural characteristics of entrepreneurs, the pedagogical approaches designed by Jeffry Timmons, which are among the more highly regarded, are based upon his “strong beliefs” and “basic notions” of what should form the basis of a budding entrepreneur’s education (Timmons, 1975a, p. 291).

When a wide variety of university faculty from diverse campus cultures decide to develop entrepreneurship programs independently and without a clearly defined understanding of what entrepreneurship is, the predictable result is a crazy quilt of programs bearing little relationship to one another. Such confusion may be clarified by attempting to interpret the kind of organizational model the various educational programs appear to be designed for. In the following examination of entrepreneurship programs offered at different universities, three models are perceived: the small business model based on an individual entrepreneur; a model of the “team entrepreneur”; and a network of knowledge workers.

7.1. The Small Business Model

A model favouring small business which associates entrepreneurship with innovation was designed for Baylor University by Donald Sexton and Nancy Upton (Sexton and Upton, 1987, pp. 35-43). The model is based upon Sexton and Upton’s psychological testing of entrepreneurs which compared business majors at Baylor to entrepreneurship majors, found significant differences on nine substantive scales and then developed a profile of the entrepreneurship student.
relative to those enrolled in business programs: entrepreneurship students were found to have a higher degree of self-reliance and self-determination; were sometimes more rebellious and unmanageable; were more welcome of change, more flexible and unpredictable; they behaved inconsistently when faced with routine situations; were more energetic and capable of long hours of intense work over longer periods of time; they preferred impersonal relationships and were emotionally aloof and unresponsive; they had difficulty relating to others yet were persuasive and manipulative; and they were more tolerant of ambiguous situations and tended to feel less anxiety when faced with uncertainty. Using this profile, the researchers developed a teaching method and course structure intended to enhance what they perceived to be the students' positive characteristics, to provide skills to overcome apparent negative ones and to increase "the overall effectiveness of the learning experience" (1987, p. 38). The program that resulted was unstructured in the sense that no guidelines to assignments were given, and problems were posed which required "novel solutions under conditions of ambiguity and risk" (ibid.). A "frustration factor" was introduced: information needed to complete assignments was either not readily available or required some finesse and considerable digging to access. Given that communication difficulties were identified in the student profiles and the emphasis other studies place on developing interpersonal and negotiation skills among potential entrepreneurs, it is uncertain why the researchers decided the course "should also stress independent study rather than group efforts" (ibid.), or why they viewed teamwork as a process that could "restrict student independence by requiring group members to acquiesce to the majority" (p. 39) rather than a process that could develop skills in persuasion, patience and diplomacy.

Most enterprise training programs, including the above example, are "aimed at producing more entrepreneurs, usually in the classical economic sense of the word" (Johnson, 1988, p. 64), meaning individual owner-operators of small businesses. In Britain, where education for enterprise schemes were introduced in the early 1980s to virtually every sector of the population—from children in primary grades to early school leavers, the unemployed, students in trade or vocational programs and others—it is also "the small business sector which provides the crucial model" (Rees and Rees, 1992, p. 122). This follows the ideology of Thatcherism as expressed by Lord Young of Graffham, Conservative MP and main architect of enterprise education programs in Britain, who stated "The basis of enterprise culture lies with the restoration of the age of the individual" (1992, p. 29). According to Rees and Rees (1992), the small business model is becoming so entrenched in Britain's enterprise education programs that there is little consideration of other organizational
possibilities. Moreover, the simulated small business models in which students learn about entrepreneurship emulate a hierarchical division of labour, which, Rees and Rees argue, serves to make education for enterprise a politicized vehicle for legitimizing a specific form of economic organization: it “has the potential to stifle any criticism of existing patterns of power relations within organizations. In short, it has the effect of closing off alternatives, rather than opening them up. Ironically enough, its replication of traditional organizational forms reduces the scope for innovatory practices and educational experiences, rather than expanding them” (Rees and Rees, 1992, p. 137). Rees and Rees suggest that the small business model is so “inappropriate to the needs of the vast majority of pupils” that “it is difficult to escape the conclusion that the primary function of such ‘education for enterprise’ programmes is to reinforce a particular account of the functioning of the economy: an ideology which places prime causal and, indeed, moral responsibility upon the individual, rather than the community or state” (pp. 139-140). Because those who cannot find work have been trained to create their own, the message Rees and Rees perceive the state is sending through education for enterprise programs is that poverty and unemployment are due to individual inadequacies rather than inadequacies inherent to the economy.

Many of the funding agencies supporting Britain’s various enterprise education schemes have a visible bias for the small business format (Rees and Rees, 1992, p. 121). However, there is nothing to prevent alternative organizational models such as worker cooperatives or community businesses from being introduced (Ahier, 1994; Caird, 1992; Craft, 1994; Leftwich, 1991; Wright, 1990, 1992). The reasons for the small business model being held as an exemplar may not be entirely politically motivated but may be simply due to instructors of entrepreneurship being more knowledgeable of the small business model and perhaps having little experience with other organizational forms; or the instructors may have preconceived notions of entrepreneurship that promote indifference or hostility toward less individualistic models. The latter appears to be the case in a study Kiesner (1990) conducted which contrasted the perceptions of American faculty members teaching entrepreneurship with practising entrepreneurs enrolled in the same programs. The study found that faculty and students held strikingly different conceptions of what it means to be an entrepreneur. The faculty surveyed thought courses on leadership, teamwork and interpersonal dynamics were not necessary for entrepreneurial development while entrepreneurs stated clearly that they were, a finding Kiesner attributes to faculty taking “too seriously the common view of the entrepreneur as a rugged individualist who does not need others’ help in
building a business” (pp. 102-103). In general, programs emphasizing teamwork and networking appear to be the more popular and highly esteemed among entrepreneurs.

7.2. The Team Entrepreneur

Because “No individual has all the managerial skills or personal qualities that goes into making someone a successful entrepreneur” (Timmons, 1975a, p. 267), Jeffry Timmons’s programs, developed first in Northeastern University, then transferred to Babson and now at the Wharton School of Business, stressed from the start the concept of entrepreneurs building and working in teams. His courses on developing new enterprises combine features of education for enterprise with education through enterprise to closely simulate the conflicts, decisions and problems involved in creating a business. Active learning in a framework of learning-by-doing and trial-and-error is employed, and case studies, in-basket exercises and a great deal of group work are utilized as well as much assessment of one’s own strengths and weaknesses. In designing these courses Timmons explains that “There is a strong belief here that entrepreneurial-oriented students have practical, if not very impatient, learning styles. They prefer the concrete over the abstract, listening to lectures. Thus, an effective pedagogical design for a new venture creation course would include materials and methods which engage and activate the student to facilitate lively learning” (1975b, p. 291). The exercises are intended to “systematically assist participants in assessing their own potential as new venture team members” and to “reveal entrepreneurial and managerial capabilities as well as the problems and rewards of working with others in a venture team” (Timmons, 1975a, p. 267). The underlying philosophy guiding his pedagogical approach is “a basic notion that the key to the creation of successful enterprises—large and small—is the right combination of people, ideas and capital. Of these, the people in the entrepreneurial team are the most important ingredient” (Timmons, 1975b, p. 291). Timmons claims that this course “has been consistently over-subscribed and formal, detailed student evaluations have consistently rated the course and materials at the top or among the top five of all courses offered in the [Babson] College of Business” (1975b, p. 292). Furthermore, in its second year at Babson, enrolment surpassed traditional areas of business concentration such as personnel, industrial relations and international marketing (ibid., p. 293).
7.3. Interdisciplinary Knowledge-Based Networks

The entrepreneurship program at the University of Calgary assumes the structure of a network of student interns from several faculties and departments joined in servicing the needs of high-tech entrepreneurs from the local area. The program is highly regarded by past entrepreneur-participants and receives far more applicants than spaces available (Wyckham, 1989). Entrepreneurs are selected on the basis of being innovators in a high technology field as well as being “least able to pay” for and “most in need” of information on markets, methods of financing, new-product design, and production and distribution strategies (McMullen, 1988, p. 13). Using a case study approach, students acting as consultants under the guidance of senior faculty are exposed to the real problems and information deficiencies of innovative entrepreneurs, while the entrepreneurs receive the expertise of the university at no cost. Entrepreneurs are matched first with MBA candidates and subsequently with students from other faculties. The Faculty of Environmental Design lends its industrial design students to assist the entrepreneurs in improving the physical design of their products. The Faculty of Law’s third year commercial law students provide advise and direction to the entrepreneurs on issues of incorporation, contracts, leases, product liability, partnership agreements and several other legal issues. Also involved are faculty and students from engineering, computer science and biochemistry (McMullan, 1988). The quality of the University of Calgary’s program is respected internationally (Vesper, 1982) but is not representative of most programs, in Canada or elsewhere.

7.4. Shortcomings of Education for Enterprise

Robinson and Long’s (1992) survey of the quality of entrepreneurship courses in Canadian universities found that in general Canada’s programs were underdeveloped, received “little or no support...from the private sector,” lacked “good, solid theoretical bases upon which to build pedagogical models and methods” (p. 69) and were deficient in qualified and trained instructors. Understandably, there has been much resistance from Canadian deans of engineering and science faculties to suggestions of incorporating courses on innovation and entrepreneurship into their students’ curriculum (Science Council of Canada, 1987). In many cases, science and engineering students may enroll in entrepreneurship programs offered through business faculties, but the programs open to them often place insufficient emphasis on the interpersonal skills needed for the innovation process—“the areas in which innovators or entrepreneurs, especially those with technical backgrounds, fail as managers” (ibid., p. 54).
Another criticism sometimes made of entrepreneurship training programs is that they are narrowly focused upon the profit motive to the detriment of creativity, originality, innovation and wider social goals. In Britain, this strict attention has produced training schemes for marketing pet rocks and other projects of questionable educational content and merit (Rees and Rees, 1992). Kao (1990) remarks of Canadian courses that there has been little attempt to develop a macroeconomic focus or instill a consciousness of the social and environmental impact of entrepreneurial decisions. A frequent suggestion for remedying these concerns is to integrate entrepreneurship education with a broader “general education” (Dawson, 1992; Kao, 1990; OECD, 1989a; Province of Ontario, 1990). The OECD has suggested the goals of enterprise education be reoriented to balance “the release of human enterprise” with “the promotion of responsible citizenship” (1989a, p. 35) so that education for individuality is reconciled with education for conformity, promoting a society which is not only innovative but also “cohesive and caring” (1989a, p. 32). A program with this potential is being experimented with in several British universities participating in the Enterprise in Higher Education initiative, an attempt at “education through enterprise” in which “general education” is the vehicle for learning skills and attitudes deemed necessary for economic entrepreneurs and other enterprising people.

8. Education through Enterprise

Education through enterprise is part of a current revival of “general education” approaches, but one which places “enterprise competencies” among the core competencies of educational practice. This follows several policy papers which suggested that because “The education system is the immediate mechanism through which the twin aspects of creativity and problem-solving can be approached” (Binks and Vale, 1990, p. 130), ‘‘enterprise’ needs to be part of the core curriculum and methods’’ of pedagogy (OECD, 1989a, p. 44), so that postsecondary graduates may have “a basic set of skills that will equip them for innovation, participation and adaptation” (Province of Ontario, 1990, p. 55). A broadened knowledge and skills base is thought to make it easier to cope with or contribute to change. Thus, innovative capacity and receptivity, part of the dual goals of innovative behaviour and responsible citizenship the OECD outlined above as requisite for a successful society, may be promoted through general education. The other goal, that of developing a cohesive culture with common standards of citizenship to ensure, among other things, that change advances in ways that do not destabilize the social order, has long been
part of the received view of the purpose of general education. The Harvard Committee’s report, *General Education in a Free Society*, makes the point clear that

The heart of the problem of a general education is the continuance of the liberal and humane tradition. Neither the mere acquisition of information nor the development of special skills and talents can give the broad basis of understanding which is essential if our civilization is to be preserved (Harvard University, 1945, p. 53).

When Margaret Thatcher’s Conservative government initiated a series of enterprise education projects in Britain during the 1980s, the purpose was to preserve and reinforce capitalist culture by ensuring that students of all ages and levels were linked to a common “culture of enterprise.” The Enterprise in Higher Education project represents this initiative’s foray into university-level programming.

### 8.1 Britain’s Enterprise in Higher Education Initiative

Britain’s Enterprise in Higher Education (EHE) initiative represents a first attempt at the national level to stimulate major changes in the pedagogy and curriculum of postsecondary education. The program emerged as the result of an intervention by a government agency and in response to three major sources of criticism (Caird, 1990b): employer perceptions of deteriorating basic skills of recent graduates entering the labour force; OECD recommendations for enhancing the relevance of formal learning through integrating vocational and general education (OECD, 1977); and parent and teacher dissatisfaction with the ability of traditional forms of education to instill competencies appropriate to the new economy. Introduced in December 1987 under the authority of Lord Young, Conservative MP and then Secretary of State for Employment, the program is funded by the Department of Employment and employers, administered by the Training Agency and explicitly directed toward improving the quality of highly skilled labour.

By 1991, over fifty universities were participating in the initiative (Harris, 1993), each qualifying for a maximum grant of £1 million over five years. The grants are conditional upon the institution raising “significant” support from employers, in cash or in kind, which translates to at least the equivalent of 25 percent of government funding for the first two years and a “substantial” portion thereafter (Wright, 1990, p. 64). In addition, funding proposals must meet five other requirements (ibid):

- the enterprise education proposed must be closely integrated with the institution’s existing educational programs and courses;
- there must be a plan included for staff development to support the changes proposed;
- outcomes must be specified;
• the institution must take responsibility for evaluating and monitoring the outcomes; and
• the institution must commit itself to sustaining the program when government funding comes to an end.

Included in the Training Agency’s criteria for approving funding bids is a requirement that students develop “personal transferable skills” by the end of their exposure to an EHE program which may enable them to be “more enterprising,” “more realistically informed about employment opportunities, aims and challenges” and generally “better prepared to take responsibility in their personal and working lives” (Training Agency, 1990, p. 4; cited in Leftwich, 1991, p. 279).

Current practices of assessing enterprise competencies are recognized as inadequate (Caird, 1990a; Harris, 1993; Leftwich, 1991; Wright, 1992). They generally employ unstandardized, subjective approaches, favouring self, peer or teacher assessments; traditional examinations and grades are not utilized (Caird, 1992).

The ambiguous nature of the terms “enterprise” and “entrepreneurship” has created some obstacles in establishing a common “enterprise culture.” According to Wright (1992), the closest the government has come to defining “enterprise” can be found in the following passage from a press release announcing the launch of the EHE initiative:

What do we mean by enterprise? We mean:
• generating and taking ideas and putting them to work
• taking decisions and taking responsibility
• taking considered risks
• welcoming change and helping to shape it
• creating wealth


The institutions involved in the project are left “to define enterprise in ways that reflect their values and traditions” (Department of Employment, 1990; cited in Caird, 1992, p. 9). Most institutions began by defining enterprise in a narrow sense of “business skills” but this “soon broadened into ideas of encouraging work placement and project work in economic environments [and then] settled upon an emphasis on personal transferable skills” (Ainley and Corney, 1990, p. 12). Caird’s (1990b) analysis of the competencies educators were attempting to develop revealed considerable diversity among institutions, although all sought to “teach...life skills through enterprise activities” (Caird, 1990b, p. 49), with emphasis on communication, group work, problem solving and self-awareness.
8.1.1 Learning Formats

The EHE project focuses upon teaching and learning processes and practices conducive to developing broad-based portable skills and aptitudes as well as the capacity for lifelong learning (Weil, 1992). The general aims of the program, as expressed by the Training Agency, are to ensure that:

1. Every person seeking a higher education qualification should be able to develop competences and aptitudes relevant to enterprise.
2. These competences and aptitudes should be acquired at least in part through project-based work designed to be undertaken in a real economic setting and jointly assessed by employers and higher education institutions.


There are no established pedagogical models for teaching in an “enterprising manner,” but several very similar theoretical approaches have recently been suggested. All of these models advocate an active learning style that provides students with experience in working with groups and working individually in setting up projects; all aim to enhance the student’s self-confidence, economic and career awareness, and abilities to lead, take direction, communicate, plan and see projects through; all place greater responsibility on the learner; and all emphasize that the teacher facilitate rather than instruct—a task that if done well is argued to require considerably more pedagogical expertise than traditional forms teaching (Brown and Lauder, 1992; Caird, 1990b; OECD, 1989; Shuttleworth, 1993).

Most models propose that education through enterprise be perceived as a “progressive” teaching and learning style. For Johnson (1988), progressive education and enterprise education are both process-driven, skills-based and student-centred with the student conceived as an active participant working independently and in collaborative settings, and with the teacher as a facilitator who has a flexible approach to learning which may not be confined to the classroom. Caird (1990b) suggests that Bennett's (1976) understanding of “progressive education” be an appropriate basis for building models for “enterprise education”: the model advocates cooperative group work in which the teacher is a guide; the student is involved in the education project, even to the point of participating in curriculum planning; learning through discovery is emphasized; subject matter is integrated and placed in context; and teaching extends beyond the classroom. A model that perceives the emergent “enterprise culture” in terms of leading to a “post-Fordist” economic era is also based upon the “progressive” approach, with added emphasis on building “high-trust relations between teacher/pupil and teacher/parents” and a “high-ability system [that will] harness the wealth of talent” (Brown and Lauder, 1992, p. 28). The OECD has proposed a project-centred,
democratically-structured model of pedagogical practice to reflect the “changes with methods of work” it anticipates and to “foster greater initiative and creativity on the part of the individual” (OECD, 1989a, p. 8). Leftwich (1991) also argues that pedagogy needs to relinquish passive learning styles and “improve the processes of learning about matters of content” but strenuously emphasizes that “substantive intellectual content” not be sacrificed in changing pedagogical methods but be “enhanced through rigorous learning” techniques (emphasis in original; p. 291).

In practice, institutions have not been inclined to devise ways that will improve understanding of the disciplinary content of courses. Instead, they stress measures intended to have their students cultivate a wide range of non-subject-specific skills (Leftwich, 1991; Wright, 1992). Unfortunately, there are few documented examples of the EHE initiative’s effect on changing the style and substance of learning. Some institutions may come up with ways to increase the student’s awareness of the commercial potential of the discipline being studied. In one university, history students put their skills in research and writing to commercial application while acquiring media skills in the preparation of booklets, guides and videos for a variety of heritage and corporate organizations interested in documenting their developments (Lillie, 1992). At another EHE institution, English students conducted readership surveys for bookshops and libraries, and researched the marketing potential of contemporary fiction and community publishing (Lillie, 1992). As a result of the initiative, more attention may be paid to the needs of students and employers: one EHE university sought to redesign its chemical engineering program by asking students, staff and employers, “What do chemical engineers actually need to be able to do to work effectively in a real-world engineering context?” (Wright, 1992, p. 213). Modes of learning have often changed. Skills in teamwork and leadership such as directing a discussion, drawing out members and deciding on the distribution of tasks have been the focus of development among history students at one EHE university by using student-run seminars on conventional disciplinary topics without a staff member being present (Wright, 1992). EHE has stimulated a greater variety of learning environments and widened the assessment of students’ work to include the evaluation of process as well as outcomes. History students of one institution, for example, were rewarded for the interpersonal skills they exhibited when working with elderly people in connection with a research project on oral history (Wright, 1992, p. 212). Several EHE institutions report the initiative has increased the amount of group and team work, encouraged role play and simulations, enhanced group communication and presentation skills, increased the use of computers and
problem-solving exercises, and promoted collaboration with employers in course design and student assessment (Wright, 1992).

In a specially commissioned study, the National Foundation for Educational Research found that because the EHE project requires a shift in education from “the traditional, transmissive mode of formal lectures” toward “an emphasis on students’ responsibility for their own learning,” the project has “been instrumental in raising issues concerning teaching, learning and assessment and in focusing debate more directly upon changes in practice” (NFER, 1991, p. 99; cited in Wright, 1992, p. 210). However, a professor at an EHE institution and an EHE researcher, Leftwich (1991) and Wright (1992) respectively, argue the improvements, at best, have been piecemeal. Leftwich notes that although “some very useful teaching and learning methods have been introduced,...the bulk of the institutional plans seem to cover what can only be regarded as additional and parallel activities, such as the development of information technology skills, work experience, language skills [and] the involvement of local employers in the design, supervision and assessment of projects” (1991, pp. 279-280). Wright states the project has yet to inspire a “process that deliberately sets out to design a program of learning (involving content, pedagogy and assessment) taking into account the capacities of the students and the resources available” (1992, p. 211). Both agree the initiative has had very little impact on academic culture. Leftwich suggests the funding—£200,000 per year for five years spread among some twenty or thirty departments in institutions with student populations ranging from 3,000 to 14,000—is not enough to warrant a change in educational processes let alone attitudes. He feels that as long as the real rewards of academic work go to research and writing it will be economically irrational to invest time in teaching development. Wright (1992) contends that while the initiative has rarely “brought into existence anything totally new or undermined an existing orthodoxy” it has “triggered a series of seemingly slight and subtle shifts in the balance of power” in favour of those who are attempting to introduce innovations into pedagogical practice (p. 215). The overall effect has been to give “greater force and prestige to...the importance of learning and self-development that students undergo; and relatedly, the vision of higher education as a process of liberation and empowerment for those who experience it” (p. 218).

8.1.2 Goals of the Enterprise in Higher Education Initiative

For Britain’s Conservative government, the EHE initiative is an ideologically inspired project that has adopted the education system as a forum for transforming Britain’s “culture of
dependency” into an enterprise culture based on small-scale competitive capitalism. Educationalists involved with the project express different ambitions. Wright (1992) states that the specific goal of the EHE project is “to address the separate and apparently contradictory roles of vocational and liberal higher education” (p. 219), which he contends are and have always been inadequate forms of education when left in their discrete states. Liberal education, he states, is an expression of a form of debased Newmanism which assumed higher education by its very nature and existence continued to transmit a uniquely valuable pattern of values and moral qualities. Because this was assumed to be an intrinsic characteristic of the system, there was little, if any, need to take account of myriad changes and expansion that it had undergone in the previous century (Wright, 1992, p. 219).

On the other hand, vocational education reflects a narrow instrumentalism that insisted that higher education should supply exactly what employers were thought to demand, irrespective of wider changes or, indeed, the success of these employers in international competition (ibid).

Arguments that favour the integration of vocational and liberal education find their basis in the pragmatism of John Dewey, who in the decade before the first world war was “the most vocal opponent of proposals for a separate system of public vocational education” (Saltmarsh, 1992, p. 7). Dewey attacked the dichotomy between cultural and vocational education, and advocated instead a system of “learning by doing” which would integrate vocational education into the general curriculum, and thus, he thought, reconcile theory with practice, thought with action, intellectual with physical work and result in individuals who were genuinely knowledgeable and competent, in possession of a more holistic understanding of the world around them. He proposed a form and purpose for education that is similar to suggestions being made by many enterprise educationalists; Dewey intended to “equip individuals to control their own future economic careers, and thus help on such a reorganization of industry as will change it from a feudalistic to democratic order” (Dewey, 1971, p. 150). This was education meant to empower, to liberate, to open a student’s mind to a way of living, and not just provide the means to make a living. As Saltmarsh (1992) remarks, Dewey was proposing a system of education not merely intended to produce more efficient workers “but to educate in ways that opposed the perpetuation of hierarchical, oppressive workplaces. Students would learn what they needed to transform the capitalist system; they would be agents of progressive social change” (p. 12). Such a system was favoured by Dewey. Saltmarsh argues, because it was “dysfunctional to capitalist development, creating contradictions in the social relations of production, thereby altering the work process” (ibid., p. 13). Similar sentiments are expressed in the literature intended to guide practitioners of enterprise education.
Because of the ambiguous nature of "enterprise," there are suggestions that an enterprise culture need not imply a revival of the predominant values of early nineteenth-century capitalism. Observing the way different cultures have interpreted enterprise, Rees (1989) states that measures to foster enterprise can reproduce inequality, or be an instrument for social justice, a form of state intervention that actually enables a disadvantaged sector of the labour force to experience the "empowerment" that enterprise is so often alleged to confer (p. 67).

Enterprise education has also been viewed as an opportunity to question the "evolutionary" nature of economies, the cultural basis of capitalism, the effectiveness of existing alternative systems for producing and distributing wealth, and how processes of innovation and entrepreneurship may change. James (1990) proposes that enterprise education teach students about their local economy and the relationships between social and economic systems so that problems may be addressed locally by those most affected rather than only by experts distanced from the community's culture. He suggests that for some single-industry communities experiencing massive lay-offs, education for the small business model is dysfunctional for the skills, organizational structures and networks already in place and needs to be discarded in favour of a collective model as a more realistic means of restructuring, creating new jobs and providing the community with sufficient goods and services (cited in Rees and Rees, 1992, p. 138). Craft (1994) argues that enterprise education has the potential to enable students to analyze and respond to aspects of their economy as independent critical thinkers rather than being its "unwitting victims." In this sense, she asserts an enterprise education "should be seen as representing empowerment" and thus be the "right" of everyone, though she admits it also "has the potential simply to socialize," to reproduce unequal cultural advantage. Craft contends that if enterprise education "is not to be accused of bias and indoctrination" it will need to enable students to understand that principles of scarcity, choice, price, value, supply and demand are aspects of their own economic culture but are not "cultural universals" nor "value-free"; that the phenomenon of a "market economy" fits in some cultures and not others; "that the market is not the only means of dealing with the central principle of scarcity"; and that there are "alternative ways of coping, such as systems which involve state or societal control over capital" (p. 26). Craft points out that not only does the current curricula "not exclude this wide approach" but that the general recommendations made by Britain's National Curriculum Council for cultivating analytical, personal and social skills actually advocate a broad approach. The Council advised that students should acquire the abilities to handle differences of interest and opinion in a group...listen to the views of others on economic and industrial issues...[and also to] collect, analyse and interpret economic and industrial data...think carefully about different ways of solving economic problems and making economic
decisions...distinguish between statements of fact and value in economic situations” (NCC, 1990, pp. 4-5; cited in Craft, 1994, p. 27).

The Council also recommended that students develop certain attitudes such as “respect of alternate economic viewpoints and a willingness to reflect critically on their own economic views and values” and “respect for evidence and rational argument in economic contexts” (NCC, 1990, p. 5; cited in Craft, 1994, p. 27). From this, Craft concludes that “the way in which the curriculum is interpreted, taught and learned is as significant if not more so than the actual curriculum....The potential for empowerment rather than indoctrination is there, if teachers choose to develop it” (Craft, 1994, p. 27). This judgement appears to assume educators can transcend their own inadequate understanding of enterprise and economics as well as greater systemic changes affecting accountability and autonomy.

8.2 Resistance to Education through Enterprise

An OECD review of international initiatives to implement enterprise education concluded there was “more talk...than action” and that “major social and economic changes of the past twenty years have not as yet produced any major responses in the practices of education and training agencies” (OECD, 1989a, p. 41). In part, resistance to introducing the broad approach of enterprise education has been financial: enterprise education may require “substantially more resources than the industrial model demanded” (Province of Ontario, 1990, p. 1). Because any change involves increased short-term expenses, increased investment in innovative teaching methods may be difficult to justify, particularly as the returns would be uncertain and difficult to isolate from other influences (Binks and Vale, 1990, p. 130). The teaching techniques advocated for enterprise education require greater expense than traditional techniques. Economists Binks and Vale (1990) suggest class size may need to be smaller because “Economies of scale and measures designed to raise the apparent cost effectiveness of teaching staff are unlikely to engender the attitudinal characteristics associated with entrepreneurship” (p. 130). Small class sizes might increase interaction and participation, but student-staff ratios are in general not declining, and in Britain they have roughly doubled since the early 1980s (Trow, 1994). Because enterprise education is viewed as “far more demanding of pedagogical skill” than traditional forms of education (OECD, 1989a, p. 26), professional training for teachers would also need to be altered. Developing creativity in students may involve a shift from “teaching by explanation and demonstration towards approaches that rely on discovery and hypothesis building” (Binks and
Vale, 1990, p. 130). It may require giving “students access to information and opportunity to process that information in constructive and relevant ways” which requires that instructors possess “additional information or different skills to those required in conventional classroom situations” (ibid.).

Another reason for the resistance to enterprise education is its status. Enterprise education is “widely regarded as vocational” (Wright, 1992, p. 218), and skills training continues to be viewed as inappropriate for academic study at the degree level and something best left for students to acquire during practicums, internships or other forms of professional training (Tribe and Tribe, 1992). The programs currently available in North America swing from “elitist” forms open only to those who can access courses in business faculties on the one hand, to training thought appropriate only for the chronically poor, the disadvantaged and the unskilled. The OECD (1989a) found that few initiatives regard enterprise learning as relevant to everyone. “Narrow” approaches which view enterprise education as specific training for entrepreneurial occupations are often based on a view that enterprise is an ability only within the reach of a few; conversely, “broad” approaches which link enterprising behaviour with self-esteem and self-direction see enterprise as an innovative way to involve the less able, the potential drop-outs and the underprivileged in taking more control over their economic well-being. In light of the problems of methodology and absence of a sound theoretical base associated with entrepreneurship or enterprise, the more liberal approach may ghettoize enterprise education. As Coffield (1992) remarks, “high-status knowledge” will likely continue to be “reserved for those destined for high-status occupations while new, progressive-sounding courses like enterprise education which might threaten academic standards will be thought appropriate for those who are to be trained for (un)employment” (p. 268).

Teacher resistance to the program is also frequently cited. Johnson (1988) attributes this to “the widespread lack of insight into the flexibility and potential of enterprise education,” a state of affairs “compounded by an association of the word ‘enterprise’ with the policies and practices of the New Right” which leads many to stereotype the concept as “political indoctrination for rampant capitalism” (p. 63). In doing so, he argues, teachers fail to see “That enterprise can be enacted and channeled in a variety of ways other than profit seeking business” (p. 64). Educators who understand entrepreneurship as technological innovation and leadership, Skillen (1992) suggests, may wish to introduce the diverse historical, cultural, economic and political contexts of the entrepreneur. Moreover, the government’s understanding of entrepreneurship may be broadened through reinterpreting rather than dismissing the concept; or, as Keat (1991) advises, “opposition
to this project may depend upon the successful articulation of competing interpretations [and] also, of course, the ability to realize such interpretations in practice" (p. 13).

Any attempt to implement enterprise education will need to take into account the attitudes of the learners and teachers involved in the program. Research indicates that resistance to learning enterprise is specific to certain disciplines. Gore and Murray's (1991) study of staff and student attitudes toward enterprise at Leicester Polytechnic found significant differences among students which were primarily linked to their subject areas of study. The researchers found that business students linked enterprise to "risk" and "individualism"; and they distinguished themselves as a group by insisting that with regard to enterprise skills "nothing could be taught" (p. 15). In contrast, science and fine arts students both linked enterprise to "creativity" and "originality"; science and performing arts students were the only groups unanimous in believing themselves to be "enterprising"; and only science and accounting students expressed no reservations toward the concept of enterprise in principle. The study also found that although students initially equated enterprise with profit-making, once they were made aware of a broader understanding of enterprise—as in being active, making a contribution, effecting change and creating something where nothing like it had existed—they found this interpretation more compelling than the money-making focus. From this study it appears that enterprise education may need to break away from being a program exclusive to business schools and design programs that integrate disciplines to serve their needs better. It also appears as though resistance to enterprise education can be broken down if people know more about it. Programs that fall under the category "education about enterprise," however, are the least developed of all.

9. Education about Enterprise

There is an extreme paucity of information available on education about enterprise, the third category of Jamieson's enterprise education schema. This is education deemed to offer "insights into the workings of the economy and the working lives of people in industry and commerce and their contributions to society" (Bloomer, 1991, p. 12). In Britain, teachers involved in the EHE initiative have found "There are no resources, existing or new, being earmarked explicitly for teaching development" (Leftwich, 1991, p. 277). Britain's Enterprise Awareness in Teacher Education initiative appears only to be geared toward exposing teachers to industry-related work experience, not to understanding the operative principles underlying the workings of the system (Bloomer, 1991; Bullock, Goodfellow and Scott, 1991; Francis, 1991; Wood, 1991).
English-speaking students who seek a more significant economic understanding of enterprise and entrepreneurship face no easy task. On this point, Mark Blaug has commented that “when we open any current textbook of elementary economics, we discover that entrepreneurship is hardly mentioned, or mentioned only in passing” (1986, p. 219). Most economic training at the university level does not include the study of enterprise or entrepreneurship (Lydall, 1992). This is the case even in the United States, which presumably might have more emphasis on entrepreneurship because of its cultural orientation. Kent’s (1989) U.S. survey of fifteen of the most utilized university-level textbooks covering the principles of economics concluded that “entrepreneurship is not adequately covered, and, as a result, students miss important understandings about the workings of the market economy” (p. 161). In the texts that do mention entrepreneurship, he found a number of deficiencies:

- texts do not cite entrepreneurship as a separate factor of production along with land, labour and capital;
- texts assume entrepreneurship takes the form of an individual starting a new business and ignore the teamwork of large corporations;
- profit maximization is suggested to be the primary entrepreneurial motivation when research has shown that a desire for autonomy and power is at least as important;
- none of the texts consider the possibility of entrepreneurial activity in the non-profit or public sectors;
- texts laud the role of entrepreneurship in job creation but ignore the many jobs destroyed by the introduction of new technologies;
- most texts fail to cite the entrepreneurial process as the source of economic growth, mainly because “the textbook authors fail to ask how economic growth is created” (Kent, 1989, p. 161).

Ahier’s (1994) analysis of perceptions of enterprise held by student teachers preparing to educate “through enterprise” at the primary level indicates that enterprise education may face significant difficulties in future regardless of whether the goal is to encourage economic growth or empower economically disadvantaged groups. He states that the students were “generally positive about introducing [enterprise education] into primary school,” but wished to avoid themes “which appeared to be associated with economic calculation, conflict and controversy” such as the roles and relations of managers and trade union representatives, the nature of conflict at work or the purpose of organization, technology and management (p. 34). The students may not only be reticent in discussing economic conflict but they may be ill prepared to introduce realistic models for positive participation in the economy. The student teachers “saw their future occupation as an
honourable and highly moralised alternative to life in industry and the so-called realities of commercial life" (p. 37; emphasis in original). At the same time, the students accepted “the ethic of enterprise, seeing it as a personal quality, important in their view of teaching as self-directed professional work,” and frequently emphasizing “the similarities between ‘being one’s own boss’ in business, managing a small company, and the tasks of class-room teaching” (p. 40). These future teachers are likely to find their attitudes toward enterprise at odds with developments in education and other public service institutions which have seen an increase in bureaucratization, a decline in professional autonomy and the introduction of various commercial realities such as merit pay and teacher assessment.

10. Summary

Education in its traditional “teacher instructs pupil” format is seen as having an ambiguous effect on entrepreneurial success. Human capital theory suggests formal education provides a foundation for an ability to sort, sift through, categorize, analyze, criticize, synthesize and implement information, and is therefore more conducive than experience alone to entrepreneurial success in adopting or initiating technological innovation. There is some empirical support for this argument. A correlation between education and entrepreneurial success has often been found and in one study was recorded as stronger than experience, but these studies had not distinguished education from other possible contributing factors such as economic or cultural background or familial influence and support. On the other hand, entrepreneurial competence, consisting in part of an ability to think for oneself, to act upon one’s perceptions and to develop one’s own employment, is thought to be undermined by an education system primarily concerned with developing compliance, rewarding conformity and acculturating people for jobs in bureaucratic structures which no longer exist.

To more appropriately prepare students for the new economy three formats of enterprise education—learning for enterprise, learning through enterprise and learning about enterprise—emphasize active learning, are student-centred and focus upon developing management skills. While learning for enterprise is the most fully developed format, it is hardly a homogeneous one. The programs have been implemented without a common understanding of entrepreneurship and predictably vary with each instructor’s opinions of what the nature of the activity is and the requisite skills such an activity requires. Nevertheless, one generalization can be made: emphasis is on the acquisition of practical skills which may be immediately applied rather than on theoretical or
contextual knowledge that would critically examine the entrepreneur’s role and responsibilities in society. The chapter identified three models of education for enterprise programs, which by no means represents the extent of the variety of programs in this category: one model is based upon perceiving the entrepreneur in individualistic terms, another as a member of a team, yet another as part of a network of knowledge workers. The literature does suggest that in some instances the small business model may be ideologically inspired rather than the result of economic pragmatism. There is also the possibility that the entrepreneurship instructors place too much emphasis on a preconceived notion of the entrepreneur as the self-contained hero of early nineteenth century renown, a conception many contemporary entrepreneurs apparently feel no longer applies.

Learning through enterprise is a form of “general education” which attempts to synthesize vocational and liberal education. It is intended to develop enterprising competencies deemed “life skills” that will enable people to cope with change or to create change itself—in ways compliant with social norms and traditions. The most well-documented program of this kind is Britain’s Enterprise in Higher Education initiative, part of a series of enterprise education programs designed to link Britons to a common culture of enterprise. But the absence of an established definition of enterprise or entrepreneurship has meant that the higher education institutions involved in the initiative interpret the concept in accordance with their distinct traditions and values. To assist in this interpretation, a body of literature which advocates perceiving education through enterprise as “progressive” education in the tradition of John Dewey has been generated. The participating institutions show considerable diversity, but all involve students in the planning and running of a project, stressing skills in communications, group work, problem solving and self-knowledge; all intend to develop the student’s capacity to lead and take direction, to strengthen the student’s self-confidence and to instill the importance of having a career orientation; all place more responsibility on the learner and presume the teacher is a guide rather than an instructor. Criticisms of the program indicate its effect on altering faculty focus from research to teaching has been slight, and it has not given rise to projects that could deepen the student’s understanding of disciplinary content.

On an international level, education through enterprise schemes have faced much resistance. In part, this may be due to their higher costs: both small class sizes and the restructuring (and possibly lengthening) of most teacher education programs are advocated. Furthermore, despite its “liberating” intentions, many educators ascribe a “vocational” status to enterprise education, which limits support. In addition, its focus, in some areas, on the chronically
unemployed has served to demean it in the eyes of many. Additional resistance is likely the result of underestimating the scope of enterprise and entrepreneurship and strictly associating the terms with new right policies and practices which are intended, as one educator sees it, "to breed young capitalists" (cited in Francis, 1991, p. 29). Ideological resistance may deteriorate as people become better informed, but this is the project of an enterprise education format known as "education about enterprise" which at present has the least substantial and the least structured body of knowledge of all subject areas associated with entrepreneurship. It may be that the absence of programs in education about entrepreneurship is very significant. Contextual aspects of the concept of entrepreneurship which are not conveyed in the more practically oriented educational programs for and through enterprise may be covered in a content-laden program. A thorough examination would include the historical and social impact, meaning, implications, consequences and effects that entrepreneurs have had and reveal that unguided entrepreneurship can and has changed social orders in unintended ways and therefore represents a risk to those who have much to lose by what might be considered inappropriately guided change.
Chapter Five: Central Findings and Implications

Post-industrial society is organized around knowledge, for the the purpose of social control and the directing of innovation and change; and this in turn gives rise to new social relationships and new structures which have to be managed politically.


Every few hundred years in Western history there occurs a sharp transformation.... Within a few short decades, society rearranges itself—its worldview; its basic values; its social and political structure; its arts; its key institutions. Fifty years later, there is a new world. And the people born then cannot even imagine the world in which their grandparents lived and into which their own parents were born.

We are currently living through such a transformation.


In every economic period the tendency exists to turn again into the former well-worn tracks, and to realise once more the same values. And even when this constancy is interrupted, some continuity always remains; for even if the external conditions change, it is never a question of doing something completely new, but only of adapting what was previously done to new conditions. The value system once established and the combinations once given are always the starting point for every new economic period.


1. Introduction

For over two decades, Western society has been inundated with various reports hailing the emergence of a “new world order.” This transformation apparently demands that societies become more global in outlook, competitive and dependent upon the rapid transfer of knowledge, requiring that a new culture supportive of innovation be built. At the core of any culture is a value system which is decisive in determining a new order’s future success. Values are often resistant to change, but periods of economic turmoil have often given rise to increasing numbers of entrepreneurs and a simultaneous decrease in social resistance to change. As larger segments of the population experience economic instability, the value system of a society may become more open to influence. Given the task of acculturation is the education system which shapes the economic and political views of those who enter influential roles in government, the media and education. The values that institutions of higher education impress upon an emergent society will depend on the values of the educators, how aware they are of alternate perspectives and whether they are open to ideas that contradict received wisdom.

The primary research question of this study, *How is entrepreneurship interpreted by universities?*, has examined the perspectives of those in Western societies who teach
entrepreneurship and those who study it. It has found that there is little that is definitive or simple about the entrepreneur, and little agreement on what this figure represents. The concept is old and changeable, having depended on adaptation to current conditions for its survival. Inherent to it are many conflicts, contradictions and areas of potential conflict. In bringing the study to a close this chapter will review the methodology and procedures used, then recapitulate and interpret the major ideas covered, and conclude with a few suggestions for extending the research further.

2. Methodology and Procedures

This study began as an untenable opinion that the views on entrepreneurship being expressed in higher education literature were not representative of the concept in its entirety. In the context of higher education, entrepreneurship is generally equated with a transformation of universities into profit-making enterprises and faculty into "entrepreneurs," but the literature rarely identifies the basis for this understanding or defines what is meant by terms associated with entrepreneurship. The premise that there is "something more" required extending the search into other academic territories that deal with entrepreneurship, including history, sociology, economic theory, psychology, anthropology and management theory. The research methodology chosen was the integrative review, an effective means to acquire an in-depth, yet broad understanding of a multidisciplinary subject.

As outlined in the discussion on methodology in chapter one, the integrative review is intended to be a comprehensive overview of an area of study which synthesizes disparate findings and derives something original in the process. The technique is highly susceptible to sources of invalidity; in this study attempts to contain these were practised by: (1) beginning the search with a broad-based question that allowed for a general understanding of the subject; (2) narrowing the topic after exploring various angles; (3) using a wide variety of search techniques, starting with a descendency approach to determine the most authoritative studies, then later branching out with the ancestry approach, CD-ROM and online computer searches, as well as regular searches through pertinent literature reviews and periodicals to maintain a contemporary perspective; (4) specifying the criteria used to evaluate the data; (5) reporting negative evidence and disparate findings; (6) representing the positions of others in the fullest and most direct light possible; and (7) differentiating explicit from inferred arguments.
An integrative research review of a multidisciplinary study on a subject that has no generally accepted definition might be expected to uncover numerous contradictory theories. Fortunately, among thousands of perspectives on entrepreneurship, only two predominate, an Austrian and a Schumpeterian approach. While the disciplines covered in this research are in general more strongly influenced by Schumpeterian than Austrian theory, this is not the case in literature discussing academic culture. Thus, this study’s goal of searching for and identifying the parallels, if any, between entrepreneurial theory and the culture and teaching mission of the university involved drawing out and defining for the first time areas of discord and agreement rising between the predominant entrepreneurial theory and university culture and purpose.

3. Interpreting the Central Findings

This section provides a brief review of the central findings of the study and a discussion of their significance.

**Entrepreneurial Theory**

For centuries, economists have understood that knowledge is the most precious resource contributing to economic growth and development. With sufficient knowledge, physical capital and natural resources are in theory more easily, more efficiently and more effectively acquired and utilized. An emphasis on knowledge is the most apparent feature fundamental to entrepreneurial theories that is also shared in common with the university. The earliest understandings of entrepreneurship from the eighteenth and nineteenth centuries identified its basic functions to be decision making under uncertainty, innovation, organization and management, activities which remain integral and require the acquisition and application of knowledge. The purpose of the modern university, in contrast, has since the late nineteenth century been the creation, conservation and diffusion of knowledge. From the perspective of a division of innovative labour, universities may be said to provide the ingredient mandatory to entrepreneurial activity.

The economic importance of knowledge has perhaps not always been clearly recognized by societies experiencing relative prosperity despite low levels of skills and knowledge evident among the general population. But, as the past twenty years have shown, the significance of knowledge becomes particularly apparent during times of scarcity such as that following an oil shock when the search for resource substitutions or production alternatives that circumvent the
resource altogether make practical and theoretical know-how a dire necessity. In the West, a productivity slowdown affecting most industrialized countries had begun in the sixties, but was not a cause for alarm until the seventies when a series of rapid and unexpected hikes in energy prices aggravated the situation to crisis proportions. Once oil prices stabilized, productivity continued to decline, suggesting that innovations to the production process were required. As part of their solutions, economists from the Keynesian, the laissez-faire and the conservative schools of thought have all, more or less, espoused policies to increase society’s rate of entrepreneurship, being that the entrepreneur fulfills a function of utilizing knowledge to reallocate resources from industries in decline to those on the rise. Nevertheless, these economists could not agree upon the cause of the crisis, nor on the role of the entrepreneur, nor provide solutions that would bring back the prosperity of the postwar years. Because Joseph Schumpeter (1883-1950) remains the most influential theorist on entrepreneurship in this century and the first non-Marxist economist concerned with studying the economy under conditions of disequilibria (or intense economic instability), the current emphasis on his ideas in both the academic and popular press represents an attempt to build theory, better understand our current economic transformation and develop societies that can cope and perhaps flourish in globalizing, information-intensive economies sustained by innovative activity.

The Schumpeterian perspective holds the entrepreneur to be an individual or collective entity performing an act of innovation and utilizing methods that are both competitive and cooperative, an activity, Schumpeter thought, adaptable to any socio-economic or political organization but contributing to a reorganization and rationalization of the production process that inevitably redesigns society’s power structures. Thus the perspective involves several themes. First of all, technological and organizational innovation were held to be crucial in generating economic growth. Second, the process of “creative destruction” was seen as largely responsible for reshaping market structures and contributing to systemic economic change. Third, Schumpeter contended the introduction of innovation was a social process dependent upon society’s support for the underlying economic structure and the value placed on innovation. Fourth, he assumed intellectuals played an important role in shaping social values supportive of an innovative economy. Fifth, he raised doubts over the economic system that would most effectively support innovation. And finally for the purposes of this thesis, he believed the process of rationalizing industry and innovative functions made it possible to define aspects of entrepreneurship in terms of general competencies that could be learned. The other major theory
of the entrepreneur is provided by the Austrian school. While the entrepreneur is essential to
Austrian theory, the Austrians did not develop their theories of entrepreneurship in as much
detail; their ideas are not closely aligned with technological change; they are not interested in the
concept or construction of society or social mores but only in the actions of the individual; and
they assert entrepreneurship defies all attempts at definition, codification, routinization and
education.

Schumpeter began his economic training at the University of Vienna, where Austrian
economics originated, and was schooled in its traditions of ahistorical rationalism which holds
capitalism to be a timeless activity that best expresses what the Austrians perceive to be the
arbitrageur (entrepreneurial) nature common to humanity as members of Homo economicus.
Schumpeter, the “star pupil” and “enfant terrible” of the Austrian school (Heilbroner, 1986,
p. 292), challenged this theory by employing the very constructs the Austrians had for some time
been intent upon overthrowing—German cultural historicism and Marxian historical dynamics.¹
By employing the Marxian arguments and their direct opposites found in the works of Max
Weber, Schumpeter demonstrated an early affinity for the principle of antinomic balance—a
construct involving the contraposition of opposites (Macdonald, 1971), which form a basis for
his theories on entrepreneurship. Schumpeter fused Marx’s materialistic view of history as a
dialectical process in which the introduction of new technology destroys tradition with Weber’s
interpretation of historical change as occurring within culturally accepted norms. From thesis
and antithesis he derived an understanding of entrepreneurship (innovation) as both contextually
determined and a determinant of context—that is, entrepreneurship is conceived to be capable of
taking the shape and form of whatever is needed to operate in a given environment and in the
process changes the environment in ways that are more suited to the entrepreneur’s needs.

Because the Schumpeterian position draws on understandings of the entrepreneur that
are much older than the English classical roots evident in Austrian theory, we gain in this
framework a perception of entrepreneurs as innovators in existence well before the transition to
capitalism whose leadership qualities may have them gravitate toward the roles of management
under collective conditions. Thus entrepreneurship—a timeless activity inherent to the human
condition—is clearly distinguished from capitalism—the economic system of a certain era. From
this perspective, the Schumpeterian position states that entrepreneurship is essential to capitalism

¹ Schumpeter’s support for viewing economics from a Marxian perspective led to his expulsion from Böhm-Bawerk’s
doctoral seminar and a later refusal of employment at the University of Vienna (Goodwin, 1986).
(and the long-term viability of any economic system) but capitalism is not essential to entrepreneurship. The distinction between entrepreneurship and capitalism may be carried further in asserting that entrepreneurship is a general means of producing wealth while capitalism is a specific means of distributing wealth. This is not to deny the extraordinary compatibility between the two concepts, or that to date capitalism has been the most favourable environment to entrepreneurship, or that capitalism is an exceptionally adaptable concept in its own right, open to many forms, from totalitarian to "enlightened."

Schumpeter thought entrepreneurship an act so socially destabilizing that historically it had been vulnerable to various social forces that stunted or repressed its practice. Under capitalism, the process of "creative destruction" inherent to innovation was freer than any other time in history. It produced higher output, increased efficiency and raised living standards in the long term but at a cost of much hardship, hostility, calls for bringing the system down and increased difficulty in introducing innovations. Capitalism was thus for him an economic success but a social failure which increased social resistance to innovation and so, to his mind, would not be sustainable for long. However, Schumpeter could not countenance the major alternative economic order in his lifetime—"scientific" socialism, because he thought it a demoralizing system that subverted the vision of "leading personalities." He proposed a political economy of compromise—a "halfway house" as he called it, which would integrate features of capitalism and socialism.

Balanced on theoretical contradictions, the Schumpeterian political economy is dynamic, pragmatic and flexible, bending both right and left, neutralizing opposing forces in the liberal tradition of accommodating their ideas. Entrepreneurship, perceived as "new combinations," is functionally defined as creating a new product, introducing a new technology, opening a new market, capturing a new source of supply or organizing industry in a new way. "New combinations" also run through Schumpeterian economics as a result of the union of apparent contradictions, with each thesis and antithesis being subsequently reconciled in a Schumpeterian synthesis. From traditional managers who perform routine actions within a structured process and innovative entrepreneurs who change the process itself emerges the innovative manager who applies systematic procedures to the implementation of change. The circular flow's tendency toward equilibrium and the need for a developing economy results in an economic model incorporating stability and change, based upon neoclassical statics and Marxian dynamics. Cooperative and competitive economic practices are fused in the "Schumpeterian hypothesis"
which argues that large firms with considerable market power, rather than perfectly competitive firms, are the “most powerful engine of technological progress” (Schumpeter, 1950, p. 106), an argument which ultimately states that the stability engendered under monopoly capitalism is essential for the survival of capitalism and its innovative capacity.

But by itself, Schumpeter did not think monopoly capitalism was sustainable. He cautioned capitalism may tend to evolve toward “scientific” socialism if the fundamental principles it was built upon—ownership, individualism and competition—were not maintained. A system based on private ownership of property, he thought, should strive to develop appropriately supportive attitudes and values among a broad sector of the population. Nevertheless, Schumpeter’s emphasis on cultivating values that uphold small-scale capitalism, individualism and competition on a mass level was compatible with monopoly capitalism, social intervention, cooperation and various forms of collectivism—in fact, the concepts were seen as complementary. All these ideas are forcefully though unsystematically dispersed throughout Schumpeter’s *Capitalism, Socialism and Democracy*, which, in line with the principle of balanced contradiction, can be read on one level as a handbook outlining the innovative superiority of socialist economies and cautioning the socialist manager (entrepreneur) of potential problem areas, and on another level as a guide that provides suggestions for ways the structural supports of the capitalist system may be reinforced, an observation also made by Fellner (1981).

Schumpeter perceived that each wave of innovation produced a more rationalized system, which he, after Marx, believed to be a more socialized system increasingly hostile to capitalism and prone toward socialism. The process of innovation itself was becoming more rationalized which, he thought, further undermined capitalist attitudes and made the onset of socialism not only more desirable to more people but an ever-more feasible economic order. He thought that as the role of knowledge became more important and innovations more complex but at the same time the process of innovation more well understood, some measure of rationalization, functional fragmentation and bureaucratization of knowledge work would be inevitable, research would become more systematized and routinized, and managers in large research complexes would assume some aspects of the entrepreneurial function. Such conditions, he thought, would erode support for capitalist values and make a socialist system more attractive.

But this process was by no means irreversible or unilinear. While Schumpeter accepted that there were patterns in history, his works modified the ideas of technological determinism.
and historical materialism, emphasizing the possibilities of altering a perceived trajectory of historical development. He differed from Marx by seeing history as not only or even primarily propelled by abstract market forces or class frictions but also by human will, particularly that which is powerful and well organized. While suggesting the tendency to move toward socialism was strong in the West, he allowed that "factors external to the chosen range of observation" may rise to offset or prevent that result. Thus, any apparent "socializing" tendency such as the bureaucratization of scientific research and transformation of the "great individuals" of science into skilled "team players" could occur while other forms of bureaucratization declined—perhaps were even accompanied by a rise in individualism, decentralization and sense of personal property ownership in other sectors of society.

The Trilateral Commission

The Trilateral Commission exemplifies the Schumpeterian preoccupation with the motives and mindsets of entrepreneurs on a grand scale. It is an elite body forthright in expressing an agenda to influence the predominant values of industrialized countries and consisting primarily of transnational capitalist entrepreneurs, joined by politicians, academics (economists and political scientists) and a handful of labour representatives. The formation of the Trilateral Commission initially reflected a concern over the productivity slowdown in the West which they attributed to American industry's resistance to organizational and technological innovation, an understanding which concurs with the technological or neo-Schumpeterian explanation for the slowdown. According to this theory, the structure and content of work roles need to be significantly reorganized in order to fully exploit the new technologies that have the potential to raise productivity. However, the Trilateralists may consider it very important that this reorganization strengthen and not undermine capitalist civilization.

Schumpeterian and Trilateralist thought dovetail on several other points such as the importance of entrepreneurship to a healthy economy and the idea that business leaders forming a coalition could direct economic change and coordinate the impact of innovations to produce a more stable system with increased innovative capacity. Attempts to interpret the power the Trilateral Commission actually wields in shaping the values of diverse national economies require caution. Conspiracy theories and the practice of effective (as opposed to wished-for) world dominance are not being advocated here. This thesis has merely discovered that there are several parallels between Schumpeterian thought and the manifestation of the Trilateral
Commission, and as with any coincidence, this bears a need for close scrutiny. For the purpose of this thesis, however, the most significant point of agreement is the view that the ideological climate influences economic behaviour and is vital for the establishment of a new economy. To this end, the Trilateralists have sought to convince political and ideological leaders of the three regions represented by Japan, North America and Western Europe of the importance of removing barriers to the free flow of capital across national boundaries.

The Trilateralists are believed to be moderate pragmatists who, according to Marchak (1991), have found the laissez-faire principle useful in influencing a breakdown of the Keynesian approach to economic and social management. This argument contends that the Trilateral Commission viewed the new right as having the ideological tools to implement market deregulation, cut backs to social programs, downsizing the public sector, privatizing state assets and other measures designed to restructure the welfare state, win the compliance of unionized labour and discipline the workforce into accepting uncertainty and instability as the normal course of affairs in economic life.

By being the first to interpret a transformation affecting the world’s social and economic systems, intellectuals of the new right established the rhetoric and defined the conceptual boundaries for understanding the change, which in turn strengthened their position as the policy advisors of the new economy. The new right’s language of individual effort, competition and self-sufficiency encapsulates its concept of entrepreneurship, which is strongly reliant upon Austrian theory. From this perspective, entrepreneurship is little more than arbitrage conducted by individualistic entrepreneurs. State involvement in the economy is seen to distort information flows and promote the support of non-viable industries which prevents new and perhaps better entrepreneurs from entering the market. At the same time, social welfare programs and the experience of receiving a wide range of benefits are thought to inhibit individual initiative and generate attitudes of passivity and dependency. Principles of intense individualism and laissez-faire competition are upheld to the exclusion of other principles, especially those associated with collectivism.

Academic Cultures

The renewed emphasis placed on shaping economic attitudes and behaviour underscores the necessity of exercising control over the knowledge, norms and values transmitted by universities. As the institution primarily responsible for acculturating society’s future
professionals and intellectuals, the university is believed to require significant cultural and organizational changes in its practices of creating and disseminating knowledge. The Trilateralists and several other critics of higher education have contended that universities offer great potential to strengthen the economy through the provision of new technologies and a skilled workforce, but the values they convey are often detrimental to attempts to sustain, invigorate, reconstruct or overturn capitalism. The OECD has suggested that to increase national competitiveness through technology transfer to industry and to effect attitudinal changes as a precursor to developing entrepreneurial competence among faculty, students and greater society, entrepreneurship needs to be adopted as the organizing principle of the university. But the policy advice does not advocate any particular understanding of entrepreneurship.

In examining the higher education literature that focuses on entrepreneurship in academe, it appears as though an understanding based on Austrian theory predominates, but it is difficult to state this with certainty since most of these studies do not recognize that there are differing perspectives. Some studies such as Fairweather’s (1988) *Entrepreneurship and Higher Education: Lessons for Colleges, Universities and Industry* do not define entrepreneurship but treat it as a well understood concept requiring little clarification. In all studies on entrepreneurship in higher education that were reviewed for this thesis, not one provided an indication of having consulted Schumpeter or a neo-Schumpeterian. However, there are signs of an Austrian or mainstream neoclassical perspective of rational individualism which assumes that entrepreneurial activity, like all other forms of economic action, is motivated primarily by the prospect of profit.

Translating the Austrian definition of entrepreneurship as arbitrage to the university environment narrows entrepreneurship to profit-seeking forms of interaction with the corporate sector. This view assumes that regardless of whether an innovation results, a university performs an entrepreneurial act anytime it collaborates with industry or anytime money changes hands; that all businesses and all market orientations are entrepreneurial in nature; that entrepreneurship is another way of saying profit-seeking venture; and that entrepreneurial behaviour involves individualism and competition but not community and collaboration. The Austrian view of entrepreneurship may make it easier to convey a larger socio-economic view which holds capitalism to be a relatively stable system when left unfettered by government regulation; competitive individualism to promote “excellence” in terms of new technologies, innovation and economic growth; and market capitalism to be the best reflection of the natural impulse of
humans to "truck, barter, and exchange," as Adam Smith observed. Perhaps if these values predominate in certain faculties they will alter the culture of the university; perhaps they already best express the intense individualism inherent to academe; or perhaps by transmitting values of competitive individualism universities will be countering the more collective tendencies of greater society.

Whether as critics or advocates, academics who project a neo-Austrian perspective of entrepreneurship under the assumption that this is all there is to the concept may find themselves talking at cross purposes with members of the business community who hold a Schumpeterian understanding of entrepreneurship as innovation, albeit whitewashed of its Marxian dynamics, but nevertheless a conceptualization broader in scope, more theoretically challenging and more open to cooperative and collectivist models than the Austrian approach. Current readings of popular business publications such as Business Week and Harvard Business Review clearly show that in the United States, the most individualistic culture on earth, entrepreneurship is no longer perceived by entrepreneurs or business analysts as an individualistic act that goes unassisted by others, but as an aspect of management with success largely determined by the collaborative efforts of a group and the team-building skills of the leaders. These publications also argue that entrepreneurship is not motivated solely by profit but is also, some would say is rather, motivated by a drive for power, dominance, independence or the creative urge to make a difference.

The Austrian perspective does not take into consideration the costs of faculty "entrepreneurship," i.e., conducting research for hire, such as losses in the intangibles of autonomy, privilege and status. The social contract that underwrote the professional autonomy of disinterested research can no longer apply to commercially-oriented research in which the benefits are more narrowly distributed. A minority of higher education literature recognizes entrepreneurship in academe to imply a power struggle over control of the knowledge workforce. Critical theorists have documented a shift in the language of senior university officials indicating an attitudinal change that upholds exercising closer controls over faculty research. Other studies suggest a number of diverse yet interrelated events have influenced a power shift toward university administrators and away from faculty. Political authorities wishing to ensure their priorities are translated into operation commonly rely upon financial cuts and the introduction of funding mechanisms to motivate publicly-supported universities toward paths perceived to address economic needs. This may result in the development of a more bureaucratic and
hierarchical structure as financial, and therefore effective, control of the university becomes increasingly placed in the hands of central administration. There have also been suggestions that faculty autonomy is diminishing as a consequence of collegial or bicameral governance being widely perceived as inherently ineffective at introducing structured change that is substantial and not self-serving.

The process of implementing a transference of power from faculty to administration is, according to observers from faculty quarters, introducing management practices that are considerably different from the democratic work relations management theory tends to advocate as the means to motivate the intellectuals and professionals of the knowledge workforce. The university’s increased emphasis on management has brought persistent suggestions by faculty that administration is adopting the “top-down” format of scientific management popular in the first half of this century. Higher education literature most frequently identifies a bureaucratic, market or managerial model as becoming more predominant, while the collegial model is seen as significant only in the corporate sector. Along with structural changes in university governance, some research also suggests the profit motive is being used as the basis for establishing a new academic culture. Senior university administrators are perceived to be guided by the belief that faculty attitudes, behaviours and focus of research attention can be shaped and directed by monetary incentives and rewards. These beliefs stand in remarkable contrast to texts on management theory from the sixties to the present, which are fairly consonant in stating that bureaucratization and loss of professional autonomy reduce trust and the flow of information, decrease the likelihood of implementing innovation, inhibit cooperation and increase transaction costs. Pay-for-performance schemes are thought by many management theorists to have a dubious effect on the motivation, commitment, innovation and creativity of employees who are highly committed, and profit is consistently viewed by entrepreneurs in the corporate sector—who ostensibly faculty are being persuaded to emulate—as less important than creativity, independence, power, prestige or social service.

In their attempts to attract faculty to technology transfer activities, university administrators have not been conspicuous in making appeals to what the literature generally identifies as “entrepreneurial” motivations, but have apparently assumed faculty to be rational actors motivated primarily by profit. Perhaps the administrators are invoking an Austrian view of economic motivation. A Schumpeterian perspective, however, might suggest a more complex contest for power is being played out. Since Schumpeter identified monetary and other rational
motivations as a means to elicit tractable behaviour from employees but not a particularly effective measure to encourage entrepreneurship, the faculty’s perceived loss of power and control combined with the act of attributing only the profit motive to those engaged in technology transfer may indicate the faculty is in the process of transforming into skilled workers, despite acquiring the title “entrepreneur,” while decisions likely to alter the university’s culture and place in society are increasingly the prerogative of the institution’s administrative leadership. On the basis of what the literature describes as entrepreneurial characteristics and competencies, it appears that the entrepreneurs in the Schumpeterian framework are not the research staff but those who have managed to strengthen their position of power and authority, which in line with this paradigm are in the same professional category as the managers whose decisions guide the processes and products of technological and organizational innovation.

While the individual innovator in the Schumpeterian paradigm likely transforms into a “proletarianized” knowledge worker whose labour is subject to supervision and direction, it is questionable whether most knowledge workers will become as dispensable as Schumpeter thought. Knowledge may have become a commodity but it is not easily created, duplicated or replaced. Knowledge workers may be subject to supervision, but unless the supervisor has an in-depth knowledge of the work, this approach is ineffective in terms of cost and quality of the final product. The value of any work reflects the personal discretion of the worker as well as the attitudes engendered by the working conditions. The knowledge worker, as with those who controlled essential capital resources in the past, may therefore have considerable input in setting working conditions and the application of knowledge capital. Since those with the capital have traditionally determined how it is invested, the capitalization of knowledge makes it less certain that universities will be at a disadvantage in negotiating a relationship with others seeking useful knowledge, or that faculty members will lack the resources to strengthen their position. As Etzkowitz (1983) put it, “Rarely ha[s] a social group had such freedom to establish [its] own course, and to set the terms on which [it] will receive the resources to pursue it, as do contemporary academic scientists” (p. 233). In some circumstances, faculty may choose to work at arm’s length from the university in self-sustaining departments or in spin-off enterprises, and thus maintain some semblance of the loosely coupled network model. The rise of the knowledge economy combined with the empowerment of university managers may also be an opportunity for faculty and management to negotiate a pragmatic partnership of their own in which management acts as a barrier between the university and industry and fulfills other services in
accordance with the culture and operative needs of the institution. In the process, the autonomy of the university may be strengthened. This requires mutual trust and respect on the part of faculty and management for each other’s roles, as well as a greater willingness to share power.

Enterprize Competencies

In the face of enhanced global competitiveness and rapid economic change, a society’s ability to sustain its standard of living is said to be subject to its capacity to innovate, a characteristic dependent upon the knowledge, skills, values, psychological variables and behaviours of its people, that is, their “competencies.” One of the subsidiary research questions of this thesis, *What are the competencies of entrepreneurship?*, found discussions of enterprise competency to be vague and abstract and consisting of variable lists of attributes. Among economists most concerned with the study of entrepreneurship, many believe entrepreneurial behaviour cannot be analyzed, standardized, routinized, automated or discussed in general terms; it therefore is held to defy any discussions of “skill.” This thesis has suggested that if skill is defined not as a standardized process performed almost automatically but as a systemized and disciplined approach to resolving unprecedented issues and adding to one’s knowledge continuously, then it may be possible to provide a relatively coherent, but by no means comprehensive, discussion of the skills of entrepreneurship. From a Schumpeterian standpoint, entrepreneurship requires values that hold innovation to be essential if not desirable; sufficient knowledge to recognize opportunity; a behavioural propensity to act quickly upon changing fortunes; and skills associated with making decisions on the most efficient and effective use of scarce resources under conditions of uncertainty, which involves the implementation of technological and organizational change.

Innovative entrepreneurs² are frequently argued to be a special form of skilled labour that bears a close resemblance to management. This controversial conception of entrepreneurship has been expressed for centuries. In the nineteenth century the Ricardian socialists added that individual entrepreneurs could be replaced by specially trained managers, and private capitalists by state investment, making socialism a functional system. Schumpeter would later agree, noting that the labour entrepreneurs contribute to the innovation process has been carried out in many kinds of economic structures and at various times, although some systems and eras are more hospitable to innovation than others. Contemporary arguments that link entrepreneurs with

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² That is, entrepreneurs in the Schumpeterian paradigm which equates entrepreneurship with innovation.
managers invariably come with the qualification that distinguishes traditional from innovative management: traditional managers are perceived to be those who do not create change but keep the system in operation; innovative managers make changes to the system to improve operations.

Much effort has gone into breaking down innovative activities to their distinct components and subjecting them to rationalized, systematized processes, not with the intention of laying the basis for a socialist order, but as the means to raise the competitiveness of an organization or society. The organizational changes that accompany measures to raise efficiency or innovativeness may, however, result in structures that distribute power more evenly and check the misuse of power more readily, two possibilities that may be more likely to occur if the workforce is well educated and the meaning and skills of entrepreneurship are broadly understood and practised.

At the basis of entrepreneurial behaviour are values and motivations shaped by the interaction of personality and the socio-cultural environment. An enormous amount of research has been conducted with the intention of providing a basis for differentiating the entrepreneur from other business owners or from managerial employees, investors and others in society. Psychological studies comprise the majority of research in this area, and are largely concerned with defining the character traits that contribute to entrepreneurial motivation. Unfortunately, psychological research has not provided a clear understanding of the underlying reasons for entrepreneurial behaviour. Much of the research has also been strongly criticized for using imprecise and inconsistent terms of reference, for employing questionable methods and for being insufficiently generalizable. The most corroborated research suggests that regardless of gender, culture or nationality, many entrepreneurs exhibit a high need for achievement, an internal locus of control and values of independence—but then so do the bulk of others performing leadership functions in a variety of employment sectors, including those having little to do with economic transactions. Nevertheless, a need to achieve and an internal locus of control appear to be beneficial to entrepreneurial activities as well as open to socialization and development.

The basic attributes of enterprise competence are grounded upon a set of values that sees innovation positively, and a propensity to act on implementing innovative ideas of one's own. These are the minimal skills to cope with change, and they are composed of analytical abilities which assist in adapting to new situations; oral and written communication skills; a facility with mathematics and computers; second language skills; and the capacity to interact successfully with people from various cultural, professional and socio-economic backgrounds. With the shift
from hierarchical work structures to those which provide employees higher levels of responsibility, autonomy and decision making authority, management skills in problem solving, teamwork, conflict resolution, information handling, decision making, communication and diplomacy have been added to the list of basic skills deemed essential for everyone, and are recommended to be part of a general curriculum accessible to all disciplines and most levels of education, from primary through tertiary.

Among the basic skills essential to the new economy, the ability to learn is judged the most important. This ability is said to be based on critical thinking skills—analyzing, quantifying, synthesizing, communicating and clarifying information—which provides some employment security in that a variety of skills may be tendered on demand, and possibly affords greater intellectual and emotional adaptability in the face of rapid change. At a higher level in the composite of skills involved with the ability to learn is the capacity to understand and plan for one’s own learning processes, to act upon negative feedback and to create knowledge. This is the essence of the entrepreneurial function of acquiring new knowledge, experimenting with it, and adapting and improving upon it so that new technologies (equipment, organizational formats and work processes) complement each other as well as the tasks at hand and the skills and competency levels of the workforce.

The skills of high-level entrepreneurs have been identified as primarily involving the access and application of information through building, directing and developing a firm, its culture, its network and the potential of its employees. These leadership functions often involve a contradictory balance of aptitudes involved with developing an appropriate structure, finding effective procedures for managing innovation, and a score of cognitive and interpersonal skills involved in decision making, team and network building, manipulation, creating a climate of trust to elicit relevant information from competitors, colleagues and subordinates and to facilitate the free flow of ideas while withholding information crucial to the organization’s competitive advantage.

Although entrepreneurship entails technological innovation as well as changes to institutional and social arrangements that will make the most of the skills and knowledge of the workforce, technology can offer only a minimal comparative advantage when competitors are introducing similar practices. The workforce of the entrepreneur is therefore argued to be the principal area for outstripping the competition. To effectively develop their human resources, entrepreneurs need an ability to understand the individual motivations of subordinates, which,
according to motivational studies of highly committed employees, are similar to the entrepreneur’s own presumed drive for power, autonomy and creative expression. This suggests that to retain good staff, entrepreneurs may need to be willing to share power and delegate authority in order to gain the trust, commitment and intelligence of the workforce. The literature suggests that this may involve establishing an organizational culture of high performance and ethical standards by example, which are frequently deemed essential to reducing transaction costs among agents within the firm and between the firm’s representatives and other individuals and organizations.

A firm’s innovative capacity may be improved by taking a systematic approach to creating, diffusing and implementing knowledge. Even intuitive knowledge is conducive to systematic expansion as Nonaka’s (1991) study indicated. A systematic approach involves understanding work as a sequence of activities, knowing intimately the strengths and weaknesses of the enterprise to facilitate planning for change and handling unforeseen events effectively, being attune to trends in the external environment, being aware of which trends are significant for the organization’s future and which are passing or far removed, and having a general idea of where the organization should be situated in ten years or more. Despite the extent that entrepreneurial skills have been delineated and made routine, there is no substitute for “vision”—intuition, inspiration, hunches—but only the means of tapping the insights of others. The art of gaining creative ideas from employees may be accomplished through establishing an open environment that promotes the sharing of ideas, shows tolerance toward brainstorming rough but original thoughts and encourages their genesis into more refined, workable conclusions. It also requires creating a “learning culture,” which means establishing norms that value the creation, acquisition and transfer of knowledge, that view failure as a learning experience and that indicate a willingness to admit mistakes and change behaviour to accommodate new information.

The innovative capacity of an enterprise is strongly influenced by its organizational structure. Among the more favoured contemporary structures is the loosely coupled network, which can be the organizational principle within a specific firm as well as the format for linking several small firms with each other or with units in large companies. The loosely coupled network offers the communicative benefits and opportunities for creativity exhibited in many of the more innovative and horizontally structured small-scale organizations with the efficiencies of scale found in many large organizations. It also promotes a culture which is simultaneously
competitive and cooperative, providing a drive for maintaining advantage through continuous learning and a framework for diffusing new knowledge. At the levels of both a region’s economy and an individual firm these networks are believed to promote gains in productivity and creativity. They are also thought to be a stabilizing structure, as entrepreneurs from each enterprise in the network may collude with each other over such issues as price setting and the introduction of innovations, thereby improving their individual chances of making profits and implementing change. The salient point emerging from discussions on entrepreneurial competencies is that horizontal structures are the basic framework for bringing out innovative, creative and cooperative attitudes and behaviours. This has renewed criticism of the education system’s hierarchical structure also known as the bureaucratic or industrial model.

*Education for Innovation*

The bureaucratic model of education is an expression of the power relations that have predominated in social groups for the past century. It once reflected the more rigid hierarchies of greater society and was useful for cultivating a compliant and disciplined workforce in an era characterized by relative cultural homogeneity within nations, nationalistic industries, and mass production and consumption. But now, with an expressed need to foster qualities of creativity and leadership, the bureaucratic model is considered dysfunctional. The values and behaviours it transmits are thought to undermine self-confidence, initiative and the ability to think for oneself, and instill instead the necessity of conformance and the legitimacy of relationships of inequality which will be perpetuated outside the educational institution.

The traditional education system, it has been argued, is not so much a place of learning as it is a place of cultural indoctrination that screens job applicants for employers. A contrasting view contends that in the West the ideals that universities transmit as part of their responsibility to pass on cultural traditions have led to reproducing norms and values that conflict with those needed to sustain contemporary culture. In some ways these arguments run parallel to one another and in each case result in the education system promoting social stability. If the acculturating components of education promote attitudes and affectations that are not particularly beneficial for a society that is supported by commerce and trade, they still promote compliance to an abstract authority while leaving students without the intellectual or behavioural mien to cope with economic change effectively or introduce viable economic alternatives.
The impact that universities among other acculturating institutions in society have upon the cultural legitimacy of entrepreneurship may be observed by examining the social status of the majority of entrepreneurs. It has been found that in Western society entrepreneurs tend to come from socially marginalized groups—they are frequently immigrants, women, or members of the working classes or of ethnic or religious minorities. This indicates that entrepreneurship is held in low regard, as entrepreneurs are being drawn from society’s marginal groups while the mainstream pursues professions that are further removed from commercial activities. Schumpeter thought that under these conditions those most suited to lead economic change would be attracted to more prestigious occupations while the less qualified or more mercenary in outlook would determine the strength of the economic substructure that supported a society’s culture.

It seems understandable that entrepreneurs from socially marginalized groups may feel somewhat cynical toward a society that excludes them from participating in more socially respected activities, and rather than contribute to the well-being of a society, they may choose to exploit it without a sense of social indebtedness or social responsibility. However, if education can have the effect of strengthening social cohesion, this situation may alter with time, as it has been observed that over the past twenty years, entrepreneurs have become increasingly and significantly more well educated than the general population. This could be a reflection of the greater knowledge base required of entrepreneurs, as knowledge, the essential tool for entrepreneurial action, has become more complex and vital to the new economy. It may also indicate that entrepreneurship is moving mainstream as a combined result of downsizing bureaucracies, higher professional unemployment and government programs that encourage self-employment. Conversely, it may be a reflection of higher education levels being obtained by those in socially marginalized groups who, despite their education, remain excluded from more prestigious and less uncertain means of making a living.

A subsidiary research question this thesis asked, *How has the demand to develop enterprise cultures influenced changes to the curriculum and pedagogy of universities?*, led to delineating an area of education often referred to as “enterprise education” which covers a vast array of programs intended to strengthen the economy through skills and attitude training. Programs of this type range from those aimed at developing enterprising behaviour or “life skills,” to those with goals of reducing unemployment, providing practical work experience, arming the labour force with appropriate skills and attitudes to cope more effectively with new
technologies and work patterns, improving the practice of managing innovation, influencing career choice toward business ownership, developing skills for small business management and growth, and understanding the political, historical, economic and cultural contexts of industry and markets. All forms of enterprise education currently implemented share such common features as being participant centred, focused on active not passive learning experiences, and geared toward developing management skills for starting and running a project or business.

There are several ways of distinguishing the kinds of enterprise education available. This thesis has adopted a tripartite division which includes (1) education for enterprise programs aimed at providing the business skills necessary to start up and manage a business; (2) education through enterprise programs aimed at cultivating the life skills required of enterprising people; and (3) education about enterprise programs aimed at acquiring an understanding of the role of business and industry in the political, social and economic organization of a culture.

Education for enterprise is skill rather than knowledge-based, courses are practical and applied rather than theoretical and emphasis is on active learning. The goal is to acquire business skills for immediate application, and focus is on business plans, capital acquisitions, marketing strategies and other legal, financial, managerial or development issues related to running a commercial enterprise. Although there are several commercial models to base the learning experience on, this thesis provided examples of a network of knowledge workers, a team entrepreneur and the small business model, the latter being the most common model found among entrepreneurship education programs.

There are many criticisms of education for enterprise programs. Entrepreneurship researchers have remarked that most programs in this category lack context and neglect current academic research on the subject. Most education for enterprise programs have been implemented without faculty reaching agreement on what entrepreneurship is or what kind of skills and attitudes would be appropriate to develop. Faculty that teach entrepreneurship and practising entrepreneurs have also been shown to hold strikingly different views of the nature of entrepreneurship and the skills a successful entrepreneur should possess, with faculty tending to favour courses that will develop the entrepreneur's independence, self-reliance and sense of competitive individualism—often to the conscious exclusion of group work—and entrepreneurs wanting programs that will develop their capacity for effective leadership and teamwork. In general, most programs include little discussion of economic theory, the history of entrepreneurial contributions, the sociology and psychology of entrepreneurs and their role in
business and society, the social and environmental consequences of entrepreneurial decisions or the issues involved in innovation, the latter being often ignored in favour of discussions on profit making and small business management.

The literature suggests that most enterprise training programs emphasize the individual owner-operator of a small business is paramount among enterprise models and the cornerstone of economic development and prosperity, while often disregarding other models that business and economic literature attribute to being equally if not more viable in meeting the needs of a global information economy. In Britain political ideology appears to have fuelled an emphasis on a small-business model that emulates a hierarchical division of labour. In the U.S. innovative entrepreneurship education programs reinforce individual competitiveness and small-scale capitalist development at the expense of developing interpersonal and leadership skills that would be useful in eliciting the talents and expertise of others and building uncertain relationships into more dependable networks. While small-scale enterprises offer much worth imitating in terms of their flexibility, innovativeness and ease of communications, the literature suggests that the most successful of these firms are neither hierarchically structured nor individually controlled but stress collaboration and the delegation of responsibilities in order to better exploit the expertise of employees, remain competitive and provide lead decision makers with the time to focus on building up the business. In this context, some education for enterprise programs appear to be an ideological vehicle for reinforcing the legitimacy of small-scale capitalism rather than a vehicle for economic development. Among the numerous suggestions for ways enterprise education may be improved, several have called for it to be integrated into a liberal education which would cultivate innovation competencies, attitudes of social responsibility and the norms and behaviours of the common culture to ensure innovation progresses in ways that will not destabilize the social order.

Enterprise education programs of the broader sort, categorized as education through enterprise, wed the acculturating attributes of a liberal education with an attempt to develop competencies “relevant to enterprise.” These are the twin goals of innovation and social responsibility the OECD advocates as the basis for a healthy and prosperous society, and in practice they often translate into “life skills” for coping in the new economy—competence in communication, group work, problem solving, self-awareness and the ability to learn. Closely aligned with suggestions found in the literature on management theory, British educationalists have proposed changes to enterprise pedagogy that will dispose of the bureaucratic model of
education in favour of democratic work practices designed to maximize individual initiative, creativity and communication flows through fostering high-trust environments based on cooperation, teamwork and collaboration. A “progressive” teaching and learning style is advocated which is skills-based, process-driven and student-centred. Greater responsibility is placed on the learner, with the teacher acting as guide rather than instructor. Stress is on active learning experience in working collaboratively and individually in setting up projects. The cultivation of high-trust relations is emphasized as the best means of tapping the wealth of talent presumed to be held by highly educated people. The goal is to foster greater initiative and creativity on the part of the student by introducing methods and processes of work that will develop a student’s self-confidence, decision-making skills, economic and career awareness, ability to lead, delegate, take direction, moderate group behaviour, plan and see projects through.

Britain’s Enterprise in Higher Education initiative is the most well-known of the education through enterprise programs. While the program was initiated as part of a larger enterprise education directive aimed at alleviating unemployment, the deeper intent behind introducing enterprise skills appears to be, first, the recognition that some means needs to be found beyond the traditional industrial model of education for developing peoples’ capacities and abilities to cope with and actively participate in a rapidly changing society—and possibly also contribute to shaping the directions of social change. Second, there is growing recognition that developed industrial societies need considerably more than the skills and knowledge that a general (or liberal) education or a vocational (or professional) education at their best are able to provide. Third, there appears to be an implicit understanding among educationalists and management theorists that the education and skills of the workforce can affect the direction of economic restructuring, the kinds of jobs that result and the individual’s capacity to act on the world as well as exert more personal control over economic or other issues affecting standards of living, self-esteem and the concept of self in relation to society.

Despite the high ideals upon which education through enterprise programs are partially based, the reality is less impressive. Institutions involved in Britain’s Enterprise in Higher Education initiative have not focused on developing learning processes that will sharpen the student’s understanding of disciplinary content, develop intellectual and creative skills or the capacity to interpret or criticize, but have instead stressed the cultivation of non-subject-specific life skills. Accounts of the initiative indicate significant changes have been made, but on a piecemeal, add-on basis only. Much of enterprise education’s potential to be a liberating,
rigorous and integrative learning experience depends upon the knowledge educators have of the concept. A large number of educators, however, resist the concept of enterprise because they understand it only as part of a new right strategy to create supporters of capitalism. Others perceive enterprise to be essentially a capitalist ethic which is not transferable to other economic systems. There are few means of dispelling these beliefs since programs that would address the fuller potential of entrepreneurship and technological innovation through examining their political, social, economic and historical contexts have yet to be designed.

Education about enterprise is the most underdeveloped area of enterprise education, and there are few resources for educationalists to turn toward to supplement their understanding. Entry level courses in economics either ignore entrepreneurship or hold it to be the act of an individual motivated by the prospect of profit to start a new business, thus neglecting the teamwork of large corporations and other motivations the literature suggests such as a need for power, respect or autonomy. Teacher education programs merely expose teachers to work experience in industrial settings, not to ideas that examine the evolutionary nature of economic development or the cultural bases of capitalism. By narrowing the educators’ understanding of enterprise to a particular kind of economic arrangement, the possibilities for indoctrinating students into unquestioningly accepting a whole set of values appears obvious. The absence of programs in education about entrepreneurship keeps in obscurity the cultural contexts of entrepreneurship, which cannot be adequately covered in the more practically oriented programs for and through enterprise, but which may take centre stage in a content-laden program. A thorough examination of enterprise may include its social impact over time and reveal that unguided entrepreneurship has altered the social order in unintended ways and is therefore a risk to those who may lose through change guided in ways contrary to their interests.

Enterprise Cultures

Change always creates new winners and losers. The politics of economic innovation may follow in the tradition of economic liberalism or the non-interventionist state which assumes the grievances of the losers should be pushed aside by the efficiency of the market. Up until the postwar period and the introduction of the welfare state, this had been part of the British tradition and of societies culturally tied to Britain. Another tradition of social and economic management, more popular in continental Europe with autocratic regimes such as Bismark’s Germany as well as social democratic policies and also evident in Schumpeterian theory, suggests the losers be
compensated in the interests of promoting social consensus and an environment conducive to continued innovation.

Whichever tradition is followed, those who are intent upon leading a successful transformation of an organization’s or a society’s culture may also need to articulate a vision that reflects esteemed traditional values or the prevalent aspirations of society. Such a strategy of “endogenous change,” or working from within cultural norms, was advocated by Schumpeter and appears to have been the most effective among various societies that recently attempted to influence a cultural shift toward holding enterprise in higher regard. Attempts to tip the balance of a culture’s values in favour of enterprise have been taken in Quebec, France and Britain. Rather than impose values and practices alien to the culture, policy makers in France and Quebec assisted their societies toward directions already viewed favourably by many, which apparently resulted in entrepreneurial values as defined by those cultures being held in higher esteem. Advocates of innovation in France had the additional advantage of a broad range of historical perspectives for reinstating a particularly French interpretation of entrepreneurship, from the laissez-faire conventions of the physiocrats to the elitist “socialism” of the Saint-Simonians.

The cultural and intellectual traditions of Britain, on the other hand, have tended to place the entrepreneur in a much more narrowly conceived and negatively biased framework. Consequently, Britain’s efforts to effect an “enterprise culture” by recalling traditional values have backfired. Britain under Thatcher employed American economic consultants with a definite Austrian slant (Milton Friedman and Friedrich Hayek) whose attempts at economic restoration included going back to the economic liberalism of the past. This appears to have been a gross error in reading the dominant values of late twentieth-century Britain; according to attitudinal surveys of the British population, esteem for entrepreneurial values as defined for that culture has dropped significantly over the past fifteen years, with a majority objecting to the small-scale competitive model of entrepreneurship held to be the ideal.

The way we understand a concept, frame it and articulate political demands based on this interpretation determines to a great extent how our demands will be interpreted and the manner in which economic, political, social and intellectual resources will be mobilized in response. Cultures are built upon values which are formed and informed by the language we use to express our understanding of the world around us. Competing ideologies may propose competing definitions to words that have the potential to persuade, to introduce self-doubt, to shift power and to incite cultural change. Language, being the clearest representation of a society’s values,
discloses not only a great deal about the kind of people we are but also provides an indication of the way change is being directed and lays the basis for the kind of people we will become. At the level of the university, a shift in the language of government policy makers and university senior administrators has been assessed by some observers as a means to reinforce the view that the social importance of universities lies in their economic contribution. In this respect, changes in language have been noted which equate the service of the community at large with the service of corporate interests. At the level of society at large, the increased use of the words “entrepreneur,” “enterprise” and “innovation” have been argued to signify a transition in economic organization from a quasi-Keynesian structure based upon maintaining stability to the point of inhibiting change, to a structure that seeks to relax control yet manage the dynamics of change. The new right’s reintroduction of the words laid a basis for understanding global economic changes which were not of their making from a perspective inextricably bound to an individualistic and competitive view of human nature that excludes collective and cooperative attributes. When entrepreneurship is understood in the Schumpeterian sense as innovation, however, the concept begins to embody values that are adaptable to diverse political, economic and social structures, and is no more exclusive to capitalist economies than barter and trade.

As discussed previously, a Schumpeterian perspective on changes occurring in academic cultures suggests that if faculty are losing independence and professional control by engaging in technology transfer activities, they are in fact losing what entrepreneurial qualities they had and are being assimilated into a corporate entrepreneurial body represented by the university. Schumpeter suggested entrepreneurship would evolve to this stage as innovations became more complex but their processes more thoroughly understood and open to systems of control and coordination. The corporate entrepreneur represents a phase of economic development in which power and control is distributed among a number of people instead of vested in a single individual or a significant few. To set the university in its social context, this model might begin to be understood by extending the simple Say-Tracey model of scientist-entrepreneur-worker culled from their writings and outlined in chapter two and have it reflect corporate society rather than a specific worker or industry. We might think of all three actors in an innovative society as “entrepreneurs” and conceive of the relationship between their corporate equivalents in the following manner:
This apparatus can be used to extend Barrow’s (1990) argument that the knowledge economy requires “a state-centred regulatory structure for managing the intellectuals and, thereby, the production and distribution of knowledge (i.e., research and teaching)” (p. 254), for in the model the government assumes the responsibilities of the “middle man” as a means of managing any conflict arising between the academic and business communities. L’entrepreneurship d’état has precedence in this century in Quebec during the Quiet Revolution, in France under d’Estaing and Mitterand, and is also apparent in those governments that espouse a laissez-faire ideology while strengthening their administrative powers in an attempt to create an economic environment attractive to mobile capital. Entrepreneurship as an aspect of statecraft also has the longest tradition, with the first “entrepreneurs” being in effect contractual labour given wide discretion in fulfilling the goals and aspirations of the state.

Under capitalism, entrepreneurs in the private sector have not experienced purely laissez-faire conditions in which to conduct business. Neither have they shown an inclination to do so. There has always been a strong tendency to seek protection from the instability of the market by forming cartels with other enterprises, and by gaining from the state the provision of laws and military services to safeguard private property as well as subsidies, trade restrictions and armed force in labour disputes. Government has traditionally performed functions that have much in common with the innovative manager in attempting to maintain the system in working order and lead change when necessary. Neo-Schumpeterian economists argue that as markets are imperfect and provide insufficient incentives for investing in the discovery and diffusion of new knowledge, government is essential for establishing an infrastructure to encourage partnerships between business and universities which includes providing the stimulus of the research grant, assisting industries in upgrading technology, creating an environment that fosters innovation, and supporting the research and training missions of the university. In this argument, the long-term
health of an innovative society is viewed as depending as much on instilling a common culture and a sense of social cohesion and moral responsibility as it does on its receptiveness to new ideas, access to science and technology, willingness to bear risks, peacefulness and tolerance toward the unfamiliar. Such cultural attributes, it has been argued, do not just happen but are consciously introduced and developed by the innovators themselves. At the level of society, this involves creating an infrastructure supportive of innovation that is based upon the interdependent cooperation of entrepreneurs representing private enterprise, government, universities and labour unions who design a network that will facilitate a common pursuit of innovation. At the level of the classroom, this may involve introducing measures that will promote the creativity said to be inherent to entrepreneurship and innovation and cultivate a global understanding of entrepreneurship appropriate to the new world economy. This requires that educators have some understanding of the different kinds of social, political and economic arrangements that have qualified as enterprising societies in the past and that currently exist among innovative cultures beyond the educators’ immediate experiences and the dogma of the times.

4. Suggestions for Further Research

The integrated review raises several issues that could not be pursued within the limits of the questions posed and research methodology used in this study, but which may be examined in closer detail in subsequent empirical or theoretical studies. Outside of educational studies, the parallels this thesis discovered between Schumpeterian thought and the manifestation of the Trilateral Commission need to be much more closely scrutinized. Such a study might investigate the organizational and ideological similarities between Schumpeterian theory and Trilateralist action, the claim of Trilateral support being lent to buttress a new right ideologically inspired breakdown of the old social order and the subsequent rise of neo-Schumpeterian thinking as the means to rebuild society. The study might also examine an aspect that readers familiar with Japanese business culture might recognize: the Trilateralist model and the Schumpeterian fondness for industrial collusion and monopoly capitalism has much in common with the Japanese practice of structuring their businesses in large organizations known as keiretsu, consisting of hundreds of businesses that collaborate in such areas as research, development and diffusion. Do keiretsu and Schumpeterian theory share similar philosophical origins? What does the current organizational and functional similarities between keiretsu and the Trilateral Commission imply for the competitive advantage of nations involved in the new world
economy? How might this affect changes to curriculum and pedagogy at various education levels?

Inside the realm of educational research, several studies of the corporatist or collective entrepreneur are possible. It would be useful, first of all, to clarify beyond reasoned supposition whether universities are indeed becoming more "bureaucratized" with added layers of management, and whether—or how—this relates to the commercialization of research. A study of organizational formats used in various North American universities and departments to transfer technology or to conduct applied research might indicate whether the bureaucratic model is being perpetuated or discarded in this sector of the university's activities. The study may contrast the organizational formats being implemented, if any, in more traditional or established departments to infer what response changes in funding, in organization or in ideological climate are having on the broader university culture. Are there, for example, changes resulting from the interaction of a hierarchically structured research team where the professor/director sets goals and allocates tasks, and a laterally structured technology transfer unit? If there are concessions being made in the interests of improving communications between units, which department is making them? An examination of the impact that recently formed self-sustaining departments or autonomous units of control have on the research, teaching and community service functions of the university's culture may also survey the faculty involved to determine whether control over their work has altered, and to assess whether this shift in organizational structure has affected a change in faculty attachment to the research community and the institution. A comparison of the organizational structures of research teams in different settings such as the university, commercial enterprises and joint ventures between industry and academe may be studied with the intent of gauging which environment tends to be more hierarchical, what understanding of work arrangements the university is transferring to its graduates in applied and pure studies, and whether these work patterns are useful outside the university environment. It would also be useful to understand why, despite groundbreaking studies on entrepreneurship being developed in academe, the majority of faculty who criticize the concept of entrepreneurship in higher education or who claim to teach its practices do not appear to be particularly well-informed of contemporary or historical research on the subject. Does this apparent rigidity of beliefs relate to a hierarchical structure which impedes the diffusion of knowledge and information within the institution itself? There is also some question of the legitimacy of the argument that contends the "traditional" rights and privileges of faculty are currently being circumscribed. A historical
examination of science policy development in Canada that is grounded in a broader theoretical and analytical understanding of the evolution of economic relationships between university, state and industrial representatives in nineteenth century Western societies may provide a long-range view of the degree to which academic autonomy is being encroached upon. The study would also provide the historical basis for building upon the model delineating the networking relationship of corporate entrepreneurs introduced in figure 3. Finally, any study of the corporate entrepreneur will need to give the views of university administrators fuller representation than is currently the case, particularly on the subject of what the literature describes as the shift in power to growing layers of management and the simultaneous “proletarianization” of faculty. It may be that administrators do not see themselves as infringing upon the discretionary powers of the academic profession but believe they are merely assuming essential administrative functions that faculty had left neglected, or that had distracted faculty from effectively fulfilling their core responsibilities. At present, other than “official” statements, there is very little understanding of how administrators interpret the changes in university culture or how they envision the institution’s future.

Further research could be conducted on the entrepreneurial motivations of individuals. The motivations of faculty who conduct applied research need to be examined more closely. If there are faculty who conduct research at cost, or who make a profit but view applied research as a service, say, for the economic development of poor regions, then these motivations need to be added to the bulk of literature on the profit motive. Similar motivational studies could be conducted on faculty who choose to enter into loosely coupled arrangements with the university that enhance the individual’s autonomy and income. Perhaps academics who enter more autonomous arrangements with the university are doing so, in part, in retreat of an increasingly bureaucratized institution. Or perhaps money is a bigger motivator than is evident in entrepreneurship research. While there is much empirical support for the proposition that entrepreneurs in the public or private sector are not primarily motivated by profit, there is also sufficient reason to continue to verify these findings. Schumpeter’s assessment of entrepreneurial motives and the empirical studies that followed him were often made in the context of a society experiencing relative high employment and high wages, in which working for large-scale organizations was the normal means of making a living, and certainly within the reach of the majority. As it is now more difficult to gain entry into this kind of security, many who are in business for themselves may be more rational in their motivations than entrepreneurs of the past,
and may not place any emphasis on work as the medium to acquire power and autonomy or express creativity.

Research could address more specific programmatic or disciplinary changes that have developed in response to a perceived shift toward an enterprise culture. Changes to management education over the past five to fifteen years could be studied, for example, on an intercultural basis that compares Canada and France with the U.S. and Japan to assess how an understanding of management responsibility in innovative activity is being conveyed and how cultures that value a balance between collective and individualistic norms may differ from those which are either primarily individualistic or collective. Similar questions could be posed in an appraisal of the quality of programs aimed at teaching economic issues and theories to educators.

Conceptual studies in the tradition of historical sociology aimed at furthering understanding about enterprise need to be pursued. A Schumpeterian approach to such an endeavour might produce a general history spanning several transitions in economic structures to make apparent the historical patterns and interplay between the introduction of new technologies, organizational change, the actions of various powerful groups, the cultural adaptations of society at large, shifts in values, the attitudes of intellectuals toward the economic sphere and their historic role in both promoting and deriding technological innovation as well as the traditional role of the state in maintaining the balance of power in society. Such an endeavour is likely to be a lifetime’s pursuit.

More theoretical guidelines to aid in conceptualizing how entrepreneurship, as an innovative activity, may relate to the culture and purpose of educational institutions should be developed, but the research agenda specifically does not advocate working toward the provision of a single authority to guide the teaching of entrepreneurship, its practice or even how the concept should be understood. Entrepreneurship and enterprise education may be easily dismissed by those who have little tolerance for ambiguity, but the capacity to handle irony and ambivalence and adapt to widely different cultures and circumstances is the essence of entrepreneurship, and is, moreover, an important trait to cultivate if the goal is to develop creative, innovative ways of thinking and working in settings that increasingly call for understanding diverse cultural viewpoints. The absence of authority may be a positive for it ensures continuous diversity, and with this, vitality, relevance, growth and improvement as various industries and cultures adapt the combined practices of others, improve upon them to introduce the “best practice” of the day which
competitors will copy, refine and reconcile to meet the needs of their own cultures, then transform into the next paradigm to be subsequently improved.
References


