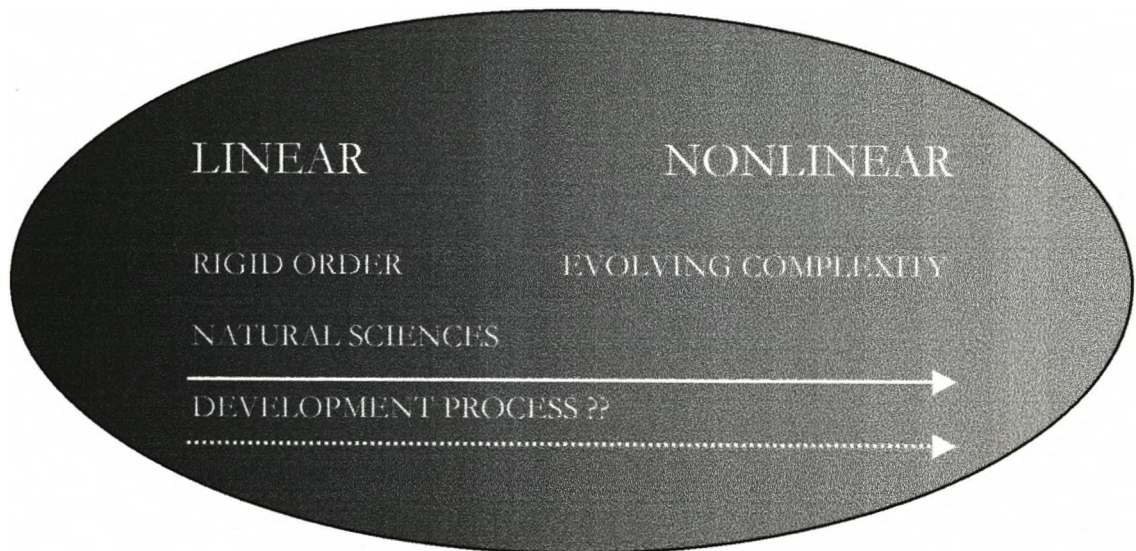


COMPLEXITY IN THE DEVELOPMENT PROCESS

Thesis submitted in accordance with the requirements of the University of
Liverpool for the degree of Doctor in Philosophy
by Samir Rihani.



CONTENTS

CONTENTS	2
LIST OF FIGURES	5
LIST OF TABLES	5
PREFACE	6
PART ONE: LINEAR THEORIES FOR NONLINEAR SYSTEMS?	8
CHAPTER 1: INTRODUCTION	9
TWO FACETS OF A PARADOX	10
EXPLORING THE PARADOX	11
HYPOTHESIS AND MEDIUM FOR ANALYSIS	12
BACK TO BASICS	14
TERMINOLOGY	15
CHAPTER BREAKDOWN	16
CHAPTER 2: STYLISTED THEORETICAL ROOTS	20
CONVENTIONAL CLASSIFICATION	21
<i>Mercantilist School</i>	21
<i>Liberal School</i>	24
<i>Marxist School</i>	26
RIGID DEMARCATION AMID RAMPANT PRAGMATISM	28
CONCLUSION	30
CHAPTER 3: MANUFACTURED DISCORD	32
MERCANTILISM LIVES ON	33
SHADES OF MARXISM	34
IDEOLOGICAL FLAGS OF CONVENIENCE	39
ECLECTICISM IN THE LIBERAL CAMP	41
CONCLUSION	43
CHAPTER 4: CROSSOVERS AND COURSE CORRECTIONS	45
PARALYSIS OF THE "INVISIBLE HAND"	45
MARXISM'S IGNOBLE RECORD	48
REVOLUTION IN LIBERAL RANKS	49
CRACKS IN KEYNES' NEOLIBERALISM	51
DISCORD IN THE MARXIST CADRES	52
A REALIST COURSE CHANGE	53
THE MANY FACES OF INTERDEPENDENCE	56
CROSSOVER THEORIES ADD TO VARIEGATED SIMILARITY	57
<i>Regime Analysis</i>	58
<i>Hegemonic Stability Theory</i>	60
<i>Public Choice Analysis</i>	61
CONCLUSION	63
CHAPTER 5: HISTORICAL INTERLUDE	65
HETEROGENEOUS KNOWLEDGE	65
ELITES AND HIERARCHIES: THE ETERNAL MODEL	67
IDEOLOGY IN BABYLON	69
THE GREEKS CONTINUE MANKIND'S MARATHON	73
AN ISLAMIC BRIDGE TO THE RENAISSANCE	76
FORGOTTEN CIVILISATIONS OF CHINA	79

CONCLUSION	81
PART TWO: EXPLORATION OF THE DOMAIN OF COMPLEXITY	83
CHAPTER 6: DAWN OF THE PROBABILISTIC AGE	84
REDUCTIONIST AGE OF CERTAINTIES	85
MISSED RIPPLES OF DOUBT	86
MOUNTING UNCERTAINTY	87
ASSIMILATION OF THE NEW PARADIGM	89
CONCLUSION	91
CHAPTER 7: RICHES AMID ORDER AND CHAOS	92
HIERARCHICAL STRUCTURE OF SCIENCE	92
RICH SEAM OF COMPLEXITY	93
SURVIVAL AND ADAPTATION	96
TREKS IN FITNESS LANDSCAPES	98
ACCUMULATION OF KNOWLEDGE	100
RISE AND FALL OF COMPLEXITY	102
CERTAIN UNPREDICTABILITY	104
CONCLUSION	106
CHAPTER 8: COMPLEX ADAPTIVE SYSTEMS	108
CHIMERA OF PREDICTABILITY	108
MORE THAN POLITICS OR ECONOMICS	111
<i>Irreversible Arrow of Time</i>	111
<i>Frozen Accidents and Relentless Adaptation</i>	114
<i>Predictable Inequalities</i>	116
<i>Elites and Hierarchies</i>	117
<i>The Fundamental Unit</i>	119
<i>Cooperation and Competition</i>	123
<i>Reputations: Good and Bad</i>	127
CONCLUSION	129
PART THREE: LINEARITY AND NONLINEARITY ON THE WORLD STAGE	131
CHAPTER 9: GLOBAL INSTITUTIONS AND INTERACTIONS	132
ESSENTIAL VARIETY	132
IMPOSED CONFORMITY	133
THE UNITED NATIONS	135
THE WORLD BANK	138
SHACKLED IN DEBT	144
THE COMPLEX NATURE OF INDEBTEDNESS	146
ENDURING BURDEN OF DEBT	149
THE "SHAMEFUL CONDITION"	151
INTERNATIONAL TRADE	155
CONCLUSION	160
CHAPTER 10: POVERTY AND THE CAPABILITY DIVIDE	162
A BRIEF HISTORY OF EXCEPTIONAL WEALTH	162
NOT BY DOLLARS ALONE	167
ECONOMICS IS NOT IRRELEVANT	169
CRITICAL THRESHOLDS	172
BLESSINGS OF BIG GOVERNMENT	174
SLICING THE INCOMES CAKE	175
ECONOMIC GROWTH OR BASIC NEEDS?	179
CONCLUSION	181
APPENDIX 1: NATIONS RANKED IN ORDER OF GNP/HEAD, 1995	182
APPENDIX 2: NATIONS RANKED IN ORDER OF U5MR, 1996	185

PART FOUR: FREEDOM AND CAPABILITY TO INTERACT	188
CHAPTER 11: FREEDOM TO INTERACT	189
DEMOCRACY: A MOVEABLE FEAST	189
STATE REPRESSION	193
"APARTHEID OF GENDER"	194
ETHNIC STRIFE	196
NO QUICK-FIXES TO DEMOCRACY	197
CONCLUSION	200
CHAPTER 12: CAPABILITY TO INTERACT	201
HUNGER IN THE LANDS OF PLENTY	201
"THE SILENT AND INVISIBLE EMERGENCY"	202
GLOBAL AGRICULTURAL MAZE	204
DRIFT TO THE CITIES	206
MALNUTRITION AND DISEASE JOIN FORCES	208
WATER: THE FOUNDATION OF DEVELOPMENT	210
ILLITERACY JOINS THE FRAY	212
CONCLUSION	214
CHAPTER 13: CONFLICT AND INCAPABILITY	215
THE HEAVY BURDEN OF CONFLICT	215
GLOBAL DISTRIBUTION OF CONFLICT	218
ARMS SALES IN THE NAME OF PEACE	221
A MULTIPLICITY OF OBJECTIVES	224
CLIENTS IN DISTRESS	227
MARKETING CONFLICT	228
STRANGER THAN FICTION	230
IRAQ: A CASE STUDY	232
CONCLUSION	236
CHAPTER 14: CONCLUDING REMARKS	237
STUDY OBJECTIVES	237
OVERVIEW OF PREVIOUS CHAPTERS	237
THE NONLINEAR FRAMEWORK IN PRACTICE	241
IS SUSTAINABLE PROGRESS AFFORDABLE?	242
<i>Cost of Remedial Measures</i>	242
<i>Distribution of Available Funds</i>	243
<i>Allocation of Foreign Aid</i>	244
KEY PROPOSALS	245
PROPOSALS FOR NATIONS SEEKING PROGRESS	246
<i>Enhancement of Basic Liberties</i>	246
<i>Prevention and Resolution of Conflict</i>	247
<i>Reallocation of Financial Resources</i>	248
<i>Improvements in Efficiency</i>	248
<i>Effectiveness in International Encounters</i>	249
PROPOSALS FOR LEADING POWERS AND INTERNATIONAL REGIMES	251
<i>Development as a Localised Long-term Evolutionary Process</i>	252
<i>Emphasis on Integrative Systemic Measures</i>	253
<i>Appropriate Knowledge and Experience</i>	253
<i>Reversing the Commercialisation of Weapons</i>	254
FINAL WORDS	255
REFERENCES	257

LIST OF FIGURES

Figure 1: Net Interest as a Percentage of Exports 1982-93.	147
Figure 2: Debt Service as a Percentage of Exports for Selected Countries.	150
Figure 3: Distribution of the 500 Largest Enterprises in the World.	163
Figure 4: Percentage Share of Household Income 1990-1996.	176
Figure 5: US Federal Government Expenditure in 1995.	177
Figure 6: Graphical Representation of Appendix 1.	180
Figure 7: Graphical Representation of Appendix 2.	180
Figure 8: Percentage Increase in Food Production from 1980 to 1990.	202
Figure 9: Percentage of World Population in Urban Areas 1975 to 2025.	207
Figure 10: Urban Populations (Millions) 1950-1990.	207
Figure 11: US Arms Sales to Emerging Nations (\$ billions), 1970-1976.	222
Figure 12: US Foreign Arms Sales (\$ billions), 1982-1985.	223

LIST OF TABLES

Table 1: Gross Domestic Product/ Head, 1820-1992.	164
Table 2: Major Regional Conflicts, 1989-1996.	215
Table 3: Major Arms Trading Countries (\$ billions, 1990 prices).	221

PREFACE

I gained my degrees in engineering in the 1960s. Since that time my professional work spanned several disciplines in both the private and public sectors. I have been for some considerable time intrigued by two paradoxes: why have so many nations 'failed to develop' despite extensive efforts, and why have the experts been unable to learn from this failure? My interest is more than academic. I was born in the Middle East, moved to Britain before I was twenty and have kept my links with the Third World ever since. The study owes much to this dualistic perspective.

Possibly the most challenging concept in what follows concerns a shift in the frame of reference used to perceive and respond to events; from one suited to linear, highly predictable systems to an approach based on *nonlinear*, less predictable, systems. Following Newton's scientific discoveries it has been natural for humanity to look at all facets of life as though they were dependably linear. There is an unspoken assumption that the sum of two entities will be the same at all times and places and that cause A would invariably lead to effect B. However, it is now known that for some systems, one entity when added to another produces unexpected *emergent properties* seemingly out of nowhere. The thesis asks the reader to discard for some purposes one filter, that he or she might not be aware of, in favour of another little known filter founded on *nonlinearity*. This is the cardinal, and innovative, element in the work and much effort will be devoted to highlight the need for and implications of that transition.

I did not set out to prove this or that theory, ideology, institution, or discipline right or wrong. Essentially, the study explores the possibility that we might be applying linear tools to nonlinear situations. If that were so, then the associated remedies could be expected to fail in most instances. The change, if validated, would require a move away from reductionist methods, with emphasis on details, to integrative practices that focus on overall patterns to achieve consistently better results in development and possibly in other disciplines within the social sciences.

My own awareness of nonlinearity came late in life. A close friend, Barry Cooper, introduced me to nonlinearity, and Complex Systems, as a legitimate branch of science. I am pleased to acknowledge his contribution to my continuing education. I am also

indebted to Duraid Yawer for his advice and guidance. He was there at all times to keep me supplied with reference books in the Arabic language. One of my aims in this project was to look at the topic of development in a broader geographical and historic context. I needed a well-read friend to point me in the right direction.

Finally, I am pleased to record my gratitude to my supervisor, Dr Robert Geyer. Apart from his considerable expertise in political economic matters, I valued greatly his ability to challenge without being discouraging. I am also grateful to the Department of Politics at the Faculty of Social and Environmental Studies for affording me the opportunity to undertake this research project as a mature student.

Samir Rihani

PART ONE

**LINEAR THEORIES
FOR
NONLINEAR SYSTEMS?**

Chapter 1

INTRODUCTION

The twentieth century has been awash with reports, commissions, institutions, and World Summits devoted to development. Massive resources were allocated to the task of uplifting the fortunes of needy people, but the results have been indifferent at best. There was for instance the *Independent Commission on International Development Issues* chaired by Brandt, former German Chancellor. The proposal to set up the Commission was advanced initially by McNamara, then President of the World Bank, in early 1977. The Commission agreed a Programme of Priorities with detailed tasks for the 1980s and 1990s and an Emergency Programme for 1980-85.¹

Then there was the *World Commission on Environment and Development*, WCED, chaired by Brundtland, a past Prime Minister of Norway. The Commission submitted its report on *Our Common Future* to the UN in 1987.² Brundtland and her colleagues painted an attractive vision in which “a more prosperous, more just and more secure future was possible for all.” And interestingly, in the context of the present study, WCED lamented that the “rate of change is outstripping the ability of scientific disciplines and our current capabilities to assess and advise. It is frustrating the attempts of political and economic institutions, which evolved in a different, more fragmented world, to adapt and cope.”³ Somewhat inevitably, *Our Common Future* was criticised for not going far enough and was “referred to as ‘comfortable reformism’.”⁴ The proposals advanced in *Our Common Future* were not unreasonable, but tangible results proved in the event to be scarce yet again.

There was also a spate of ‘World Summits’ with varying titles, but essentially all dealing with development and environmental matters. ‘World commissions’ and their reports share a common trait. They all express dissatisfaction with past progress and call for more concerted efforts to do better in the future. But they do not delve into

¹ *North-South: A Programme for Survival*, 1980, pp 267-292.

² WCED, *Our Common Future*, 1987.

³ Elliott, *An Introduction to Sustainable Development*, 1996, p 4.

the fundamental reasons for the lacklustre performance of their predecessors. Sadly, all too often commissions' reports end up gathering dust. It is argued in this thesis that these features are related.

Two Facets of a Paradox

Despite fifty years of activity by 'movers and shakers' of the day, and costs amounting to hundreds of billions of dollars, too many deprived regions have stubbornly refused to 'develop'. That is an intriguing paradox. Millions live in abject misery, racked by disease, hunger, and war. Too weak and illiterate to help themselves, they rely on handouts from abroad. The gap separating them from the rest continues to grow and it seems there is little anyone could do to change that pattern. In short, progress has been thoroughly disappointing, and that is now beyond dispute.⁵ The facts relating to persistent failures are not unknown to those working in the development field. This is a key point. It appears experts are unwilling or unable to change course.⁶ The same prescriptions are repeatedly adopted in spite of their obvious shortcomings. Why? That is the second strand of the same paradox.

Explanations based on incompetence amongst development professionals are non-starters. Well-paid positions at the World Bank, for instance, attract graduates from the most prestigious universities worldwide.⁷ Their counterparts in the Third World are also highly qualified, usually graduates of the same institutions. Could there be a long-running conspiracy against the Third World? That is improbable too, as it would have had to involve a large number of participants over considerable periods of time.

Beyond the basic paradox mentioned above, other associated questions are also addressed by the thesis. For instance, could poorer nations catch up with the rest within a reasonable period of time? Is there one 'escalator to success', along which nations are spread, separated by time and little else? Or is it more productive for nations to seek to optimise their performance in their own different ways within

⁴ Elliott, *An Introduction to Sustainable Development*, 1996, p 11.

⁵ As described in Chapter 9. See also Rich, *Mortgaging the Earth*, 1994, and Caufield, *Masters of Illusion*, 1996.

⁶ In 1994, the World Bank's long-time treasurer, Rotberg, said, "I think the rhetoric has changed, the talk has changed, and maybe, at the margin, the lending has changed. However, most of the staff are not doing things differently than they did twenty or thirty years ago." Caufield, *Masters of Illusion*, 1996, p 310.

⁷ For a detailed description of rates of pay and fringe benefits see Caufield, *Masters of Illusion*, 1996, pp 46 and 189.

prevailing circumstances? More fundamentally perhaps, is there an ideal end-state that all nations should aim for?⁸ Or is the development process open-ended?

Exploring the Paradox

Initial research suggested that the assumptions underlying development efforts merited closer scrutiny. By degrees, a key question came to the fore: could a *reductionist* frame of reference, suited to *linear systems*, work in a field that involves such a bewildering array of actors and influences, most of which are difficult if not impossible to model or predict? Positivist scientific thinking in which the search for truth proceeds on the basis of objective observation was not at issue. On the other hand, the assumption that behaviour of parts of the system could be modelled individually and then the results added up to simulate the behaviour of the whole, was undoubtedly in question. Nonlinear phenomena, including a group known as *Complex Systems*, are not amenable to that form of treatment. When their parts are assembled *emergent properties* appear that could not have been deduced by observing the system's components.

If it were to be shown that development and political economic processes were Complex Systems, then it would be more appropriate to seek an *integrative* approach in which overall patterns are decidedly more important than the details. This is broader than the standard argument between system-based and unit-based theorists. Some scholars, notably Waltz, have already advocated an approach to theory that deals with international politics, for instance, on system-wide bases.⁹ However, the contention here is that the behaviour of entities that normally fall within the purview of 'social science' might be closer to that of *nonlinear* systems, rather than the more familiar *linear* systems encountered in classical mechanics. Waltz, and others, assumed that causes and effects could be linked and future events could be predicted accurately as long as the system is taken as a whole. These assumptions would be invalid for nonlinear situations. Consideration of the possibility that the processes under analysis behave as Complex Systems acquired, therefore, pivotal significance.

Study of Complex Systems is a relatively recent innovation in science. Such systems are made up of large numbers of elements that interact in accordance with simple local

⁸ As argued for instance by Bell, *The End of Ideology*, 1967, or Fukuyama, *The End of History and the Last Man*, 1992.

⁹ See Waltz, *Theory of International Politics*, 1979.

rules to produce stable, and sometimes evolving, global patterns.¹⁰ *Complexity* is a mixture of *order*, or Newtonian regularity and predictability, and *chaos*, or total randomness and unpredictability. Complex Systems theory has featured for decades in the mainstream of a number of disciplines, mainly in the life sciences.¹¹ But it made its debut in business management and economics only recently.¹²

In a state of complexity, some global patterns are predictable but in the main useful interventions are restricted to enabling interactions to proceed in a manner that produces self-organised stable patterns rather than chaos. In Complex Adaptive Systems, local freedom of action, learning, and acquisition of information are vitally important as control is limited to observation of outputs and 'encouragement' for the elements to interact in a way that moves the system towards desirable ends. Management of Complex Adaptive Systems is, therefore, a reiterative process that relies on slow, and uncertain, evolution. Command-and-control methods, effective for linear systems, are inappropriate as it is not possible to select sensible actions to achieve desired objectives in situations where results could not be traced back to specific causes.

Hypothesis and Medium for Analysis

The key hypothesis in this research project posits that nations, and development, behave as nonlinear Complex Adaptive Systems. Confirmation of this proposition would offer a rational explanation for the paradox of failures of development efforts and apparent reluctance of actors in this field to select more effective courses of action. To take account of all the relevant influences, development is analysed within a broader political economic framework. For that purpose, special attention is given to ideologies and theories relating to the International Political Economy, IPE.

IPE schools of thought are discussed primarily to show that they are not fixed sets of precepts but ideas with a large measure of diversity and pragmatism. Moreover, the

¹⁰ It is helpful to think of a game of chess to visualise an evolving Complex System in action.

¹¹ References will be given in future chapters, but it is appropriate to mention at this point Gleick, *Chaos*, 1988, Nicolis and Prigogine, *Exploring Complexity*, 1989, Kauffman, *The Origins of Order*, 1993, Gell-Mann, *The Quark and the Jaguar*, 1994, Coveney and Highfield, *Frontiers of Complexity*, 1995, Kauffman, *At Home in the Universe*, 1996, and Bar-Yam, *Dynamics of Complex Systems*, 1997 as essential sources of information on Complex Systems theory.

¹² See Day, *Complex Economic Dynamics*, 1994, McMaster, *The Intelligence Advantage*, 1995, and *The Praxis Equation*, 1997, Ormerod, *Too Complex to Manage?: Chaos and Complexity in Economics*, lecture at the RSA London, February 1997, and Mitleton-Kelly, *Organisations as Co-evolving Complex Adaptive Systems*, The British Academy of Management Annual Conference, September 1997.

narrative demonstrates that IPE theories, as precise political or economic statements, are themselves time and place specific, rather than universal models. 'Capitalism' illustrates this point perfectly. There are many versions on offer, such as 'personal capitalism' in Britain, 'competitive capitalism' in the USA and Germany, 'cooperative capitalism' in some European countries, and 'state-enterprise capitalism' and 'family capitalism', as seen in Japan's *zaibatsu* and South Korea's *chaebol*.¹³

At various times adherents of all core theories claimed they saw an end to change. Marx thought it would follow the final revolution of the masses against the capitalists. More recently Liberals announced an end to history following the 'victory' of Western capitalism over Soviet communism. Fukuyama, for example, posits that liberal democracy is now the universal model, and that marks the end of history. In that context he embraces Hegel's and Marx's view that history is directional and not open-ended.¹⁴ This thesis explores a radically different viewpoint by seeking to unearth evidence of continuous and uncertain evolution with no beginning and no end.¹⁵ The study contrasts this vision of limitless diversity with the one-model-for-all view of leading development agencies such as the World Bank.

The research, therefore, has one primary aim: to investigate signs of nonlinearity in the political economic arena. More specifically, the thesis seeks to determine whether political economic and development processes behave as Complex Adaptive Systems. If that were shown to be the case, it would establish that interactions between internal elements, human beings in the present instance, governed by simple local rules, could produce stable and self-organised patterns capable of adapting to prevailing conditions without the need for overt regulation. Again if the hypothesis were valid, the continually evolving patterns would not have a beginning or an end. A nonlinear frame of reference would lead to a far-reaching conclusion: that policies based on one-model-for-all and grounded in a linear view of development could not succeed.

Hence, the key to resolve the twin-pronged paradox discussed earlier might lie in the recognition that nations, political economies, and the process of development itself behave as Complex Adaptive Systems, with egoist individuals as internal elements. If

¹³ Chandler, *The Visible Hand*, 1980.

¹⁴ Fukuyama, *The End of History and the Last Man*, 1992. See also Bell, *The End of Ideology*, 1962.

¹⁵ Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*, 1996.

this were substantiated, then the paradoxes of copious actions yielding meagre results and failure of experts to learn from past mistakes would be easy to understand. Clearly, a frame of reference that utilises Complex Systems theory, if it were adopted, would not only change what is done but also how it is done.

Back to Basics

It is generally agreed that learning, healthcare, adequate nutrition, self-help, and social and economic freedoms, say, are positive aids to development. Moreover, sustainable development is now firmly established in this field as a sensible way forward. Intuitively, the utility of all these measures is accepted as self-evident. Sadly, their efficacy is not always recognised in practice because they appear to lack a 'scientific' base. Experience and intuition do not hold much sway with decision-makers in situations where objective evidence is at a premium. A revised approach founded on Complex Systems theory that has been accepted by the scientific community at large might give a more convincing theoretical explanation as to why and how such measures could help nations to achieve consistent positive results.

Interactions by internal elements provide the 'energy' needed for a Complex Adaptive System to achieve *self-organised patterns* that do not rely on external regulation. Within limits, the more interactions there are the better the system functions. If the basic hypothesis that nations operate as Complex Adaptive Systems proved to be correct, it would be vitally important for individuals to be capable and free to interact with each other within minimal restraints defined sensibly by the community.¹⁶ They would have to be able to gather knowledge, innovate, be different, take risks, and make mistakes. Thus, at long last a theoretical foundation would be at hand to reveal the workings of Adam Smith's *invisible hand*.

The capability divide is discussed in Chapter 10 as a qualitative concept to draw these threads together. The ramifications of such a divide would be far-reaching: broadly, anything that helps people to cross the divide would be good and anything that does not would be irrelevant. In consequence, the study ponders the key question as to whether a nation could begin to develop while its citizens are unhealthy, ill fed, and illiterate. The thesis also examines the role played by dictatorship, war and social

¹⁶ The caveats are in effect the laws of the land. They are sensible when they are not arbitrarily imposed.

oppression, against women for instance, as possible impediments to capability and progress. Essentially, therefore, the thesis addresses the thorny issue of what comes first in the order of priority: economic development or improvement in basic needs. Fundamentally, the thesis widens the topic of development to include analysis of the pace of feasible change, fast or slow, and the nature of the transformation, narrow or broad spectrum. Slow progress on a broad front that tackles a number of issues together would reflect an evolutionary conception of development.

In sum, the study does not set out to prove this or that IPE theory or action is right or wrong. Its goal is to assess the aptness and utility of a shift in frame of reference that would redirect development effort into new channels. The revised paradigm would view the affairs of nations, singly or in combination, as nonlinear Complex Adaptive Systems. Such a shift could help to resolve the paradoxes of continued failure of some nations to develop and persistent misinterpretation by actors in this field of the reasons for that failure. Clearly, if the new approach were shown to be appropriate, gradual changes in ever-widening circles could touch other disciplines within the social sciences.

Terminology

The present classification of the world's population into First, Second and Third worlds, Developed and Developing countries, or as Core and Periphery suffers from the following shortcomings:

- The 'First, Second and Third worlds' system has become largely meaningless following collapse of the USSR.
- The 'Developed and Developing' convention suggests the existence of an ideal, or even feasible, developmental end-state, and a single path leading inexorably to that inevitable end.
- The 'Core and Periphery' system conveys a value judgement about the marginal significance of the majority of earth's population that is difficult to sustain as a model of an evolving world community.

After some hesitation, caused by reluctance to add to the profusion of names, a new convention was adopted for the present work. Henceforth, nations commonly referred to as the Third World will be described as Emerging Nation. The name demonstrates

graphically what is happening in practice. They are emerging on the world scene and their problems and aspirations as well as their influence are coming to the surface, both positively and negatively. The tag Elite Nations will be used to denote the First World. Game Theory lists the existence of elites as one of the consequences of asymmetrical distribution of rewards flowing from encounters between competitors. Each nation consists of an exclusive elite and a majority that might fare well or badly but whose members stand only a remote chance of joining the select few. The same demarcation applies to the world community as discussed later. The title Elite Nations was intentionally selected to keep that concept in the foreground throughout the narrative.

Chapter Breakdown

The text is in four parts. Part One (Linear Theories for Nonlinear Systems?) analyses International Political Economic ideologies and theories that form, at least in part, the foundations for current development policies and actions to assess their relevance as scientific models capable of yielding stable prescriptions of universal applicability. Part One is in five chapters:

- Chapter 1 (Introduction).
- Chapter 2 (Stylised Theoretical Roots) provides a brief review of the main IPE schools of thought. The aim is to give initial indications of the concurrent variety of interpretations within each school and clear overlaps between them.
- Chapter 3 (Manufactured Discord) draws a distinction between ideologies and theorises and then goes on to underline pragmatism and commonality that draw IPE theories and their revisions together, and the counteracting forces that seek to prise them apart as mutually exclusive sets of beliefs.
- Chapter 4 (Crossovers and Course Corrections) documents the incessant process of revision that has affected all IPE theories as their authors sought to model political economic processes and their continual twists and turns.
- Chapter 5 (Historical Interlude) delves into history to trace deeper roots to what are thought to be modern, and essentially Western, international political economic ideas. The object is to test the possibility that the key ideologies might be coexisting and inherent manifestations of basic human behaviour.

Part Two (Exploration of the Domain of Complexity) describes nonlinearity, traces developments that ushered it into the overall scientific framework, and assesses its applicability to political economic processes. In general, those working in the social sciences follow linear practices apparently without being aware of their limitations.¹⁷

Part Two is in three chapters:

- Chapter 6 (Dawn of the Probabilistic Age) outlines the extension of the scientific envelope beyond the certainties of Newtonian mechanics to include analyses of probabilities. The purpose is to show that difficulty of prediction and control of future events, in detail, is an integral part of certain phenomena.
- Chapter 7 (Riches amid Order and Chaos) presents several concepts leading to exploration of nonlinearity, and more specifically Complex Adaptive Systems, in Chapter 8. Reasons for unpredictability are outlined and evolutionary change, including *fitness landscapes*, *gateway events*, *survival* and *adaptability*, is described to trace potential parallels with political economic processes.
- Chapter 8 (Complex Adaptive Systems) describes the fundamental features of this class of nonlinear phenomena in detail to allow systematic evaluation of potential parallels with political economic processes. Game Theory is also discussed to explore *cooperation* and *competition*, *hierarchies* and *elites*.

Part Three (Linearity and Nonlinearity on the World Stage) probes political economic processes to test for nonlinearity and to detect evidence of possible application of a linear frame of reference to present development efforts. It consists of two chapters:

Chapter 9 (Global Institutions and Interactions) addresses the international scene and takes the first steps in defining inequalities between nations. The role of the UN and the World Bank is analysed. The chapter explores signs of linear thinking and pinpoints consequences of imposing reductionist assumptions and prescriptions on political economies that might operate in reality as Complex Adaptive Systems.

¹⁷ Notwithstanding debate about the need to incorporate 'valuation' and 'ethics' when scientific methods are applied in social science fields, the question of nonlinearity has not yet been addressed. See MacRae, *The Social Function of Social Science*, especially his discourse on the natural and social sciences, pp 3-31.

Chapter 10 (Poverty and The Capability Divide) concentrates on wealth and poverty, the significance of steady long-term accumulation, and the role of natural evolution in achieving sustainable progress. The purpose is to show that Elite Nations followed, albeit without prior design, *integrative* methods, involving other factors in addition to economic growth, in their long climb up the ladder of development.

Part Four (Freedom and Capability to Interact) takes the discussion onto the next logical stage. Parts One to Three argue that political economic processes might be nonlinear phenomena in which interactions between internal elements play a pivotal role in providing the energy needed for systems to achieve self-organised evolving patterns. Within that context, Part Four explores the factors that help or hinder the ability of individuals to interact in social and economic activities. It is in four chapters

Chapter 11 (Freedom to Interact) focuses on international and domestic forces that limit personal choice and, hence, limit interactions that fuel the internal dynamics of the system. This chapter addresses factors that inhibit the freedom of individuals to take an active part in the social and economic affairs of their communities.

Chapter 12 (Capability to Interact) examines influences that might curtail the capability of individuals to interact: *malnutrition, disease* and *illiteracy*. The chapter discusses the key issue of basic needs and their significance in the development process when viewed within a nonlinear frame of reference. In part, the chapter assesses the relative importance of basic needs versus economic growth.

Chapter 13 (Conflict and Incapability) continues the theme started in Chapter 12 by analysing the high cost exacted by war in all its formats in preventing interactions within the communities affected. Reasons are advanced for the prevalence of conflict and ongoing wars in Emerging Nations.

Chapter 14 (Concluding Remarks) reviews the evidence presented in the thesis and summarises the conclusions that could be drawn. It focuses attention on what nations could do to optimise their chances of progress, and on what more prosperous nations and international regimes could do to help in that respect. The remarks are confined to systemic measures that would optimise performance of nations as nonlinear Complex Adaptive Systems.

Some of what is presented in this thesis might have been said before. However, exploration of the possibility of applying nonlinear principles and Complex Systems theory to nations is a new departure. The cardinal aim was to search for an updated scientific foundation that would give a convincing explanation of past development failures and a reliable yardstick for assessing the efficacy of alternative courses of action for the future. It would be wrong to conclude this introduction, however, without stressing the obvious fact that this thesis is only a step in what is likely to be a lengthy, and contentious, process. In searching for a resolution to a relatively simple paradox, the research moved into a wider field of study. If the new theoretical approach were to be adopted, then development, IPE, and possibly other social science disciplines, would have to go through a “scientific revolution” to borrow an expression first coined by Thomas Kuhn.¹⁸

¹⁸ Kuhn put forward the concept of ‘paradigm shift’ by which the “schools characteristic of the early stages of a science’s development” are brought together through a “revolution” into a new unified formulation of problems, beliefs and analytical tools. Kuhn, *The Structure of Scientific Revolutions*, 1970, p 6.

Chapter 2

STYLISTED THEORETICAL ROOTS

Many discoveries in the natural sciences concern *linear* phenomena. Reductionist methods that assume the whole is the sum of the parts are perfectly adequate for such entities.¹⁹ Classical mechanics, the Industrial Revolution, and the internal combustion engine, to name but a few examples, were based on linear principles. But there are systems that are not linear, the weather being one extreme instance. In this case a nonlinear domain is revealed that displays instability and stochastic behaviour in place of determinism. Although this field, and more specifically Complex Systems, began life as one facet of chaos theories, it now addresses less esoteric subjects, the most recent recruits being business management and economics.²⁰

The aim in Chapters 2, 3, and 4 is to review IPE schools of thought as descriptions of political economic processes and to inquire into possible behavioural parallels with Complex Systems. Part of that process involves consideration of variability of interpretations within each IPE school as well as overlaps between them. Description of the core IPE ideologies and theories does not stray far from that given in standard textbooks.²¹ Ultimately, analysis in this and subsequent chapters is intended to provide an answer to a fundamental question: is it appropriate to apply one political economic model and a set of similar detailed prescriptions to all nations? It will be demonstrated in later chapters that the World Bank, as the principal international development agency, bases its policies on such a viewpoint. The fundamental question posed here is, therefore, of vital significance to the main theme of this thesis concerning the failure of past development efforts and reluctance of experts to learn from past errors.

¹⁹ For detailed discussion of reductionism, and contrast with integrative approaches, see Capra, *The Tao of Physics*, 1991, and Coveney and Highfield, *Frontiers of Complexity*, 1995.

²⁰ See Day, *Complex Economic Dynamics*, 1994, and Ormerod, *Too Complex to Manage? Chaos and Complexity in Economics*, lecture at the RSA London, February 1997.

²¹ Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, and Friedman and Lake, *International Political Economy*, 1995, are excellent textbooks for that purpose.

Conventional Classification

A number of attempts to categorise IPE theories into principal schools of thought have been made by scholars. Gilpin's classification, dealing with the field under Mercantilist, Liberal and Marxist headings, is generally accepted as the most appropriate.²² According to that convention, each school of thought is primarily a view of the relative supremacy of the following influences:

- Political versus Economic factors internationally.
- State versus Social forces domestically.

Schools differ, again in line with that convention, in their assumptions about two aspects associated with political, social and economic transformations:

- The main driving forces behind change.
- The vision of what that change would bring over time.

Delineation between schools is not one of absolute values therefore. Debate centres on the weights to be given to the above factors. This would explain in part the hazard of classifying a nation as being, say, Liberal or Mercantilist. To muddy the waters further, it will be contended later that a nation could easily be both at the same time. Arguments will be advanced to take that contention a step further to show that, in this instance at least, ambiguity is the normal state of affairs. Nevertheless, blurred edges between the key schools and regular failure of theory to model actual events accurately led to continual revision of the core schools and the appearance of crossover theories embracing more than one tradition.²³ However, the didactic convention of treating the three schools as identifiable separate entities will be adhered to for the present to allow a brief description to be given of each school.

Mercantilist School

Recognised traditionally as the 'oldest' of the three, the Mercantilist school, also referred to as *nationalist* or *realist*, views international relations primarily as a chronic and

²² Gilpin, *The Political Economy of International Relations*, chapter 2, 1987. See also footnote in Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, p 27.

²³ For example, "although rational choice analysis [a crossover theory] is consistent with its liberal heritage, in recent years it has been employed to bolster some neomercantilist and Marxist arguments." Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, p 201.

relentless struggle between states over political, and more specifically military, power.²⁴ Economics is given a back seat but it is not dismissed as unimportant; the doctrine assumes that political power will confer economic gains, and these in turn will enhance state power.

From an economic viewpoint, Mercantilism is seen as an early form of capitalism that replaced feudalism in Europe from about the 15th century. The crusades and then the voyages of discovery from the 11th century onwards furnished the impetus for that paradigm shift. Gold and silver brought from the New World created a specific concept of the wealth of a state that lingers on to this day.²⁵ 'Capitalism' in the Mercantilist sense related in the past principally to *exchange* of goods, hence the name, as opposed to *production* that is the main preoccupation of modern capitalism.

At the domestic level, Mercantilism places the state at the top of the hierarchy. It is paramount, all other actors being subservient to its needs, designs and, quite often, whims. Mercantilism takes it as a matter of course that the state is a rational institution that acts after considering all the costs and benefits in any situation to optimise the national interest. Mercantilists firmly believe that ends justify the means. Machiavelli, in *The Prince*, for instance, made frequent references to the need for a leader to adopt as and when necessary questionable tactics to acquire and retain power. However, this should not be seen as disregard for the public good. Machiavelli went on to stress that the leader should not be habitually unkind and untruthful. He considered such modes of behaviour as necessary evils that should come to an end once the leader's main objectives had been met.²⁶ Mercantilism, therefore, has a sense of morality as it links the absolute power of the leader, or state, to the need to deter individuals from pursuing their interests at the expense of the general public.

Because Mercantilists assume global power to be relational, they accept that the state is in perpetual 'zero-sum' contests with other states. More power to one state unavoidably means less to others. Consequently, the state has to be obsessive in its pursuit of self-interest. The concept is absurd to some extent in the context of about 200 sovereign states, but there has always been an implied assumption that the real

²⁴ Viner, *Essays on the Intellectual History of Economics*, 1991, Heckscher, *Mercantilism*, 1983, and Machiavelli, *The Prince*, 1984.

²⁵ As seen in 1997, say, when the French government was in turmoil over valuation of that country's gold reserves.

²⁶ Machiavelli, *The Prince*, 1984.

contest was between only a few powerful states. Other nations were seen as mere colonial rewards or, more or less important, allies. Beyond that, Emerging Nations are not viewed in any distinctive way within the Mercantilist school.

The state is identified as the driving force behind change, but there is no clear vision of what the nature of that change might be beyond the eternal struggle for power. Mercantilism, therefore, does not envisage an end-state. Nations simply jostle for position within the international hierarchy in response to evolving internal and external circumstances, good or bad. Moreover, although this school of thought accepts private property rights and the utility of the market as self-evident necessities, the state plays a decisive role in all the strategic elements of economic activity, including exchange and consumption. Low wages are imposed to reduce imports and increase exports; surplus being instrumental in accumulating wealth. With this aim in mind, Mercantilist states favour protectionist trade policies.

Machiavelli (1467-1527) is recognised as the archetypal Mercantilist. He set down in *The Prince* his view of the reality of politics. The book was presented to the Duke of Urbino in 1513 as a manual for securing and holding on to power.²⁷ Over the years hordes of politicians have seized, often highly selectively, onto his injunctions to condemn him or justify all manner of deeds and misdeeds.²⁸ Possibly not as notorious as Machiavelli but of no lesser stature, List (1789-1846), the German scholar, was a noted advocate of the Mercantilist school. His views are of significance to the themes pursued in this thesis. In the *National System of Political Economy*, for instance:²⁹

- List attacked the Liberal concept of a ‘universal republic’, used by some scholars such as Say to convey the idea of free trade, on the grounds that such a republic is unlikely to materialise due to the persistence of nationalist preferences.
- Within the above proviso, List had no quarrel with free trade “in a union of states”. He envisaged an “immeasurable efficacy” in that arrangement, as long as it was understood that the union would have massive advantages over others.

²⁷ It will be shown in Chapter 5 that Machiavelli did not invent the format or the creed itself. See, for example, Ibn-Khaldun, *Muqaddima* (Arabic), pp 143-148.

²⁸ Mussolini (1883-1945), the Italian fascist dictator chose Machiavelli as the topic for his doctoral thesis.

²⁹ List, *The National System of Political Economy*, 1977.

- List asserted that protection was appropriate to enable nations, meaning Germany, to catch up with the leaders. But he drew a distinction between “distant parts of the world” and neighbouring European countries who were “capable, owing to their moral, intellectual, social, and political circumstances, of developing a manufacturing power of their own.”

Most nation-states had their own mercantilist advocates. In the USA, for example, Hamilton (1755-1804) presented a *Report on Manufacture* to Congress in 1791 that expressed his views on the topic most succinctly. His remarks on relations with Europe are particularly interesting as they mirror to a remarkable degree those advanced by present day Emerging Nations vis-à-vis the power of the USA and other Elite Nations.

The efficacy of the free market is not disputed by Mercantilists. However, they maintain that while states continue to be the building blocks of the global system, they would naturally persist in pursuing their national interests, and these must relate in the main to wealth and power. Inevitably, the contest would result in a global hierarchy, with a few nations as an elite at the apex. *Comparative advantage* is sensible for comparable states, but absolute advantage is expected to prevail in interactions within the wider global community. Chapter 8 will consider whether competition and cooperation between states would lead to the global division of labour envisaged by Mercantilism.

Convention decrees that Mercantilism, having attained its zenith in England in the first half of the 18th century, went out of fashion in the first half of the 20th century. Most advanced industrial states adopted policies that conformed to that philosophy during the Depression years of the 1930s, but that was the last flourish until it was revived in the 1970s as *neo-mercantilism* or *neorealism*. It is fair to suggest that general opinion is inclined to the view that Liberalism has overshadowed Mercantilism and its later revisions. A contrary case will be argued later in this thesis that all states retain distinct Mercantilist traits to this day.

Liberal School

In its broadest sense Liberalism advocates protection for individual rights and the maximisation of freedom of choice in all spheres of human activity. Locke (1632-1704) one of the fathers of the Enlightenment, concerned himself mainly with political Liberalism. He commented at length on the balance of power between governments and individuals. But Liberalism has an economic dimension as well, now generally

recognised as capitalism. In the international arena, Liberalism unwaveringly believes in the supremacy of economic influences unhindered by national boundaries and state power. Hence, from a domestic perspective the Liberal ideology abhors big government. The state is there to protect individual freedoms and property rights, and to secure public goods that might not otherwise be provided by the private sector. Theory and practice diverge though. America is by all accounts the bastion of Liberalism, but its government is also the biggest enterprise on earth. It exercises functions that go well beyond those advocated by Liberals, including redistribution of incomes on a vast scale.³⁰

The principal actors are assumed by Liberalism to be individuals, as persons or corporations; rational entities that act from sheer self-interest but in so doing confer benefits on all. The medium for that hopeful scenario, and for change and evolution, is the market. Adam Smith (1723-1790), wrote in *Wealth of Nations*:

“Every individual...intends only his own security, his own gain. And he is in this led by an invisible hand to promote an end which was no part of his intention. By pursuing his own interest he frequently promotes that of society more effectively...”³¹

According to Smith, the *invisible hand* of the market will steer economic activity towards efficient allocation of resources and just distribution of rewards. In the long run, it will also dampen fluctuations and reduce imperfections. Consistent with that view, the market and its egoist individuals are above all else, including family, state, religion, and other social conventions and actors. There is more than a hint here that moral scruples have no place in the way people behave within the market. On the other hand, Liberals have always been conscious of the pitfalls of concentrating too much private power in a few hands, as well as the dangers presented by democracy in the form of ‘tyranny of the majority’.

Smith was influenced by French economists of that era, particularly Quesnay (1694-1774), the leading proponent of the Physiocratic doctrine. He presented the novel idea, in *Tableau Économique* (1758), that there is an inherent order in economics that makes

³⁰ See Samuelson and Nordhaus, *Economics*, 1995, and Chapter 10. The US government budget in 1995 was about \$1,500 billion; roughly equal to France’s entire GDP.

³¹ Smith, *The Wealth of Nations*, 1991.

external direction, by the state say, meddling. A little later, Smith articulated the economic Liberal tradition in its contemporary form. He shifted the focus beyond land, agriculture and crafts and onto trade and industry based on a structure of narrow-band specialisation. Division of labour, Smith predicted, would increase productivity and profits. 'Capital deepening'; increasing the capital to labour ratio, through greater reliance on mechanical power, and division of labour paved the way for the appearance of massive factories, the assembly line, and the separation of workers from ownership of their tools of production.

Ricardo (1772-1823) widened the concept of specialisation to include trade between nations. He advocated *Comparative Advantage* as the more appropriate basis for international trade in preference to absolute advantage.³² The idea was breathtaking at a time when Europe was in the grip of inward looking Mercantilist beliefs. Comparative advantage argued that it would be more beneficial if a country were to concentrate its resources on what it could produce most efficiently. Given free trade across boundaries it could then import what others produce at lower cost.

The Liberal school is optimistic and dynamic. It envisioned, and required, that individuals from all nations 'formed one commercial republic', in the disparaging words of List. Producers, sellers and buyers could then deploy all their energies and ingenuity in seeking ways to maximise profits unhampered by bureaucracy or national boundaries. Within that process nations would focus on what they could do best, freely exporting and importing to generate ever-increasing trade and wealth. Prosperity would then radiate outwards borne on the tide of spreading capitalism from Elite to Emerging nations. Belief in that escalator to success attained almost religious fervour in the 1990s following the demise of the USSR and America's re-emergence as the hegemon of the age. The image of individuals, locally, nationally and internationally, freely and energetically interacting through the *invisible hand* of the market, to propel humanity through ongoing profitable evolution will assume greater significance when complexity in political economic processes is considered later.

Marxist School

This is the latest in the trilogy of core IPE schools. The founder, Marx (1818-1883), was born and educated in Germany but had to flee to England when his revolutionary

³² Ricardo, *The Principles of Political Economy and Taxation*, 1996.

ideas became unacceptable to the authorities. Shortly before leaving, he penned the *Communist Manifesto* with Engels (1820-1895). Marx's opinions were well developed by the time he arrived in England. That move, however, and his friendship with wealthy Engels, were decisive factors in crystallising his thoughts along the lines presented in *Capital*.³³ England at the time was past its Mercantilist phase and in the grip of Liberalism in its most unyielding form. Slums amid the opulence of London, Liverpool and Manchester were all too plain to see.

Marxist philosophy is based on several key assertions. Firstly, centre stage is given to an historic apocalyptic view of the end of the capitalist mode of production. Marx predicted a final leap to a socialist society, based on communal ownership of almost all means of production, after a revolt by the working classes against the capitalists. The first line in the *Communist Manifesto* said, "all history has been a class struggle". The predicted transformation, therefore, involved social and political, as well as the obvious economic, dimensions. Secondly, Marx advanced an incisive analysis of two theories, *labour value* and *surplus value*.³⁴ The former stipulated that value is imparted to a commodity by the total labour directly and indirectly used to produce it. The latter dealt with profits made by capitalists through their ability, Marx maintained, to short-change the workers for their labour.

Other key tenets exhibited clear similarity to Liberal beliefs. Firstly, the Marxist doctrine is decidedly international in scope. Secondly, it recognises economics as the leading factor that conditions political and social life. And thirdly, Marx asserted the state is unimportant. He therefore saw capitalism and the market as tools for progress, and he predicted that capitalism would in time envelope the whole world. It is only at this stage that Marx's vision departs from Liberalism. He foresaw a polarisation of society into *capitalists* and the *proletariat* who were expected to clash into a concluding fight that would end class struggle with the dawn of communism. Class struggle is seen, therefore, as the instrument for change. Moreover, Marxism subjugated social forms to economic influences: change the economic system and social conventions change as

³³ Marx, *Capital: An Abridged Edition*, 1995.

³⁴ Samuelson and Nordhaus, *Economics*, 1995, p 714.

well. In the harsh realities of life, Marxists maintained, family ties, religious beliefs, and other inhibitions to progress would, and should, be swept aside by economic forces.³⁵

Marx blamed the “Asiatic mode of production” for much of what he saw as being wrong with Emerging Nations. Significantly, Soviet archaeologists researching ancient eastern civilisations challenged his concept of a separate and inferior, mode of production indigenous to these nations.³⁶ Beyond that, his attitude to Emerging Nations mirrored common European opinions of that era. He considered people in these localities to be backward and in need of awakening. For that purpose, they had to mount a historic escalator, through capitalism. Writing in the *Communist Manifesto* of 1848, Engels and Marx proclaimed that the global capitalist mode of production “draws all nations, even the most barbarian, into civilisation”.

Marxism, in summary, has a staged historic conception of economic evolution that moves communities from feudalism, to mercantilism, capitalism and then socialism to arrive finally at communism.³⁷ Within that deterministic design, Marx considered Britain, rather than Russia, at that time to be ready for the glorious sprint to communism.³⁸ The key feature that distinguishes traditional Marxism from the Liberal school, hence, focuses primarily on the length of the ‘escalator’ and the nature of the ‘terminus’ at the end of the ride. Clearly, even these supposedly divergent schools of thought share extensive common ground.

Rigid Demarcation amid Rampant Pragmatism

The preceding sections described briefly the core IPE schools of thought. As mentioned earlier, the ultimate aim is to search for nonlinearity in the political economic field, but an associated task explores the validity of applying a single model to all nations. The present section concentrates on pragmatism and diversity within the core IPE schools. Chapters 3, 4, and 5 will elaborate that theme and then chapter 9 will contrast that feature with policies and actions of international regimes, mainly the World Bank, designed to fit all Emerging Nations into one precise ideological mould. It

³⁵ For instance, see Marx’s observations on *Imperialism in India* in Tucker, *The Marx-Engels Reader*, 1978.

³⁶ Al-Tikriti, *Ancient Iraq*, (Arabic), 1986, p 189.

³⁷ See erudite discussion of the idea of a Universal History in Fukuyama, *The End of History and the Last Man*, 1992, pp 55-70.

³⁸ Samuelson and Nordhaus, *Economics*, 1995, p 715.

is of course curious that anyone should adhere rigidly to exact interpretations of a single model. IPE theorists regularly caution against treating their prescriptions as self-contained packages. Political activists, and apparently some economists, are untroubled by such provisos. The cold war years witnessed the zenith of polarisation between Liberalism and Marxism in particular. At the present that avenue of confrontation seems to have come to an end, but three planes of cleavage continue to fuel debate, although they are of little significance in practice:

- Disingenuously, both Liberal and Marxist lobbyists advocate a limited role for the state. Commentators often maintain that size of government is a clear distinction between the two ideologies. However, the gigantic scale of the US government and the labyrinthine Soviet State apparatus put the absurdity of such claims beyond doubt. State intervention is rife under all systems.
- The second relates to welfare and other public goods. Liberalism, it is asserted, does not permit handouts of this nature as they make the market less efficient. But, as argued in Chapter 10, Liberal states provide as a matter of course extensive welfare and income benefits to their citizens, and readily subsidise sectors of the economy, as in the case of agriculture, when they see fit.
- The third, more recent, plane of cleavage focuses on the speed by which all economies should convert to Liberalism. A few competing schools did exist in the past but the USA and its allies argue the contest has now been settled in favour of one specific brand of Liberalism. The only remaining item on the agenda is to determine the speed and manner of the transformation: 'shock therapy' versus 'gradualism'.³⁹

A generally accepted view of the history of IPE schools tends to reinforce spurious cleavage between them. Mercantilism is supposed to have flourished a few centuries ago but then went into terminal decline after World War II. Liberalism, it is said, was of later vintage, with a golden period in England in the latter part of the 19th century, a dip in fortunes in the 1930s and then broader popularity from the mid 1940s to the present. Marxism, by contrast, was a late 19th century arrival, that thrived and perished with the rise and fall of the Soviet Union. China is the only socialist state of any note

³⁹ See Sachs and Lipton, *Poland's Economic Reform*, 1990, for 'shock therapy', and Weisskopf, *Russia in Transition: Perils of the Fast Track to Capitalism*, 1992, for a contrary viewpoint.

but it too is expected to discard that creed in favour of Liberalism in due course. In that way separate ideologies, which will be shown in Chapter 5 to have deeper historic roots, are locked into prescribed narrow geographical zones and discreet time periods.

Collapse of the USSR and the strengthening of America's hegemonic hold on world affairs added weight to the focus on one-model-for-all. In recent years, inflexible insistence by leading Elite Nations and by the IMF, World Bank and WTO on rapid universal adoption of a precise model of the free market has come to haunt Emerging Nations and former members of the USSR. A nation is either in or out of the global system. Analysis of this issue, therefore, is not simply a theoretical nicety. It goes to the heart of the subject matter of this thesis. Emerging Nations are exhorted to adopt a pure form of capitalism based on the theoretical precepts of Liberalism. Basically, the specification for that 'escalator to success' differs markedly from the pragmatic *mixed economy* policies followed by all Elite Nations without exception.⁴⁰

Mixed economies rely on the market as the primary medium for economic activity but allow considerable leeway for government intervention to counteract market instability and to promote national interests.⁴¹ Hence, welfare payments are accepted as self-evident necessities. As demonstrated in forthcoming chapters, all states endeavour to pursue nationalistic aims. Those of Elite Nations have the wherewithal to succeed in that effort more than their counterparts amongst Emerging Nations. Such practices are not seen as Marxist or Mercantilist deviations, or even as significant occurrences. Elite Nations have enjoyed the benefits of this pragmatic approach throughout the 20th century, and arguably even longer. That applies to the Reagan years in the USA and the Thatcher years in Britain. Both leaders reigned under the banner of naked market capitalism, but in the hurly-burly of real politics their Liberal actions were laced with what could be described as Marxist and Mercantilist prescriptions as and when required.

Conclusion

This chapter described briefly the main IPE schools of thought and then highlighted a few key ideas for future discussion. The main concept concerned simultaneous

⁴⁰ See for example Samuelson and Nordhaus, *Economics*, 1995, pp 7 and 757.

⁴¹ Japan, for instance, announced on 12 October 1998 a rescue package that centred on the allocation of \$577 billion, to stimulate demand and to recapitalise some banks while nationalising others. "Every market from East to West is up...Pumping huge amounts of money into the banks in Japan is good news for financial stocks," said Meehan chief market analyst at Cantor Fitzgerald. *CNET News, Internet*, 16 November 1998.

commonality and diversity that characterise the core ideologies. Each school exhibits variety in the way it is interpreted in practice, but they all share common features as well. Firstly, it was shown that they considered the market as a natural medium for economic activity. Secondly, Liberalism and Marxism, it was argued, differed only with respect to the length of the process and its eventual end. The early stages as envisaged by both schools are virtually identical. Thirdly, it was asserted that although the mixed economy model favoured by all Elite Nations showed distinct bias towards Liberalism, it nevertheless contained significant elements drawn from the other two ideologies.

Hence, the ground was prepared here for the case, outlined in the next chapters, that the three core schools of thought might be coexistent idealised polar extremes that are never attained in practice. Such a conclusion, if substantiated, would carry the key implication that the political economic pattern that emerges at any instance might be an amalgam of all three schools. The mix would vary from time to time and place to place in response to changes in the internal dynamics of the system rather than any clear cut cause and effect relationships that could be expressed as scientific theories.

Chapter 3

MANUFACTURED DISCORD

Investigation is continued here of pragmatism and commonality within IPE schools as well as the forces that seek to magnify spurious cleavages between them. So far various expressions have been adopted loosely as synonyms. Henceforth 'ideology' will be used only when reference is made to a "comprehensive and mutually consistent set of ideas by which a social group makes sense of the world". An ideology "needs to provide some explanation of how things have come to be as they are, some indication of where they are heading...and some overriding belief, whether in God, Providence, or History, to which adherents may make a final appeal when challenged by others."⁴² In that context Liberalism and Marxism are ideologies, as is Christianity or Islam.

At some point in the evolution of IPE ideologies they were recast as 'theories'. Murray Gell-Mann, Nobel laureate, defined a theory as a "deliberate effort to...separate out rules from special or accidental circumstances." Accordingly, a successful theory should have two attributes: "coherence and generality" and should apply to "a whole class of situations."⁴³ Waltz, additionally, defined theories as more than a collection of laws. He argued that they are statements that provide explanations by "trying to answer questions such as these: Why does this occur? How does that thing work?"⁴⁴ When a hypothesis is tested against objective observations and it is found to give a good approximation of these facts as well as to accurately predict outcomes in other similar instances, it attains the status of a scientific theory. Clearly, all theories are refined in line with accumulating knowledge, but the process should be one of convergence rather than wholesale revision.

As ideologies, Mercantilism, Liberalism, and Marxism comprise social and political as well as economic prescriptions. In that broad format, each presents a few features that might appeal to believers in other ideologies. Equally, discord between the supporters

⁴² McLean, *Oxford Dictionary of Politics*, 1996, p 233.

⁴³ Gell-Mann, *The Quark and the Jaguar*, 1994, p 77.

⁴⁴ Waltz, *Theory of International Politics*, 1979, Chapter 1.

of an ideology and their opponents is an essential part of belief; the superiority of an ideology being asserted through claims and counterclaims. Forthcoming chapters explore the possibility that IPE ideologies might stem from common origins rooted in human experience. If that were correct then the associated theories could be expected to run into a persistent problem. They would not succeed in predicting and explaining multifaceted reality for 'a whole class of situations'. Consequently, Mercantilist, Liberal, and Marxist theories would become the subject of continual radical revision. Essentially, they would not converge, as would be the case in scientific fine-tuning.

Mercantilism Lives On

Under Mercantilist conditions the state's obsession with acquisition of power and with nationalist jingoism determines, to a lesser or greater extent, relations with other states. A brief look at news headlines in any country leaves little doubt that Mercantilist tendencies remain the norm, with variable inputs from other ideologies. Given an opportunity to act freely, all states would fit into the above mould, and those with sufficient clout do so uninhibitedly. Liberal and Marxist regimes exhibit the self-same Mercantilist preferences, as the following examples drawn from liberal, communist, and newly industrialising nations demonstrate:

- The USA epitomises Liberal attitudes, but closer scrutiny reveals that classic Mercantilist undertones freely intermingle with the mainstream. Four examples will help to illustrate this point. Firstly, millions of dollars given to Europe and Japan under the Marshall Plan after the war make sense only in the context of the struggle over power vis-à-vis the USSR. Secondly, the USA as befits a liberal state has reduced barriers to trade, but that mostly related to tariffs, as opposed to nontariff barriers that were maintained, and in some instances increased.⁴⁵ Thirdly, rivalry with the waning British hegemon clarifies the nature of the power game as seen by successive US governments: a zero-sum struggle in line with Mercantilist traditions, as evidenced by revolutions masterminded by the USA during the 1950s and 1960s to dislodge its 'ally' from its areas of

⁴⁵ Ray, *Changing Patterns of Protectionism*, Northwestern Journal of International Law and Business, 285, 1988. As argued by Samuelson and Nordhaus: "For most of American history, the USA has been a high-tariff nation.", *Economics*, 1995, p 696.

influence.⁴⁶ Fourthly, American endeavours to prevent the export of advanced technology to others, including close allies, conform to Mercantilist practices.⁴⁷

- Russia in the days of the USSR provided convincing proof that Mercantilism coexists with communism just as easily as with capitalism. Evidence shows that Russia stuck to its nationalist traditions throughout the USSR era. Power for mother Russia topped the priority list. Hence, in the midst of a colossal superstructure of Soviet paraphernalia, Russian interests were supreme. Apart from economic exploitation, as was the case in Uzbekistan say, Russia's satellite states served much the same political and military purposes as city walls in ancient times and Western Europe vis-à-vis the USA.
- South Korea presents yet another case that defies strict classification between Liberalism and Mercantilism, this time of a smaller newly industrialising nation. It would seem that success was achieved because a repressive regime was prepared to adopt protectionist policies externally and a regulated but 'Liberal' economy at home to attain its nationalist aims.⁴⁸

States and their fixation with the acquisition of power are, therefore, prominent and permanent features of the global system. Clearly, the degree to which they succeed in that task is a function of a multitude of internal and external factors. There is, therefore, a difference between Mercantilism in its theoretical and practical formats. But then, as exemplified below, that statement is just as valid when applied to other ideologies. Scholars might define what is ideally desirable, but compromises have to be struck between conflicting desires. The aim in this section was merely to argue that the potential to conform to some of the features of Mercantilist ideology is evident throughout the range from rampant Liberalism to absolute communism.⁴⁹

Shades of Marxism

Similar to Mercantilism, Liberalism and Marxism are also sets of general ideas rather than precise formulations that have an independent existence that could be established

⁴⁶ The Free Officer's coup in Egypt in 1952 was one such event. Vatikiotis, *The History of Modern Egypt*, 1991, p 374.

⁴⁷ Even export of technology to a very close ally such as Israel has caused grave concern. See Clarke, *Israel's Unauthorised Arms Transfers*, Foreign Policy, Number 99, summer 1995.

⁴⁸ Haggard and Moon, *The South Korean State in the International Economy: Liberal, Dependent, or Mercantile*, 1983, p 131.

⁴⁹ Of course the ultimate mercantilists are ordinary 'selfish' egoist individuals. They seek power and wealth above all else. See Chapter 8.

objectively, as in the case of natural laws for instance. They define idealised polar extremes of a range of practical options. Moving towards Marxism, 'socialist' states teeming with variety are seen, while a move in the opposite direction reveals 'liberal' states of similar diversity. Most nations inhabit in practice an extensive ideological middle ground in which labels have little meaning.

In considering the above points, it is helpful to state the obvious as a starting point: socialism and Marxism are not synonymous and they are decidedly not identical to Russian communism. That variant itself is not the same as Chinese, Vietnamese or Cuban communism. Naturally, departure from the Marxist model becomes more pronounced towards the ideological middle ground. Hence, for the purposes of the cold war milder forms of socialism were underplayed or ignored. The average American, for example, would have been somewhat surprised to learn that socialists governed friendly Sweden from 1932 to 1976. He or she would have been even more perplexed to read Marx's remarks on the efficacy of capitalism and the market as natural steps on the road to communism.

Early socialists rooted their beliefs in the fertile soil of the Enlightenment; a 17th century movement that extolled the virtues of knowledge and reason and rebelled against despotism by church or state. After the French Revolution of 1789, the Enlightenment became the fountainhead for liberal attitudes as well. Socialism was essentially an attempt by enlightened capitalists to impart a measure of justice to the capitalist mode of production.⁵⁰ Not unexpectedly, some commentators see socialism as "a middle ground between *laissez-faire* capitalism and the central-planning model."⁵¹ Revolutionary overtones only came about when Marx appeared on the scene, and the points at issue related mainly to long-term historical developments and struggle between the social classes.

Socialist regimes are marked in the public mind by their apparent penchant for public ownership. It was, after all, a socialist Labour government in Britain that nationalised coal, railways, electricity, health services, and gas in 1947, 1948 and 1949. However, these events should be viewed in their correct historic context. The

⁵⁰ As seen in the works of Comte de Saint-Simon (1760-1825), the French aristocrat, Robert Owen (1771-1858), the Welsh capitalist cotton mill owner, William Hesketh Lever (1851-1925), the soap maker from Port Sunlight in the north of England, for instance.

⁵¹ Samuelson and Nordhaus, *Economics*, 1995, p 714.

weakened private sector was hardly in a position to fund the massive investment needed to restart economic activity after World War II. There was also a view at the time that certain enterprises, where natural monopoly existed, should be publicly owned. The same factors induced non-socialist governments in Europe to go down the same route, as happened in France, Austria and Italy.⁵² Basically, the political and economic manifestations of socialism, essentially nationalisation and the welfare state, touched all Elite Nations. In practice, it was impossible for elites to withhold social reforms after a long and bruising world war.

Ideology is not a primary concern in Europe; national governments oscillate comfortably between socialism and Liberalism while they maintain their pragmatic, and whenever possible Mercantilist, standpoints. Hence, socialism was in vogue after World War II but by the mid-1950s the pendulum swung the other way until the end of the 'golden age' in the early 1970s. At that time socialist parties gained power in France, Greece, Portugal and Spain, a new departure for these nations. During the 1980s European nations took another turn to Liberal governments and that was underlined by the dramatic events that accompanied the collapse of the USSR. But then the late 1990s witnessed another revival in the fortunes of socialist parties, as was the case in Britain, France and Germany for instance. By that stage, however, there was hardly a difference between these parties and their Liberal counterparts, as their policies were virtually the same as each other.

In Britain convergence took physical form in 1998 in the form of joint working arrangements agreed between the Liberal Democrats and the ruling Labour Party. Moreover, the Labour Party is now fully in favour of many policies that were previously advocated by the capitalist Conservatives. It is useful to point out that the Labour Party has a majority of 179 in Parliament. In other words, voting in the House is not the impetus behind these manoeuvres. Convergence should have been anticipated. Against expectations, the middle and working classes in Europe consistently voted for parties of the centre or right. In an effort to woo them, socialist parties began to change their symbols, rhetoric, and even some of their beliefs in the mid 1950s, as was done by the

⁵² In France, for example, the 'Monnet plans', after Jean Monnet (1888-1979) responsible for French economic recovery following World War II, involved extensive nationalisation. Monnet was not a socialist. However, he was in no doubt that at that time nationalisation was the answer to France's problems. *Microsoft Encarta 98*.

German Social Democrats at the Bad Godesberg Conference in 1959.⁵³ Later collapse of outright communism allowed pragmatism to come out into the open.

Outside Europe elaboration of socialist ideas led to the appearance of differing models to suit local conditions. Widespread public ownership, for instance, took hold only in certain locations with special needs, but even here variety was commonplace. The USSR was described as a “laboratory for theories about the functioning of a command economy.”⁵⁴ Lenin (1870-1924) was not antagonistic to a fair measure of private ownership and enterprise in revolutionary Russia, as seen clearly in his 1921 *New Economic Policy*. Hence, contrary to common perceptions the Soviet Union was not communist from the start. Strictly speaking, it experienced only brief periods of true communism throughout the Soviet era.⁵⁵ After Stalin’s death in 1953, communism in Russia underwent a gradual revision that ultimately led to the dramatic events of the late 1980s and early 1990s.

Mao (1893-1976), by contrast, evolved a brand of communism in China that reflected his dislike of bureaucracy and his identification with rural communities. He asserted in his 1927 *Report on an Investigation of the Peasant Movement in Hunan* that peasants are the main revolutionary forces, rather than workers as envisaged by orthodox Marxists.⁵⁶ Consequently, local autonomy, not central planning, and communal, as opposed to public, ownership were adopted throughout China. After Mao’s death a new generation of leaders advocated their own version of communism. Reforms included further decentralisation of economic controls, alternative forms of ownership, and the ability of firms, private and foreign, to operate without central direction.⁵⁷ The cocktail of practices introduced by Deng Xiaoping and his successors served China well.⁵⁸ It has managed to become an economic and industrial power to be reckoned

⁵³ See also Crosland, *The Future of Socialism*, 1995, and Reisman, *Anthony Crosland: The Mixed Economy*, 1997.

⁵⁴ Samuelson and Nordhaus, *Economics*, 1995, p 715.

⁵⁵ “From 1917 to 1933, the Soviet Union experimented with different socialist models before settling on central planning. But dissatisfaction with the pace of industrialisation led Stalin to undertake a radical new venture around 1928: collectivisation and forced-draft industrialisation.” Samuelson and Nordhaus, *Economics*, 1995, p 715. See also Stuart and Gregory, *The Russian Economy: Past, Present, and Future*, 1995.

⁵⁶ *Microsoft Encarta Encyclopedia* '98. For broader discussion of the topic see Meisner, *Marxism, Maoism and Utopianism*, 1982.

⁵⁷ Samuelson and Nordhaus, *Economics*, 1995, p 713.

⁵⁸ There is no malnutrition in the world’s most populous country, and in 1996 life expectancy was 69, adult literacy was 82 percent and under-5 mortality rate had reduced to 47, from 209 in 1960. UNICEF, *The State of the World’s Children 1998*, p 94. The Great Leap Forward from 1958 to 1962 was the only period in modern history when many Chinese people died of starvation.

with despite the fact that GNP per head is less than \$1000.⁵⁹ Radical privatisation proposals were agreed at the September 1997 party congress, and further easing of controls is not far behind. But China still considers itself a communist state, as those who wished to push it further away from communism found out to their cost in Tiananmen Square in 1989.

Vietnamese communism shows a similar level of diversity. Years of war against France and then America left their mark on policies of that era. Following their defeat at Dien Bien Phu in 1954 the French agreed to negotiations to end the war. At a conference in Geneva the two sides adopted a compromise that divided the country in two halves with the communists in the north and the French in the south. However, the settlement included provision for elections to be held two years later to reunify Vietnam. With support from the USA the south refused to hold elections and the saga of the Vietnamese War was set in motion. That war lasted until 1976 when the USA withdrew and the Republic of Vietnam came into being. Promptly, reforms were introduced that changed the face of Vietnamese communism beyond recognition. The transition was formalised at the Sixth Party Congress in 1986 when the *doi moi* reforms, comprising a mix of Liberal and communist practices, were agreed.⁶⁰ While Vietnam was struggling against the French and then the USA, communist fundamentalism remained in full swing. When that task was finished the local interpretation of communism changed radically. It should be noted that the transformation predated the collapse of the USSR.

Yugoslavia during thirty-five years under Tito (1892-1980) reveals a long-established tradition of pragmatism within the communist bloc. Yugoslav communism incorporated Mercantilist as well as Liberal pluralist convictions. Competition amongst public enterprises was not only tolerated but actively encouraged. Only 13 percent of agricultural land was collectivised. Trade and other economic and political links with the West were conspicuously firmer than those with the eastern bloc. As such, Yugoslavia found no irony in upholding the United Nations embargo of arms to North Korea during the Korean War. Annual growth in industrial production was about 10 percent

⁵⁹ The comment is made to underline a contention advanced in future chapters that progress could be achieved at low levels of economic development.

⁶⁰ Privatisation within the education sector illustrates the radical nature of transformations brought about through the *doi moi*, or Renovation, reforms. Glewwe and Patrinos, *The Role of Private Education in Vietnam*, 1998. For general background information see: McCormick and Gardner, *America in Vietnam*, 1989, Herring, *America's Longest War*, 1996, and Karnow, *Vietnam: A History*, 1997.

in the 1950s and 1960s. Interestingly, policies to attain that level of growth were much the same in 'communist' Yugoslavia as those followed by 'capitalist' South Korea.⁶¹

It was necessary to consider the Marxist case at some length. The ideology, and its associated theories, conjures up a high degree of zealous rigidity and control. As such, pragmatic diversity is hardly to be expected in this sector. Nonetheless, as argued above, variety is as common here as it is in all other ideologies. Essentially, they have to change to suit circumstances that often alter unexpectedly; otherwise they would not survive for long. In that sense, they mirror traits seen in natural evolution; a clear hint of nonlinear tendencies. Their transition into linear 'scientific' theories based on stable and predictable cause and effect relationships could, therefore, be expected to encounter major difficulties. To keep pace with changing conditions from time to time and place to place they would have to be substantially and continually revised. In other words, they would diverge, instead of converging as scientific theories should.

Ideological Flags of Convenience

It is helpful to look briefly at Marxism in Emerging Nations to make the point that socialism displayed similar pragmatism when it was exported to that part of the world. India provides a good illustration. Nehru (1889-1964), first Prime Minister after independence in 1947 and the product of Harrow and Cambridge, adopted Liberal policies laced with socialist expedients here and there as necessary. He recognised that ideology hardly mattered in the tangled affairs of nations. A leading light in the non-aligned nations bloc, he was not drawn into the concocted antagonism between Liberalism and Marxism. Mani Shankar Aiyar, past member of the Indian parliament, an influential columnist and a supporter of liberalisation, is in no doubt that "Indian socialism made Indian capitalism possible", an interesting reversal of Marx's vision.⁶²

Leaders of Emerging Nations often proclaimed their allegiance to socialism as a tool in negotiations with the Eastern and Western blocs, as seen in Egypt for instance. Nasser became president on the back of an American inspired revolution, as mentioned earlier. It was only the tussle over funding for the Aswan Dam that tipped him into the USSR camp. Up to that point, socialism in Egypt hardly ever strayed beyond rhetoric

⁶¹ Haggard and Moon, *The South Korean State in the International Economy: Liberal, Dependent, or Mercantile*, 1983.

⁶² Geoffrey Ward, *India: Fifty Years of Independence*, *National Geographic*, May 1997.

and actions that were necessary irrespective of doctrinal beliefs. However, his 'socialist' tendencies became sufficiently worrying for Britain's MI6 to mount an assassination plot against him in the 1950s.⁶³ Egypt's flirtation with socialism continued for a while after Nasser's death in 1970, but his successor, Sadat, did not hesitate when it suited him to ask the Russians to leave in 1975.⁶⁴

Qassem, who masterminded the revolution that overthrew the monarchy in Iraq in 1958, was a run-of-the-mill pragmatist. Only hours after the success of the coup he found time to send dispatches to Britain and the USA assuring them of his 'Liberal' intentions as far as international trade and oil are concerned. Qassem's biographer was in no doubt that he was not a communist. He wrote, "Qassem was nothing more than a Qassemite."⁶⁵ Later on he relied on communist support to shore-up his regime against Nasser's Arab nationalist ambitions. Moscow was not fooled, but Washington took Qassem's communist leanings more seriously. Consequently, the CIA "formed a 'health alterations committee' to plot the assassination of the new Iraqi leader."⁶⁶ The committee was part of a programme known as 'executive action' created during Kennedy's presidency. The CIA sent a poisoned handkerchief to Qassem but the plan did not work.⁶⁷ In February 1963, the Ba'th party mounted a coup that cost Qassem his life and ultimately brought Saddam Hussein to power.

Allende (1908-1973), the Chilean 'Marxist' leader met his death in similar circumstances. Qassem and Allende followed in the footsteps of others before them such as Arbenz who was president of Guatemala from 1950 to 1954. He was removed from power by an American inspired coup, again on the basis of his alleged communist sympathies; a claim Secretary of State Dulles admitted was groundless. The operation was undertaken, it seems, because Arbenz expropriated United Fruit's holdings without compensation.⁶⁸ Clear similarities exist with events after Mossadegh nationalised the Anglo-Iranian Oil Company in May 1951. He was promptly, and wrongly, accused by

⁶³ *Sunday Times*, 2 August 1998. For detailed analysis of relations between Egypt, Russia and the USA see Heikal, *The Road to Ramadan*, 1975.

⁶⁴ He went further by handing Washington a complete battery of Russian SAM 6 missiles. Later Egypt gave Russian weapons to Afghan Mujahedeen for use against Soviet troops. Heikal, *Illusions of Triumph*, 1992, p 87.

⁶⁵ See Fawzi, *Abd al-Karim Qassem: His Last Few Hours*, (Arabic), 1988, pp 42 & 46.

⁶⁶ Clark, *Challenge to Genocide*, 1998, p 3.

⁶⁷ *Sunday Times*, 16 November 1997, extract from *The Dark Side of Camelot*, by Seymour Hersh. See also Karsh and Rautsi, *Saddam Hussein: A Political Biography*, 1991, p 16.

⁶⁸ Ranelagh, *CLA: A History*, 1992, p 81.

the USA of being a supporter of Tudeh, the Iranian communist party. Mossadegh was removed from power with the help of the American CIA and spent the rest of his days under house arrest.⁶⁹

The above examples were given to underline the point that pragmatic attitudes to ideology are rife within Emerging Nations. Political tags are acquired by or applied to nations for many purposes. In essence, polarisation was required in the cold war years as a piece of theatrical background for intrigues by super powers and their secret services. Little has changed since the end of that era. Governments of Emerging Nations find it useful, for local or external consumption, to declare allegiance to this or that ideology, and leading powers find it to their advantage to go along with that charade. At the moment the ideology of choice is Liberalism, but in truth most Emerging Nations could not afford to have any particular ideology. They are not sufficiently independent for that to be a viable option.

Eclecticism in the Liberal Camp

Liberalism is as broad-based as the other core ideologies. However, this section addresses a more challenging assertion: that Liberalism as an economic theory is also capable of many interpretations. Basically, Liberalism in its pure form as *laissez-faire*, Carlyle's "anarchy plus the constable", is a rarity. But the legend has remarkable staying power and continues to attract believers. Milder forms of economic Liberalism do of course exist in abundance. The USA is the current leader of the breed. But within Elite Nations members of the select group headed by America fall in practice within the *mixed-economy* model; a hybrid of capitalist and socialist components in various and varying proportions.

In theory, followers of Liberalism abhor big government, a simple message designed to guide new converts to the faith. The IMF devotes massive efforts to spread that gospel amongst Emerging Nations as a central tenet in its structural stabilisation programmes. However, the picture is not that straightforward. As mentioned earlier, "the US government is the world's biggest enterprise." It consumes around 35 percent of national GDP.⁷⁰ Other leading nations show a similar picture: large government is an

⁶⁹ See whole chapter devoted to that episode in Farmaian and Munker's *Daughter of Persia*, 1993.

⁷⁰ Samuelson and Nordhaus, *Economics*, 1995, pp 302 & 278. In prosperous Sweden the government consumes 55 percent of GDP.

essential part of the pattern despite Liberal protestations. By contrast, Emerging Nations have to suffer the consequences of small and ineffective governments. State spending in Paraguay, say, accounts for less than 10 percent of GDP.⁷¹

Liberalism also scorns welfare, it is claimed.⁷² Supporters of Liberal economics see this as a source of inefficiency and distortion in the economy. The IMF and the World Bank forcefully preach that message to Emerging Nations. Again, this particular pillar of capitalist credo is a stipulation that is largely ignored by leading Liberal nations. For example, "the most rapidly expanding item [in the US federal budget] in the last two decades has been entitlement programs."⁷³ It increased from 28 percent of the overall federal budget in 1960 to 59 percent in 1994. Social security alone accounted for almost 23 percent of the federal budget in 1995. These items continued their escalation during the Reagan and Bush 'conservative' era of supply-side economics.

Liberal teachings disapprove of subsidies as well. In the course of pursuing structural stabilisation and adjustment, for instance, the IMF and the World Bank managed to convince governments of some Emerging Nations to adopt 'Liberal' practices by reducing wages and price subsidies for most commodities including food. Mexico is a typical example. In 1983, a basket of basic goods for an average family of five cost 46 percent of the minimum wage. But by 1992, the same basket absorbed 161 percent. The social consequences are not hard to imagine.⁷⁴ Governments of Elite Nations, by contrast, support their industries directly, as in the case of the European Union's Common Agricultural Policy that absorbs 60 percent of the Union's budget, or indirectly, through measures such as funding for research and development.

According to Liberal economic theory, free trade is good without 'ifs' or 'buts'. Nonetheless, in practice it all depends on whether times are good or bad and on the winners and losers. There was no equivocation on free trade in recent years. Times were good and leading powers were benefiting handsomely. Advent of recession in the late 1990s changed that. Crises in Asia and Russia have impacted on Europe and the

⁷¹ Samuelson and Nordhaus, *Economics*, 1995, Figure 16-2, p 278.

⁷² Welfare is defined as a practice whereby the government "uses its fiscal and regulatory policies to modify the market distribution of income and to provide services to the population." Samuelson and Nordhaus, *Economics*, 1995, p 765.

⁷³ *Ibid.*, p 302. The topic is considered in more detail in Chapter 10.

⁷⁴ Brown, et al., *State of the World 1997*, p 123.

USA. Following the mid-term elections in November 1998, President Clinton informed America's trading partners that he is not prepared to tolerate "the flooding of our markets" with cheap imports. Openness in Europe and America is in retreat. US steel imports from Russia are to be restricted, and Europe already limits Japanese car imports to 11 percent of the European market. Even the humble banana has become a major item of contention with restrictions by Europe, WTO rulings that are rejected by the European Union and threats by the US government to impose 100 percent duties on \$1.6 billion of imports from Europe.⁷⁵

This section provided examples relating to four cardinal tenets of Liberal economic theory: big government, welfare, subsidies, and free trade, to underscore the validity of the assertion that ideologies and their associated 'theories' are not written on tablets of stone. They evolve, sometimes in substantial mutations, to fit circumstances. Occasionally, political gyrations are depicted as 'betrayal of principles' or as measures of 'short-sighted' expediency. Undoubtedly these epithets might be appropriate in some cases, but systemic pragmatism could not be explained totally on these grounds. The practice is too widespread and, in the long run, it actually makes sense in terms of the survival of the overall system. Liberalism is not flexible because it is 'liberal' and 'sensible'. It has had to adapt constantly in order to survive; a clear sign of evolutionary change and nonlinearity.

Conclusion

Liberalism, Mercantilism, and Marxism are polar extremes, delineating the limits of how nations might ideally organise themselves. In practice, and as clearly demonstrated in the preceding sections, they are subject to wide interpretations and they harmoniously coexist with each other. Global and national political economies are an amalgam of all three ideologies that alters from time to time in response to circumstances. Within the political economic field, causes and effects are not clearly linked and the environment is in continual and unexpected change. Flexibility is, therefore, paramount if the systems at all levels were to survive as evolutionarily stable strategies. In short, there are distinct indications that the political economic system behaves in a nonlinear manner.

⁷⁵ *Sunday Times*, 15 November 1998.

The chapter drew a distinction between ideologies and theories. The difference is of vital importance. The former is a broad set of beliefs that embrace social, economic and political tenets. Faith is more significant than scientific proof. Discord and factionalism is part and parcel of the push and pull between the contending creeds, as seen during the cold war. Theories, by contrast, are precise formulations that should converge into laws of universal applicability following a process of fine-tuning based on the accumulation of evidence. In this case, contention is expected to turn on the weight of objective facts advanced in support of the different hypotheses. Chapter 4 takes this point forward to show that IPE theories are not converging. The aim is not to suggest that one theory is better than another, but to explore their validity as scientific formulations. If they were found to be invalid in that context, then that would be further confirmation that political economic processes follow a nonlinear mode of operation. That ultimately would provide a convincing explanation for the failure of past development efforts. It would also cast doubt on the soundness of the one-model-for-all strategy currently followed by organisations such as the World Bank and IMF.

Chapter 4

CROSSOVERS AND COURSE CORRECTIONS

Attention is focused in this chapter on IPE theories that deal with more specific, mainly economic, factors. The chapter examines the incessant process of radical revision that has affected all theories as attempts were made to model shifting events. In the main, the purpose is to test the hypothesis that current theories are time and place specific propositions that might be invalid as scientific theories of universal applicability. It should be highlighted here that this departs from Waltz's definition of theory. He accepts that theories might relate to certain specific situations and adds that they "come and go."⁷⁶ Hence, stability, convergence and generality are relaxed in his vision of what constitutes a theory. On the other hand, social scientists in general have tried to conform to precepts of the natural sciences. Keohane, for instance, suggests that Morgenthau sought to create a science of international politics because, in part, "its status as a science would make it easier to defend."⁷⁷

Faith in the power of rival IPE theories was replaced over time by doubts about their adequacy on three counts. Firstly, the market did not live up to classical Liberal expectations. Secondly, contrary to Marxist predictions, capitalists and workers did not clash, and the final leap into communism never came. Thirdly, in a highly interconnected world, Mercantilists had to revise their ideas on trade protection and state autonomy. As argued in this chapter, radical course corrections became unavoidable and these led to crossover theories that merely succeeded in undermining the validity of core theories set in a linear frame of reference that took stable cause and effect relationships and predictability for granted.

Paralysis of the "Invisible Hand"

Adam Smith likened the market to an *invisible hand* that moves in mysterious ways to optimise efficiency and prosperity for all. The market is the medium that brings willing and informed sellers and buyers together to do business. Rational individuals, according

⁷⁶ Waltz, *Theory of International Politics*, 1979, Chapter 2.

to classical economists, settle without involvement by third parties the three elementary economic questions: what goods and services to offer, how to produce them, and for whom. Smith's conception of the virtues of the market proved its utility in efficiently ordering the economic affairs of humankind from antiquity to the present. No one has come even close to suggesting an alternative mechanism and it is now obvious the market is here to stay as a fundamental institution.

Classical economists put their faith in the market and in associated concepts such as *comparative advantage* and *division of labour*. Their confidence reflected the rational spirit of the scientific age. Smith (1723-1790) and Ricardo (1772-1823) lived soon after Newton (1642-1727). It would have been somewhat surprising for those concerned with social and economic issues not to follow the fashionable certainties of the period. Some economists of the time went to extremes in their conviction that science had revealed all.⁷⁸ But there are others, even today, as in the case of followers of the Chicago School of Economics such as Milton Friedman, who persist in their conviction that the market, free from all external influences, is all that is needed for a smoothly functioning economy. That vision is difficult to accept in the light of known shortcomings of the market mechanism acting on its own.

Firstly, booms and busts, the evident inability of the market in some cases to correct business cycles, have been constant causes of concern to economists. The Great Depression during the late 1920s and early 1930s put this market weakness under the microscope. High unemployment, low output, and even hunger gripped Europe and the USA but the invisible hand was unable to help. Secondly, imperfect competition and the proliferation of monopolies were additional features that did not fit easily into classical theories founded on the assumed existence of a state of perfect competition in the marketplace in which no actor is powerful enough to affect prices. In an age dominated by colossal corporations, most operating on a multinational scale, and speculators with billions of dollars to spend, this basic condition is routinely violated.

⁷⁷ Keohane, *Neorealism and its Critics*, 1986, p 10.

⁷⁸ John Stuart Mill (1806-1873) wrote, in 1848, in *Principles of Political Economy*, "Happily, there is nothing in the laws of Value which remains for the present and any future writer to clear up." That was said before the law of supply and demand was discovered! See Samuelson and Nordhaus, *Economics*, 1995, p 600. It remains to be seen what future generations will think of Fukuyama's assertion that the 1990s have seen the 'End of History' following the 'victory' of Liberalism over communism.

Thirdly, positive and negative externalities complicate the picture even further.⁷⁹ In theory, a price must be allocated to all items within the market, but in practice externalities escape that net. And these could extend beyond national boundaries adding more uncertainty to a supposedly clear-cut process. Hence, firms might locate their factories in countries with minimal environmental regulation, and in that way they could undercut prices of other producers unable or unwilling to follow suit. Fourthly, classical Liberal theory stipulated that producers and consumers should be well informed for the market to operate properly. Within that premise, producers, for example, would be abreast of what competitors were doing, and consumers would be aware of all alternative products and their prices. When the market was small and interactions were localised, the precondition of perfect information might have been reasonable. Once the market expanded beyond that initial stage, the sheer volume of information, and aggressive marketing techniques such as price-fixing and 'confusion-marketing' made it difficult for that requirement to be met.

Finally, biased income distribution is yet another indicator of market failure, although the free market does not promise comparable prosperity for all. Left without correction, excessive disparity could cause discord and that might ultimately lead to systemic instability. Past Liberal theorists could not have foreseen inequality on the scale now in evidence. Latin American countries are justifiably cited as examples of extreme inequality. They are not alone, however, as "the gap between rich and poor has grown to tremendous levels, both globally and within many individual countries." And that shift took place at a time when Liberal economic theories were enjoying unrivalled popularity. "Worldwide, the richest fifth of the population now receives 60 times the income of the poorest fifth, up from 30 times in 1960. In the United Kingdom, the ratio between the top and bottom 20 percent went from 4:1 in 1977 to 7:1 in 1991. In the United States, it went from 4:1 in 1970 to 13:1 in 1993."⁸⁰ Understandably, these skewed trends in income distribution are generally viewed as market failures.

The aim in this section was to list key market failures that created doubts about the adequacy of Liberal theories on their own to model real life situations adequately.

⁷⁹ Externalities are activities that affect others without a price being charged from or paid to those affected. A firm might pollute the environment, at a considerable cost to the community, without any effects on its costs. On the other hand, a company might provide costly training to employees who then seek employment elsewhere.

⁸⁰ Brown, et al., *State of the World 1997*, p 121. See also ILO, *World Labour Report 1993*, UN Research Institute for Social Development, *States of Disarray: The Social Effects of Globalisation*, 1995, and Dembo, *The Underbelly of the US Economy*, 1997.

Liberalism's promise is that in the long term the market would counteract occasional fluctuations and failures without the need for external intervention. However, in all 'Liberal' economies, the state is obliged to step in to rectify failures in many aspects of the economy, to reduce inequality or to dampen booms and busts for example.

Marxism's Ignoble Record

The market might be flawed but any failures here are put in the shade by shortcomings of Marxist theory. Fundamentally, theory did not work in practice, and as such it exhibited a conspicuous lack of staying power. More specifically, Emerging Nations did not conform to Marx's version of history, and advanced industrialised economies did not end in violent confrontations between capitalists and workers. If anything the opposite seems to have happened, judging by recent world events, with Liberalism going from strength to strength and Marxism in full retreat. The capitalist mode of production was expected to overwhelm Emerging Nations, to be followed shortly thereafter by a move to socialism and communism. Facts again refused to fall in line with Marx's theoretical prescriptions. Entrepreneurs from richer and more powerful countries came, invested, and then exported the profits out without materially transforming the societies concerned.⁸¹

Variations on the Marxist theme were tried under different conditions, as in Russia, China, Vietnam and Cuba. However, in almost every case standards of living, measured in material terms at least, were disappointing. Equity was more in evidence than under capitalism, but that predominantly took the form of shared privation. Considerable disparity between the ruling elite and the rest of society was still in evidence; socialism did not eradicate the class system altogether. Marxist theory, in pure form, was as flawed as classical Liberal theory. Clearly, core Liberal and Marxist IPE theories were afflicted by major weaknesses. They sought to describe, explain and prescribe, but they failed the tests of robustness and veracity. They had to be drastically remodelled to retain some credibility.

⁸¹ If anything, relentless pressure on people to change is proving to be counterproductive, as seen for instance in the current backlash in Islamic nations. Usama Bin-Laden, the world's leading terrorist according to the USA, fought the USSR and then his previous ally America mainly because he believed, rightly or wrongly, that they both intended to change local traditions. The same could be said of some other Islamic fundamentalist groups.

Revolution in Liberal Ranks

Adam Smith outlined, in *The Wealth of Nations*, the mechanisms that govern discrete elements within the economy, such as markets and prices for individual products. He was concerned with what is known today as the field of microeconomics. Detailed elements might have been expanded or modified but in general the overall concept remains intact. By contrast, the way the economy as a whole behaves has gone through a virtual revolution since Smith's era. Failures of the market did not escape notice by early scholars, including Smith and Ricardo. However, the inability of the invisible hand to correct excessive bouts of unemployment and inflation imposed a rethink.

The matter came to a head during the Great Depression that was heralded in the USA by the Wall Street crash of October 1929. But in Europe clouds were gathering even sooner than that with hyperinflation in the Weimar Republic of Germany in 1922 and 1923 and the General Strike in Britain in 1926. Unemployment escalated rapidly and the ensuing poverty was on a scale unknown before in modern times. In Germany, where conditions were worst, the Depression brought the Nazis and Hitler to power and eventually led to World War II. By comparison, the depression from 1873 to 1896 was a dress rehearsal.

The upheaval in the 1920s and 1930s extensively challenged all core theories. The Depression was caused by a number of factors that were in evidence shortly after the end of World War I. Cohen argued that "the 1930s was a period of open economic warfare."⁸² Governments were in the process of abandoning their inherited *laissez-faire* policies in favour of socialist prescriptions. The Golden Age of pre-war Liberal practices "was a myth" as governments failed to notice the decay that coincided with that period. Hardship was on the rise and domestic stability was in the balance. Liberal recipes had not delivered on their promises and socialist theories were in the ascendancy. In time, these also proved to be deficient, but for the moment rising trade unionism and expanding social welfare programmes were stamping their imprint on domestic political economies, and by implication on relations between states. International trade had entered a new phase of closure that was to prove harmful to all nations.

⁸² See Cohen, *Organising the World's Money*, 1977, and Kindleberger, *The World in Depression, 1929-1939*, 1986, for analysis of the circumstances that led to that cataclysmic event.

Kindleberger cited the lack of political leadership on the world stage in the inter-war period as a major element in economic turmoil that culminated eventually in the Great Depression. Britain had lost its hegemonic role, other European states were not able to fill the void and the USA was uncertain of its international role. Hence, "The instability [came] from the growing weakness of one driver and the lack of sufficient interest in the other." His conclusions exposed a fundamental weakness in both Liberal and Marxist IPE theories that upheld the supremacy of economics over politics. In their different ways they also professed a belief in a minimal role for governments. However, it would seem that political leadership is needed, through a hegemonic power or a central planning bureaucracy, to regulate the economy.

Britain and the USA were forced by the above factors to undergo a peaceful revolution, led by activists from within the Liberal fraternity. That revolution proved to be the undoing of Marx's concept of the violent overthrow of capitalism by the proletariat. But it also dealt a heavy blow to classical Liberal theory. Keynes (1883-1946) played a major role in that paradigm shift. He was troubled by the seemingly intractable difficulties that bedevilled all advanced economies of the day. The self-correcting mechanism of the market was plainly not sufficient to meet the challenge. Eventually he dared to utter the unthinkable: the state had an important role to play in the economy. From time to time it has to step in to resuscitate it when it stagnates or to dampen it down when it overheats. Keynes' prescription of how this was to be achieved defined the fundamental principles of *macroeconomics*.

The boldness of Keynes conception is impressive. For over two centuries classical economists treated the independence of the market as an article of faith. Partnership of microeconomics and macroeconomics, following Keynes format, turned that viewpoint on its head and ushered in modern economics. The market shapes microeconomics, through the supply and demand mechanism. The government, on the other hand, influences macroeconomic affairs by means of fiscal measures, taxes and government spending for instance, and monetary levers, such as interest rates and actions to meter money supply.

Keynes was an unlikely revolutionary firebrand. After Eton College and Cambridge University he joined the civil service in Britain. He was part of the British delegation at the peace conference in Versailles after World War I and at the Bretton Woods

conference, held during World War II. Keynes was one of the leading architects of the Bretton Woods system that set up the IMF, World Bank and GATT. These organisations, backed by considerable economic, political, and military resources were deemed to be essential for the proper regulation of the global political economy in accordance with the new definition of 'Liberalism'.

Cracks in Keynes' Neoliberalism

Macroeconomic policies are, by definition, only of meaning when applied nationally by a state intent on achieving its aims domestically and, against foreign interests, internationally. They are, therefore, not wholly consistent with a free global economy unencumbered by state rules and national borders. If capital, as money or people, could roam unhindered here and there, then a state's room for manoeuvre is drastically curtailed. Keynes was not unaware of this potential difficulty. That was one reason for his proposal to set up an international currency union that would issue its own global currency and would eventually lead to formation of the "...future economic government of the world."⁸³ However, the Americans quickly disabused him of such notions at the Bretton woods conference.

Keynes's *General Theory* did not go unchallenged either. Although neoliberalism claimed an interest in smoothing out peaks and troughs, its thrust was in the main targeted at short-term stabilisation, particularly at times of high unemployment. Dissatisfaction emerged when the package of policies failed to combat high inflation that was triggered in part by the OPEC oil price shocks in the 1970s. Moreover, Keynesian ideas, so effective in the early years, began to falter at the same time under new conditions characterised by currency speculation on a vast scale, easier movement of capital across borders, and the sheer volume of international trade. Profligate spending funded by high taxes devastated currencies and signalled an exodus of capital. High interest rates and a strong currency, by contrast, generated capital inflow in the opposite direction. Fiscal policies, it was said, were not appropriate for the new age while monetary policies seemed to promise some rewards, if applied well.

Intense debate ensued about the next move and a number of competing theories appeared on the scene. These ranged from *monetarism* with emphasis on money supply,

⁸³ Caufield, *Masters of Illusion*, 1996, p 41.

to *supply-side economics* concerned with incentives and lower taxes, and, of course, a return to classical economics, in the style of the Chicago School. More recently the *Third Way*, the ultimate in pragmatism, has been put forward by Blair in Britain and Clinton in the USA as the natural next step in economic, social and political theory. Continual flux in theory reveals an important characteristic of all political economic systems: they constantly evolve in response to changing circumstances. There was nothing wrong with Adam Smith's microeconomics or Keynesian macroeconomics as time and space specific propositions.⁸⁴ Despite assertions to the contrary, therefore, it seems fairly clear that diverse escalators might have to be tried in the search for better political economic performance. It is also evident that there is no 'End to History'.

Discord in the Marxist Cadres

Another course correction, the social democratic model or *revisionism*, had a substantial influence on domestic and international political economic thought. In this instance the changes, instigated appropriately by a socialist, affected Marxist theory. Bernstein (1850-1932), the German Social Democratic Party leader, disagreed with Marx's view that the transition to communism would come about after a violent revolution triggered by capitalist excesses. Socialism before Marx was a form of enlightened Liberalism, as mentioned earlier, and up to the end of the 19th century the expressions socialists and social democrats were interchangeable.⁸⁵ Marxist theory had arrived at a crossroads: Lenin took the non-democratic path based on fast revolutionary transformation, while Bernstein favoured a democratic route in which unions played a large role in seeking evolutionary social change.

Bernstein in collaboration with Kautsky (1854-1938), a leading theorist, drafted a programme for the German Social Democratic Party that was later agreed at Erfurt in 1890. It reiterated Marx's views on historic change and clearly set communism as the ultimate aim. But then the programme went on to define minimum demands to be implemented within capitalism. These included universal suffrage, equal rights for women, pensions and health services for all; features now accepted as axiomatic in all advanced Liberal states. The Social Democratic model shaped, at one time or the other,

⁸⁴ Keynes, for instance, was naturally concerned with the post-war interests of Britain, Europe, industrialised economies, and the world economy in that order. At the Bretton Woods conference the debate was between Europe led by Britain, on the one hand, and America, on the other. Caufield, *Masters of Illusion*, 1996.

⁸⁵ Steger, *Selected Writings of Eduard Bernstein, 1900-1921*, 1996, and Steger, *The Quest for Evolutionary Socialism*, 1997.

the political system adopted in most northern European countries. It had its most successful run in Sweden where the social democrats were in power without a break for forty-four years up to 1976.

Arguably one of the most successful political movements in Western Europe, Social Democracy, as was the case with Liberalism and Keynes' reforms, allowed socialism to survive, especially after the demise of the USSR and the failure of communism as the non-democratic Marxist variant. As explained in the previous chapter, however, Marxism itself experienced several radical revisions as practised by communist regimes in Russia, China, Vietnam, and Yugoslavia. The aim again was to search for evolutionarily stable strategies. In many respects, it is now difficult to distinguish between socialist and liberal theoretical variants. With the passage of time, and with successive revisions, they were swallowed up for all practical purposes within the eclecticism of the mixed economic model that is these days *de rigueur* for Elite Nations.

Swings towards Liberalism or Marxism soon change direction to seek the middle ground. Even current traumatic events in Russia might well prove in future to have been little more than symptoms of that process in action. Thatcher's lurch to the right during her years as Britain's Prime Minister were destined to end with the Labour Party back in power with a vast majority. The same could be said about oscillations between Republican and Democratic Party control in the USA. Systems of checks and balances give people the option to look both ways. In practice the apparent indecisiveness is notional more than real; many forces in addition to party politics shape national policies and actions, as Mercantilists eventually had to concede.

A Realist Course Change

Mercantilism, known also as *realism*, did not escape the reassessment that engulfed other IPE theories. But here the affair was less dramatic. Viner pictured Mercantilism as "...a doctrine of extensive state regulation of economic activity in the interest of the national economy."⁸⁶ Heckscher viewed it as a system that would "have had all economic activity subservient to the state's interest in power."⁸⁷ These definitions could be snapshots of most states, past or present. Invariably states indulge, through choice

⁸⁶ Viner, *Power versus Plenty*, World Politics, October 1948. See also Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, p 5.

⁸⁷ Heckscher, *Mercantilism*, 1955, p 15.

or necessity, in regulation of large sectors of the economy and they are all eager to acquire and retain power. In every case their declared goal is to promote the national interest. Further debate on this self-evident issue was prompted by a now familiar dilemma. A shrinking world of linked interests in which capital, expertise, and people move freely across political borders had to be reconciled, somehow, with the ability of states to pursue their diverse, and often conflicting, objectives. Mercantilists had to find a theoretical path through that maze.

Traditionally, classical Mercantilists such as List asserted that political precepts shape economic outcomes.⁸⁸ But that view was not always as clear-cut. For instance, Weber (1864-1920) envisioned a two-way relationship that bound economics and politics into a state of constant flux. Faced by irrefutable empirical evidence, Mercantilists veered towards Weber's way of thinking, as argued nowadays by Gilpin and other neorealists. Clearly, politics could not determine all economic outcomes, and by the same token economic considerations could not steer political decisions in all circumstances. In short, Mercantilist theory had to be substantially altered to accept that politics is not an independent variable in the overall equation. Moreover, present day neorealists do not ascribe to naked protectionism and other actions based on outdated beggar-thy-neighbour attitudes, mainly because prescriptions of that nature have been shown to be counterproductive. In short, real life did not tally with Mercantilist theory.

Modern neorealists, as in the case of Waltz, Gilpin and Katzenstein, envisage the interplay between politics and economics as a process of push and pull. Waltz, recognised as the founder of neorealism, advocated "systemic theory" in his analysis of international relations. But he highlighted the "anarchic" nature of interstate relations. He, therefore, saw the overall process as being complex and chaotic. These views are highly significant in the context of the present thesis. He was of course writing at a time when Complex Systems theory was virtually unknown.⁸⁹ The state might be there trying as far as possible to pull the strings, but it in turn is being pushed by international economic forces and domestic social pressures that could not be ignored. The point of equilibrium in that contest depends on any or all of four principal factors:

⁸⁸ List, *National System of Political Economy*, 1977 and 1990.

⁸⁹ Waltz, *Theory of International Politics*, 1979.

- Firstly, it depends on the position of a state in the global hierarchy. A hegemon and its allies are able to mould the global system to suit their purposes. They are then able to proclaim their commitment to minimal interference in economics.
- Secondly, the balance between politics and economics for a hegemonic state is governed by whether it is in ascendancy or in decline. While it is at the top it favours economic openness; it is able to maintain and benefit from that situation.⁹⁰ On its way down, a hegemon brings politics to the fore in its bid to retain control while economics is relegated to second place.⁹¹
- Thirdly, equilibrium is affected by the balance of power between state and societal actors.⁹² Even in extreme situations where the state looms large, in present day Iraq say, there are often regional, religious, and tribal factors that blur the issue.
- Fourthly, the equilibrium point varies from one issue area to the next. And one nation's view is certainly no guide to what another nation might think. America's war in Vietnam is an instance where politics clearly dominated all other considerations.

Today's neorealists concede that economic as well as political forces play a part in shaping domestic and foreign policies through an ongoing relationship. According to Katzenstein, equilibrium between economics and politics is determined by a number of stimuli that operate in a complex manner that is often difficult to predict. Mercantilist theory was replaced, therefore, by an amalgam of ideas that suggest states would always do their utmost to acquire power and wealth, but they would be restrained by economic interdependence abroad and by social forces at home. In effect, the mixed economy is overlaid by Mercantilist aspirations, and vice versa. Not unexpectedly, the interplay between state autonomy and an open global system was tackled later by yet another set of hybrids; *interdependence theories*.

⁹⁰ This is not a one-way street. Events after World War I showed that absence of hegemonic leadership might be harmful to other states as well.

⁹¹ Gilpin illustrated this point by tracing the rise and fall of Pax Britannica and the dawn of Pax Americana. See Gilpin, *The Politics of Transnational Economic Relations*, as reproduced by Crane and Amawi in *The Theoretical Evolution of International Political Economy*, 1991, p 174.

⁹² Katzenstein equated state with public and society with private interests. But he went on to point out that the state itself is made up of many actors with differing interests and ideologies, Katzenstein, *Domestic and International Forces and Strategies of Foreign Economic Policy*, *ibid.*, p 187.

The Many Faces of Interdependence

National economies are becoming increasingly linked into a network of shared interests brought about by growing cross border trade and easy movement of capital. This escalating interdependence is in many respects a direct challenge to national autonomy and state power. A condition of uneasy tension exists, therefore, between the state and its innate wish to promote national interests, on the one hand, and the global economy operating substantially beyond the reach of politicians, on the other.

Interdependence theories are updates of Liberal theories and Keynesian economics. Basically, Liberal economists believe that interdependence, regulated in part by international regimes, confers net joint benefits. But, Keohane and Nye defined interdependence as *mutual dependence*, in which relative gains and losses and their distribution between nations might be, and often are, markedly different.⁹³ They described the system as 'complex interdependence' to underline the variety of relationships that might exist at any time. Ultimately, the balance point is determined, as ever, by an amalgam of factors, such as relative economic and military power between states, their relative vulnerabilities, and the particular issue areas involved.⁹⁴

Viewing interdependence as a range is useful in introducing yet another twist in IPE theory. *Dependency theorists* go beyond the idea that certain nations fail to develop because they are slow in adopting the proper blueprint for success. On the contrary, they see underdevelopment as a consequence of the global spread of capitalism. Santos, for instance, defined dependence as "a situation in which the economy of certain countries is conditioned by the development and expansion of another economy".⁹⁵ A later development of dependency suggested the existence of a division of labour on a global scale: a *core* of rich and powerful nations and a *periphery* of other nations. The only solution, dependency theorists suggest, is for nations in the periphery to delink themselves, at least in the initial stages of development, from a system that clearly favours the core. Interestingly, that is the same conclusion arrived at by early Mercantilists. List, for example, proposed a similar idea in *The National System of Political*

⁹³ Keohane and Nye, *Power and Interdependence: World Politics in Transition*, 1977. See also Keohane and Nye, *Power and Interdependence*, 1989.

⁹⁴ Keohane and Nye, *Power and Interdependence: World Politics in Transition*, 1977.

⁹⁵ Santos, *The Structure of Dependence*, 1970.

Economy to allow Germany to stay out of the international system for a while until it was powerful enough to compete with other economies.

Interdependence theorists, from Liberal and realist backgrounds, concur with dependency theorists, of Marxist convictions, that interdependence might in some cases be akin to dependency. The two differ only in what those disadvantaged by interdependence should do to improve their position. Far from shunning the global system, as proposed by dependency theorists, those of the Liberal persuasion advocate that all nations should link themselves to a free market system that is regulated only by international regimes, such as the IMF.

Interdependence saved neoliberalism from a conceptual cul-de-sac. The power of the new vision backed by the might of the USA and its political and economic allies and the discipline imposed by the IMF, World Bank and the WTO, combined to bestow on the interdependence school an enviable aura of success and infallibility. Prescriptions based on dependency have not been so fortunate. However, as discussed below under *Regime Analysis*, interdependence theories themselves had to adapt to keep in line with empirical evidence. The comments here were not intended as a comprehensive review of interdependence and dependency theories. The purpose of the present section was principally to offer another illustration of the perpetual radical revision that has affected IPE theories, on the one hand, and the diminishing significance of demarcation between them, on the other.

Crossover Theories Add to Variegated Similarity

The centre ground is now replete with theories. Powerful restraints imposed by dependence and interdependence between nations, and international regimes designed with the express purpose of conformity in mind generated an irresistible centrifugal force. Equally, sheer variety of circumstances and unpredictability of change made it almost impossible for theorists to set precise common rules that would apply to more than a few specific cases. And even here applicability was transient; unexpected events quickly rendered models that worked well in the past more or less obsolete. Hence, theories have had to incorporate copious provisos to retain a degree of relevance. Neorealists, for example, discarded the simple Mercantilist concept of the supremacy of politics in favour of a more pragmatic viewpoint that assumes a dynamic relationship between politics and economics. Accretion of qualifications and compromises had two

effects on theories. Firstly, they became less specific. And secondly, in the course of increasing generalisation they became progressively more similar to each other.

Some states veer towards Liberalism, while others flirt with socialism. All indulge in protectionism whenever possible. This perplexing pattern of the world's political economic scene has been a source of theoretical turmoil in recent decades. Overcrowding at the centre is irksome. It challenges deep seated and cherished beliefs that certain theories are omnipotent and others are abominable. *Convergence* as used in the natural sciences implies progressives honing of one theory to bring it into sharper focus at the expense of other contenders that are then abandoned. In the case of IPE, theories merged into vague generalised models comprised of largely similar truisms, as described above.

However, IPE theorists continued in their quest to improve previous models. Inevitably, drastic revisions had to lead in the end to the emergence of *crossover theories* with links to more than one ideological root. Admittedly, Keynes' General Theory as a reform to Liberalism, Social Democracy's attempt to revise Marxism, and Interdependence and Dependence theories, all exhibit elements borrowed from more than one ideology. Nonetheless, the latest attempts to fuse roots into unified theories entailed a thoroughly comprehensive rethink. An outline is given below of the main crossover theories that have been added to IPE thought recently. The aim, of course, is not to give an exhaustive review of the topic, but to venture only as far as necessary to illustrate the principal theme of tactical variety within an amorphous central core.

Regime Analysis

Krasner defined international regimes, such as the IMF and WTO, as "principles, norms, rules and decision making procedures around which actor expectations converge in a given issue area."⁹⁶ Puchala and Hopkins described four features of regimes that are particularly apt in the context of this thesis:⁹⁷

- Regimes conform to principles, norms and rules, but they are also subjective, involving understandings and expectations about acceptable behaviour.

⁹⁶ Krasner, *International Regimes*, 1983.

⁹⁷ Puchala and Hopkins, *International Regimes: Lessons from Inductive Analysis*, as reproduced in Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, p 266.

- Regimes include tenets for making decisions: who participates, what interests dominate, and what rules protect and preserve that dominance.
- A description of a regime must include a characterisation of the principles it upholds.
- Each regime has a set of elites; bureaucratic units and individuals that operate as parts of the regime's 'government'.

The above features were included to illustrate a point that recurs later in this thesis: to a large extent, regimes have a closed mind. They stand for specific views of life that they are rather reluctant to jettison without a fight. The single escalator to success based on the free market system, as advocated by the IMF and the World Bank, is a natural consequence of this feature. In simple terms, that is what the regimes were created for. Reasons advanced to explain the abundance of international regimes, therefore, range from sensible to sinister. Telecommunications and postal services would quickly collapse without a regime to regulate them. Moreover, regimes are instruments of statecraft, some suggest, to encourage and facilitate international co-operation. In essence they help to introduce order to rampant variety. In consequence, economists of Liberal persuasion find them rather appealing as countermeasures for market failures on the international level and as a restraint on the power of individual states.

Neorealists, on the other hand, view regimes as an essential part of the international distribution of power. Powerful states often create and fund regimes to promote their interests, but soon thereafter the regimes themselves acquire a set of preferences of their own. States, large and small, have every incentive to infiltrate regimes in chosen issue areas to derive more benefits or to alter them to better suit their purposes. Far from engendering order and control over states, the regimes, according to that view, become the battleground for the exercise of power politics by states at tactical and strategic levels. The neorealist interpretation provides interesting food for thought for Emerging Nations in the search for levers to improve their chances of success in dealing with the Elite. There might be costs to pay, but on balance, the theory goes, it could be more beneficial in some cases to work with the regimes on the inside.⁹⁸

⁹⁸ See Krasner, *Transforming International Regimes: What the Third World Wants and Why?*, 1981.

Liberals and neorealists alike have used regime analysis to explore its applicability to model IPE from differing perspectives. This theoretical approach does not necessarily command unqualified support from either school, but it clearly illustrates the common ground that the main theories now share with each other.

Hegemonic Stability Theory

At base, this model could be seen as a crossover between Marxism and Mercantilism. Wallerstein defines a hegemon as a power that is able to "impose its rules and its wishes...in the economic, political, military, diplomatic and even cultural arenas."⁹⁹ Hegemonic Stability Theory postulates that a hegemonic power at the zenith of its power favours openness in international affairs. The hegemon expends effort and financial resources to set up and maintain the system, including international regimes, because it stands to benefit most from such a structure.

Krasner, of neorealist inclination, argued with convincing historical evidence that openness of world trade is determined by the international distribution of potential economic power.¹⁰⁰ In a multipolar world comprised of a few large states of roughly equal power, world trade would range from *autarky*, a completely closed system, to low openness. However, when the distribution of potential economic power is highly unequal, as in the presence of a state of hegemony, then world trade would gravitate to a high degree of openness. That line of argument naturally leads to the conclusion that world trade is in a state of slow flux, its structure drifting between relative openness and closure. Wallerstein, favouring Marxist historic interpretations, suggested this pattern might follow the long-range cycles or waves first observed by Kondratieff.¹⁰¹

Hegemonic Stability theorists assert that as a hegemon goes into decline in part as a result of openness, the system begins to break down. Movement of capital, people and technology gradually shift the balance of power away from the dominant state. World affairs, including trade, enter a period of turmoil and the system edges towards closure. In that phase the hegemon, challenged by aspiring rivals, adopts more aggressive policies designed primarily to preserve, or prolong, the status quo. Scholars have speculated that the USA began the long descent from the summit in the 1960s.

⁹⁹ Wallerstein, *Three Instances of Hegemony in the History of the Capitalist World Economy*, 1983.

¹⁰⁰ Krasner, *State Power and the Structure of International Trade*, 1976.

¹⁰¹ Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, p 233. Kondratieff, a Russian economist, envisaged 'waves' of roughly fifty years, e.g. 1792-1850, 1850-1896, and 1896-1940.

Undoubtedly, the rise of the 'United States of Europe' and East and South East Asia, led by China or Japan, presents a new phenomenon. International distribution of power is drifting to a multipolar structure. In line with some interpretations of the Hegemonic Stability Theory, the global system might slowly move to relative closure. Nonetheless, irrespective of the eventual outcome, the merging of theories from Marxist and Mercantilist backgrounds into Hegemonic Stability theories clearly illustrates the theme of variegated sameness.

Public Choice Analysis

This crossover theory is not new on the field; Schumpeter, pioneered the concept over fifty years ago.¹⁰² A short while later, Downs cast the initial ideas into a theory. His conclusion that all political parties gravitate to the centre of the political spectrum is particularly interesting in the context of the present study. Downs also expressed the view that politicians set economic policies in a way that maximises their chances of being re-elected.¹⁰³ Buchanan added further dimensions to the theory and subsequently received the Nobel Prize in 1986 for his contributions in that field.¹⁰⁴ Public Choice Analysis was embraced by conservative politicians in the early 1980s and was applied to a number of issue areas, including agricultural policy and regulation.¹⁰⁵

Public Choice theory, sometimes referred to as the *economic theory of politics* or the *new political economy*, is grounded in liberalism. It models interaction between politics and economics by using "the tools of modern (neoclassical) analysis."¹⁰⁶ Theorists of that viewpoint have used it, for instance, to explain how political intervention might impede optimal economic outcomes as prescribed by Liberal theory. On the other hand, Gilpin deployed the same theory to extend international relations realism to IPE theory.¹⁰⁷ And, the theory also found favour with Marxist analysts. Rational Choice Analysis was described, therefore, as "but one example of the eclecticism common to contemporary IPE theory", a remark that lends support to the theme advanced in this chapter.¹⁰⁸

¹⁰² Schumpeter, *Capitalism, Socialism and Democracy*, 1962.

¹⁰³ Downs, *An Economic Theory of Democracy*, 1990.

¹⁰⁴ Buchanan and Tullock, *The Calculus of Consent*, 1962.

¹⁰⁵ Samuelson and Nordhaus, *Economics*, 1995, p 282.

¹⁰⁶ Frey, *The Public Choice View of International Political Economy*, 1984.

¹⁰⁷ Gilpin, *The Political Economy of International Relations*, 1987.

¹⁰⁸ Crane and Amawi, *The Theoretical Evolution of International Political Economy*, 1991, p 201.

The link to Marxist and neorealist theory is highly significant. Public Choice theory, a variant of a wider Rational Choice theory, focuses on a key tenet: individual rationality. Decisions in the political economic field are seen as the result of a bargaining process that is driven by the needs and aspirations of many actors; as persons, interest groups, firms, and government departments. Each actor separately considers the costs and benefits as they affect him or her and then behaves accordingly in supporting or resisting change. Egoist individuals are paramount in that situation. This feature will recur later in this thesis when interactions between the internal elements of Complex Adaptive Systems are discussed.

Public Choice Analysis seeks to explain how and why decisions are made at different hierarchical levels, from individuals, interest groups and states to the whole global system. The theory is illuminating in that it treats the political process as a market in power.¹⁰⁹ Voters are seen as the consumers and the politicians as the entrepreneurs who interpret their needs and try to supply goods to meet the demand. In democracies, politicians stay in power as long as they meet the wishes of the majority of the actors. This, of course, might not be the same as the majority of the people. An important player in the political game is the *interest group*, with individuals as its constituent elements. People, groups, and businesses set out to influence governments domestically and internationally. Their methods and tools vary from public relations, through sponsorship and contributions to party funds, to naked corruption and coercion. Public Choice Analysis has been used to seek an understanding of how these interest groups manage to shape government policy.¹¹⁰ The cardinal point here, however, concerns the significance of internal dynamics, driven by a web of local interactions between many players, in determining overall global patterns: an unmistakable sign of *complexity*.

But Public Choice theory is also of interest to this thesis because of its close affinity to Game Theory. They share common assumptions on cooperation and competition. The relevance of Game Theory to the present work is discussed in Chapter 8. Rational Choice Theory conceives the IPE field as an intricate medium of complementary and competing interests that are actively involved in a hectic process of bargaining. The rational individual is the basic unit of analysis. The concepts of nation and state are

¹⁰⁹ "Politicians are vote-maximisers just as firms are profit maximisers", Samuelson and Nordhaus, *Economics*, 1995, p 283.

¹¹⁰ Frey, for instance, adopted the technique to examine why tariffs and other restrictions might be imposed even when they are against the interest of the voters. Frey, *The Public Choice View of International Political Economy*, 1984.

themselves seen for what they are; a collection of actors pushing their particular causes to the fore against other equally egoist individuals. Rules of Game Theory, consciously or otherwise, are used to minimise penalties and maximise rewards.

Public Choice theories illustrate once again the drift of theories, once conceived as polar rivals, into a theoretical domain of sameness. In the course of that transformation cherished beliefs have been jettisoned to an extent that throws doubt about the relevance of the original hypotheses. Hence, for instance, emphasis on individual rationality violated an important tenet of traditional Mercantilism. But it should be stressed once again that the continual revision of IPE theories is not the same as the process of convergence that marks the evolution of scientific theories. In that field certain theories are refined into better models while others are discarded, whereas in the case of IPE theories, all versions have undergone radical change that turned them into new and amorphous entities.

Conclusion

This chapter demonstrated that as each IPE theory was challenged by events, it was comprehensively revised to rectify the perceived defects. Neoliberalism, social democracy, and neorealism came on the scene, but they all entailed substantial compromises on previous fundamental assertions. Demarcation lines between the theories were blurred through a process of generalisation rather than convergence. Revision proceeded next on a path that led to crossover theories that had links to several ideological and theoretical roots. They merged into a common pool, but again that did not result in convergence on one theory. Contradictions were resolved through further compromises, leading to an inevitable conclusion that none could be accepted without reservation as scientific theories that “separate out rules from special or accidental circumstances”. They did not apply to “a whole class of situations” either.

Chase-Dunn gives an illuminating glimpse of the state of theoretical turmoil that afflicts the field of IPE. He argued for a holistic IPE theory that views political and economic processes as integrative forces.¹¹¹ In similar vein, Frey, in looking into Public Choice theories, considered it an advantage that the analysis should be based on “an explicit and unified *theory of human behaviour...*” as that “makes it possible to isolate and

¹¹¹ Chase-Dunn, *Interstate System and Capitalist World-Economy: One Logic or Two*, 1981,

analyse relatively simple relationships.” On the other hand, he cautioned that the “high degree of abstraction...involves the danger of leaving out relevant aspects or of keeping constant variables that are so closely and importantly connected with the problem being studied.” Tension between reductionist and integrative methods, or linearity and nonlinearity, is clearly detected in the remarks made by Chase-Dunn and Frey.¹¹² But before moving into the topic of nonlinearity in further detail, Chapter 5 takes a backward glance at core IPE ideologies to explore deeper historical roots.

¹¹² Frey, *The Public Choice View of International Political Economy*, 1984.

HISTORICAL INTERLUDE

Previous chapters demonstrated that the key IPE ideologies are not fixed entities, and that the status of their associated theories is questionable in strict scientific terms. As a corollary, this chapter explores the possibility that the core ideologies might have roots that extend longer and wider into history than currently assumed. In other words, they might be the natural consequences of human interactions that emerged, and then evolved, once people congregated into settled communities. Similarly, the chapter considers the processes involved in the accumulation of knowledge and awareness, to explore the possibility that they also follow an evolutionary path.

The above points, longevity and progressive evolution, are germane to the concepts considered in future chapters. If substantiated, they would corroborate the hypothesis that political economic processes are in a permanent state of change. It would also be possible to demonstrate that numerous unplanned *frozen accidents* and *gateway events* accumulate over a long period of time to affect the course of political economic evolution. Additionally, that would reveal signs of *punctuated equilibrium*, long periods of apparent stability interspersed with episodes of rapid change. Confirmation of these features would suggest that the system conforms to a nonlinear mode of operation and, hence, complies with rules defined by Complex System theory. These points will be discussed in Part Two. But for the moment, Chapter 5 will concentrate on expanding the time horizon and catchment area for political economic developments.

Heterogeneous Knowledge

History of science shows that knowledge is accumulated piece by piece over a long period of time. For example, Harvey (1578-1657) studied the work of past physicians, including those from China, undertook his own research, and then pronounced his views on blood circulation. Similarly, Leibnitz (1646-1716) and Newton (1642-1727) discovered calculus independently but at the same time. They built on identical foundations and applied the full force of their supreme intellects to give mathematics that giant push forward. Finally, it now appears that a British professor at University

College London, Clifford (1846-1879), might have been the first to unravel the central principles of the theory of relativity, some forty years before Einstein published his paper on the subject in 1915.¹¹³

Chinese, Greeks, Romans, Arabs and, in recent history, Europeans and Americans all claimed a unique contribution to advancing enlightenment while underplaying efforts by others. Europeans assume unquestioningly that the Dark Ages, roughly from the 5th to the 15th century, were 'dark' everywhere. In fact that period witnessed the flowering of Islamic culture and science which itself benefited from intensive translation and transmission from previous civilisations.¹¹⁴ There is, in addition, a dubious conviction that everything else pales into insignificance in comparison with the dazzling technological inventions of the 20th century. Naturally, all discoveries seem miraculous in their time. Use of symbols to record facts and events must have been a truly magical innovation when the Sumerian Cuneiform and Egyptian Hieratic systems were evolved 5000 years ago.

Technical inventions tell only part of the story though. Philosophical speculations about life, the rights of people, and the distribution and use of wealth, led to conflicting beliefs, revolts, and wars, thousands of years before the dawn of the Enlightenment in Europe. Increasing complexity of human affairs generated an insatiable need for rules and regulations that even at that time extended well beyond purely domestic matters to address distinctly political and economic issues, domestic and foreign. The modernity of these laws is exemplified by the Code of Hammurabi in Babylon (c. 1751 BC), Draco's Laws in Athena (621 BC) and Solon's subsequent reforms (594 BC). They, and others, set the style and substance for future legislation.

It is often said that the appearance of individualism and humanism were the most prominent features of the Renaissance in Europe. But that assertion ignores individualists of the calibre of Akhenaten, the heretic pharaoh who died in 1362 BC, and who is credited with influencing Moses' thoughts on monotheism a century later. That contention also does less than justice to giants of individualism on the scale of Gautama Siddhartha, Moses, Christ and Muhammad who in their different ways went

¹¹³ See *Sunday Times*, 6 September 1998.

¹¹⁴ Al-Kindi (c.801-866), one of Islam's foremost thinkers said, "We should not be ashamed to acknowledge truth from whatever source it comes to us, even if it is brought to us by former generations and foreign people...there is nothing of higher value than truth itself." Hourani, *A History of the Arab peoples*, 1991, p 76.

out on a limb in pursuit of their beliefs. These initial remarks highlight the need for a measure of historic reorientation when considering social, political, and economic issues to avoid erroneous conclusions based on selective evidence.¹¹⁵

Elites and Hierarchies: the Eternal Model

To “separate out rules from special or accidental circumstances” for the purpose of defining social science theories, it is imperative to avoid selectivity. Preoccupation with specific nations or time periods, for instance, might lead to suspect deductions of limited applicability. The essential task in scientific inquiry is, therefore, to search for underlying patterns that endure though they might evolve and assume different guises. Comte (1798-1857), the French philosopher, identified three stages for human thought, a Theological era, a Metaphysical era, and a Scientific era.¹¹⁶ Comte’s categorisation is helpful as it explains why practices in times far removed from the present appear so different although the basic patterns are essentially the same.

Possibly the most stable pattern in human societies is the presence of hierarchies and elites. An equally stable pattern relates to the accumulation of power and wealth by the elites and the concomitant efforts made by the rest of the community to limit those privileges and to seek a measure of equity. God-kings in ancient times accumulated wealth in the name of the gods. Their slaves sought redress through prayers and sacrifices. Later, elites of princes and noblemen acquired riches, and others sought social justice, on the bases of metaphysical ideas of power, bravery and virtue. There are now theories advocating a variety of ‘scientific’ explanations for the creation and distribution of wealth and the associated appeals for protection from exploitation by the wealthy and powerful. Appearances and justifications might vary but the end result is the same. Basically, when people come together leaders emerge because a degree of order is needed even at the lowest levels of social organisation. Those in positions of power acquire wealth, and equally inevitably dissatisfaction with the elite and their uses and abuses of power comes to the surface. This applies to the hierarchy in the USA and the Establishment in Britain just as much as to the humble *sarpanch* and his friends and relations in a village in West Bengal.

¹¹⁵ See erudite presentation in Qasha, *Influence of Babylonian Writings on the Contents of the Torah*, (Arabic), 1998.

¹¹⁶ Comte, *Course of Positive Philosophy*, as quoted by Saad in *Political Thought Before and After the Prince*, (Arabic), 1990, p 285. See also *Pears Cyclopaedia*, 103 Edition, 1994-1995, Section J p 40.

History chronicles the ebb and flow of the fortunes of elites at different times and places, and their relations with the communities they led, internally, and their shifting alliances and conflicts with other elites, externally. However, in every case the basic pattern is evident, within families, tribes, and nations. The elite were at one time priests looking after a temple built to honour one or more gods who, in theory, owned all the lands and slaves in that area. Gradually ownership of property was extended to an aristocracy that emerged from the priesthood. Over time noble families were replaced by wider networks of elites representing rich and influential individuals, unions, interest groups and political parties.¹¹⁷ This latest model might be widespread nowadays, but older systems, albeit modified in certain respects, continue to feature regularly on the world stage.¹¹⁸

The 'oldest game' is still that played by elites in their eternal endeavour to hold on to power and wealth. Attitude of elites on the best way to preserve that privileged position evolved in response to changing circumstances, particularly increasing assertiveness by the community at large. Tactics pursued by elites varied from place to place and time to time. In essence opinions differed, and still do judging by the number of dictatorships still in existence, as to the best way of keeping the majority quiescent. A realisation grew over the centuries that spiritual or physical coercion on its own is not an evolutionarily stable strategy.¹¹⁹ Some societies concluded, therefore, that it was generally more efficient to afford the populace freedoms to do what they liked as long as they accepted the status quo and helped to create more wealth for the elite. They could then retain some of the income to look after their needs and, if they were able, to accumulate their own version of wealth.

That view is associated with modern capitalism. But that is also the conclusion slave owners came to in Assyrian and Babylonian times when they discovered that better returns, and with less effort and risk, could be made if slaves were to be allowed to run their own businesses. The slave owners levied a tax on profits. The arrangement suited both sides: an impressive illustration of ancient capitalist enterprise culture in full swing.

¹¹⁷ The need to defeat aristocracies was one subject on which Marxism and Liberalism were united.

¹¹⁸ Assad and his Alawite followers in Syria are living examples of existing governments with archaic roots from the distant past.

¹¹⁹ Despite plentiful evidence to the contrary, modern dictators have persisted in misinterpreting Machiavelli's opinions to justify their short-sighted view of power. In *The Prince*, Machiavelli advocated openly the use of physical force and cunning to get to power, when necessary. But he unequivocally highlighted the futility of an attempt to make such methods a permanent feature of statecraft.

Clearly slaves are not being compared to present day workers. However at that time slaves were an economic input not unlike land or any other component of capital.¹²⁰

Elites, therefore, realised early in history that a format that allowed individuals to engage in trade for their own profit, as long as it benefited the elite and did not challenge their position, was an efficient model. The arrangement allows the majority to enjoy freedoms in their social relations and rewards in their economic activities. That scenario has endured: it proved itself to be an evolutionarily stable strategy, ESS. Basically, the 'liberal' model won the contest thousands of years ago. There is an early indication here that the crop of more recent 'isms' that attempted to study parts of the model in isolation, at the domestic and international levels, might have been based on faulty assumptions. Essentially, they sought to study Mercantilism, Capitalism, and Socialism as separate entities. In overall terms the ancient integrated model remains the same, as illustrated below by examples from Babylon, Greece, China, and Islam.

Ideology in Babylon

Examples of the longevity of core ideologies and the relentless accumulation of social, political and economic practices will be confined in this section to Sumeria (c. 3000 BC) and Babylon (c. 1800 BC) in ancient Mesopotamia.¹²¹ Archaeological studies of social and economic organisation during these eras reveal striking levels of sophistication and numerous parallels with current norms. These civilisations were not merely localised city-states; the Sumerian Empire in the reign of Lugalnemundu (c. 2525-2500 BC), for example, extended from the Zagros to the Taurus Mountains, in modern day Iran and Turkey, and from the Persian Gulf to the Mediterranean.

Soon after the appearance of the earliest settled communities, the temples and their gods appropriated all the surrounding lands. Administration, including irrigation and distribution of work and rewards, was in the hands of the priests. In time, a form of community ownership of land developed, particularly in areas outside the domain of the temple. Gradually, private ownership of slaves and land passed from the gods to priests and then to noble families. High volumes of international trade based on exchange of raw materials and finished products, particularly timber and stone to make

¹²⁰ Al-Tikriti, *Ancient Iraq*, (Arabic), 1986, p 99. See also pp 94 and 95.

¹²¹ Much of the information presented in the next few sections is derived from Al-Tikriti, *Ancient Iraq*, (Arabic), 1986, and Schneider, *Babylon is Everywhere*, 1963.

implements for use in agriculture and industry, were meticulously recorded. Exchange relied on merchants who occupied increasingly important positions in society. Growth of domestic and international trade and "...the increasing importance of division of labour and the general increase in production capabilities...." led eventually to the disintegration of rural societies controlled by noble families.¹²² Power shifted from feudal landlords to ruling elites of rich individuals who were not necessarily linked to land and agriculture. It would appear that the drift from feudalism to Mercantilism and then to capitalism, and the latter's role in dismantling outdated social structures are more ancient phenomena than hitherto presumed.

Ancient records give graphic accounts of the steady spread of 'capitalism' and the emergence of wealthy families and individuals that then proceeded to monopolise lands, slaves and other means of production. It was natural that the same process should involve growing control over strategic resources, mainly rivers, canals, and wells. The workers, mostly *mushkenu* or free persons of low or no estate, were deprived of all means of earning their living apart from selling their services or themselves as slaves to the *awilu* or upper classes. The tension paved the way for the predictable emergence on the scene of 'socialist' revolutionaries. Uruinimgina (c. 2355 BC) led one such popular revolt against Lugalanda, the despotic ruler of Lagash.

That revolution had a remarkably similar pattern to that followed by numerous military coups in modern times. Payments to the army, in money and in kind, were increased to forestall other uprisings. At the start of Uruinimgina's reign soldiers' monthly allocation of corn, for example, was doubled. Welfare payments from community funds to free persons were also restored after their suspension by the previous regime. In the year after, however, economic difficulties forced the government to cancel most of the reforms.¹²³ The number of persons receiving welfare payments had increased substantially, while the new elite continued the previous practice of accumulating power and wealth. The economy was soon in ruins. Again in line with more recent events, the social reforms disturbed neighbouring rulers who feared similar revolts by their own subjects. Predictably therefore, Lugalzagesi (c. 2350 BC) from nearby Umma attacked and triumphed over Uruinimgina. The disillusioned

¹²² Al-Tikriti, *Ancient Iraq*, (Arabic), 1986, p 26.

¹²³ *Ibid.*, p 55.

residents supported the invaders. 'Socialist' reforms were rescinded and 'liberalism' was once again the favoured policy, but that was not the end of history.¹²⁴

Growth in agriculture and industry heralded the advent of administrators and their insistence on control and accountability, as revealed by reliable archaeological evidence. Advanced systems commonly in use at the time relied on division of labour, teamwork, and analysis of productivity by measures such as 'the work one man could do in one day'. In Lagash, for instance, workers in specialised factories were divided into eight basic tasks and brought together as a unit of production under one supervisor. Competition between units was encouraged and supervisors were moved often to maintain discipline and productivity.¹²⁵ Rudimentary forms of the 'assembly line' and specialisation were in evidence, therefore, well before the Industrial Revolution. The fact that production in Europe was organised differently, in craft guilds for instance, does not mean that it was thus everywhere.

Expansion of production and trade touched other facets of life. Metals, copper then silver and gold, were accepted as measures of value from an early date. Moreover, banks were established to provide most of the familiar services known today. Enhanced dependence on and reliability of money changed the pattern of land ownership. Small landowners sold their properties and the pattern of large tracts of land under single ownership of one person or family was established. Massive regional irrigation regimes became feasible, and that in turn relied on the security that only a strong state backed by a standing army could provide.

Lugalzagesi of Uruk made his city the centre of a large monarchy at about 2375 BC. Twenty-five years later he was defeated by Sargon I who then proceeded to unite the whole of Mesopotamia and parts of Turkey, Syria, and Iran into one of the oldest hegemonic powers in history. A thriving 'capitalist' economy was manifestly in place at that time. The empire, which lasted from 2350 to 2260 BC, was a coalition of states, each of which retained its own king.¹²⁶ While hegemony persisted, domestic and foreign trade expanded rapidly. Records remain of many international trade agreements. 'World trade' entered another period of openness once the Assyrian Empire established itself

¹²⁴ Al-Tikriti, *Ancient Iraq*, (Arabic), 1986, pp 57-59.

¹²⁵ *Ibid.*, p 122.

¹²⁶ Schneider, *Babylon is Everywhere*, 1963, p 43.

as the hegemonic power of the day during the first millennium before Christ. Affinity between hegemony and openness, it seems, is yet another feature that has longer ancestry than modern IPE theorists would suggest, providing unexpected support for the Hegemonic Stability theory from distant lands and times.¹²⁷

Requirements of law, commerce, and religion prompted the Sumerians to invent writing. Hammurabi's famous Code (c. 1760 BC), and the lesser known law code of Ur-Nammu predating Hammurabi's by three centuries, were preserved for humankind in that way. The Code of Hammurabi dealt with property rights, minimum wages, loans, debts and deposits, in addition to marital and social matters. It reflected his 'socialist' leanings and his belief in state power. In that respect he was even more determined than Uruinimgina who preceded him by about six centuries. To implement his programme successfully, Hammurabi decided to insulate the Babylonian Empire from the system of international exchange existing at the time.¹²⁸ He failed miserably. His empire lacked the raw materials to maintain its productive capacity in all sectors apart from agriculture. Hammurabi, like his modern day equivalents, had to learn the hard way that Mercantilists and socialists have to retain a large measure of Liberalism.

Conflict over power between contending empires provides further evidence that Mercantilist traits were not unknown at the time. Shalmaneser III, ruler of Assyria from 859 to 824BC, is said to have mounted no less than thirty-two campaigns in the thirty-five years of his reign.¹²⁹ The Assyrian Empire, stretching at its height from Egypt in the south to Turkey in the north and Iran in the east, brought a new twist to warfare. Conquered territories were invaded to add assets and dominions in true Mercantilist fashion. Up to that point, destruction often followed victory in war. However, disputes over land, slaves and power were not the only indicator of the ancient roots of Mercantilism. Trade in, and accumulation of, silver and gold were high on the agenda. Reserves of these precious metals equated with power as well as wealth. Meticulous attention was, therefore, given to the recording of trade volumes and holdings of both silver and gold.¹³⁰

¹²⁷ Al-Tikriti, *Ancient Iraq*, (Arabic), 1986, pp 89 and 388-391.

¹²⁸ *Ibid.*, p 87.

¹²⁹ *Microsoft Encarta 98*.

¹³⁰ Al-Tikriti, *Ancient Iraq*, (Arabic), p 388.

In true Mercantilist style technology transfer was discouraged but trade, when profitable, was not hindered. Wool was produced where sheep were plentiful, in Syria say. It was transported either in its raw state or as yarn to be woven into cloth. Because rare dyes, particularly purple, were especially valued and the dyes were either difficult to export or made by closely guarded processes, cloth was often moved again to be coloured in Phoenicia and Caucasia before final dispatch to the market place. The Phoenicians deserve special mention in the context of world trade in ancient times. Out of Tyre they founded colonies, at about 1400BC, throughout the Mediterranean, and in England, Spain and North Africa. The Phoenicians were the prime raw materials dealers of antiquity. They enabled Nebuchadnezzar II, who reigned in Babylon from 605 to 562BC, to make use of English tin imported on Carthaginian ships.¹³¹

This section explored ancient history in Mesopotamia to underline the longevity and commonality of core ideologies. Firstly, evidence was given to confirm the existence of enduring patterns, such as the presence of elites and the associated search for social justice. Secondly, capitalism was shown to be clearly in evidence in that era. International trade and division of labour, to cite two examples, were familiar notions. Thirdly, growth of hegemonic power was associated with openness in international trade. Fourthly, it was demonstrated that the coexisting forces of Liberalism, Socialism and Mercantilism were, as they are today, in mutual contention and agitation.

The Greeks Continue Mankind's Marathon

The Greeks put political and economic thought onto an analytical plane. Their innovation brought humanity to its *metaphysical* phase. Philosophical abstractions and logical observations replaced outmoded mystical beliefs. The basic pattern remained the same as before though: some hoarded wealth and power while the majority sought justice and protection. Thinkers during this time also came in two varieties; those anxious to retain the position of the elite and the state against internal and external foes, and those who advocated the welfare of the population at large, and the form of leadership most conducive to that end.¹³²

¹³¹ Schneider, *Babylon is Everywhere*, 1963, p 127.

¹³² Sources for information on this topic are plentiful, including Green, *Ancient Greece: A concise History*, 1979, Jones, *Ancient Greece: State and Society*, 1996, and Pomeroy, et al., *Ancient Greece: A Political, Social, and Cultural History*, 1998.

Attica was unified under the leadership of Athens between the 8th and the 6th centuries BC. The society of nobles, the *Eupatridae*, abolished hereditary kingship in 683 BC and then proceeded to exercise power and dispense justice in a vicious manner that caused severe discontent. The Eupatridae epitomised the height of *laissez faire* in ancient economic practices. They were free to accumulate wealth without interference from the state. In reality they were the state and as individuals they were above the law. Disparity between the rich minority and the rest of the population generated unrest, and the relentless turn of the pendulum was only a matter of time. First, Draco enacted his *Draconian law* in 621 BC. Although his code limited the powers of the nobles, its main thrust was directed at imposing severe penalties on wrongdoers, such as those who fell into debt. The crisis worsened as thousands of small landowners lost their property to the rich elite when they failed to repay loans.

Civil disruption culminated in Solon's (638-558 BC) reforms. His code, known as the *Laws of Attica*, was an early form of socialist revolution. After the liberalism of the Eupatridae, it was natural for the political economy to take a left turn. Clearly, the pattern of association between the two ideologies was in evidence in early Greek history. Solon wrote off debts and limited private ownership of land. He also implemented a programme of agrarian reforms, encouraged progress in crafts, growth in the industrial sector, and the importation of technology from other nations. One of Greece's Seven Sages, Solon introduced a notable innovation that has survived to this day. He acknowledged the right of 'groups that share a commonality of worship' to set their own rules and regulations and to promote their interests within the overall framework of the law. That pattern is recognised today as political parties, unions, interest groups and companies.¹³³ Rational Choice Analysis had to appear in time.

The Sophists, who acquired some notoriety in Greece in the 5th century BC, believed that truth and morality were matters of opinion and might and right were one and the same. Antiphon, one of the Ten Attica Orators, who led an attempted coup in Athens in 411 BC, was influenced by Sophist teachings. In an article on *Truth* he highlighted the significance of basic human nature and its pursuit of pleasure. Anticipating Machiavelli by over two thousand years, Antiphon advocated realism in facing conditions as they are and not as they ought to be. He separated matters of law and

¹³³ Saad, *Political Thought Before and After the Prince*, (Arabic), 1990, pp 214 & 215. See Ehrenberg, *From Solon to Socrates*, 1973, the introductory chapters on the early period from the 8th century. See also Meier, *Athens*, 1998.

behaviour, on the one hand, from moral questions, on the other.¹³⁴ That early form of Mercantilist thinking completed the trilogy of core ideologies. They were as evident in Greece as in Mesopotamia.

The concept of the *virtuous city* began to crop up regularly in the musings of Greek thinkers. Plato (427-347 BC) painted a vivid picture of such an entity in his *Republic*. It would be modelled on the principle that "virtue is knowledge"; an interesting starting point when viewed in the light of late 20th century near-obsessive stress on information.¹³⁵ A knowledgeable elite who would guarantee justice to all would rule Plato's ideal state. The rulers would not be allowed to own private property and their salaries would be strictly controlled. There was no place for popular democracy in this conception, referred to by Saad as "Plato's communism".¹³⁶ Plato's ideas did not receive enthusiastic reception. Similar to later versions of 'communism', they sound better on paper, but in practice they fly in the face of human nature.

Aristotle (384-322 BC) built on his master's thoughts, but favoured democracy and the rule of law. Furthermore, he took the first tentative steps to shift the emphasis away from metaphysical speculation and towards scientific analysis. In line with Plato's thinking, and in marked contrast to Antiphon's mercantilist views, Aristotle insisted that politics and economics could not be divorced from issues of morality. Aristotle, while teaching in Athens at the famous Lyceum, stressed the need to treat knowledge as an indivisible whole. He is credited with elevating politics to the status of science and merging it with economics as one unified field of research.¹³⁷ As mentioned in the previous chapter, neorealists recently came to the same conclusion.

The above brief glimpse into early Greek history supports the propositions that the core IPE ideologies are coexisting features of human behaviour with ancient roots, and that knowledge is accumulated in a continuing process of evolution. Evidence was advanced to show that the political economy in Attica scrolled through early forms of Liberalism, Mercantilism, and Socialism. The Greeks moved Mesopotamian theological beliefs onto a metaphysical phase. Aristotle then initiated the jump to positivist

¹³⁴ Saad, *Political Thought Before and After the Prince*, (Arabic), 1990, pp 218-219.

¹³⁵ See for instance World Bank, *World Development Report: Knowledge for Development, 1998/99*, and World Bank *Policy and Research Bulletin*, July-September 1998.

¹³⁶ Saad, *Political Thought Before and After the Prince*, (Arabic), 1990, p 221.

¹³⁷ See Pears *Cyclopaedia*, p B4.

methods based on scientific experimentation and objective observation that was later to influence Islamic thought.¹³⁸ The Renaissance in Europe then took that scientific age to new heights leading to the present stage of human knowledge. Finally, it was shown that the modern debate between supporters of reductionist and integrative methods, as discussed by Waltz in *Theory of International Politics* and as advocated by Gilpin say, was not unfamiliar to those who attended the Lyceum school in ancient Athens.

An Islamic Bridge to the Renaissance

From time to time reference is made to Christ's credentials as an early socialist. His celebrated altercation with the moneylenders in the temple and his teachings lend some support to that notion. However, early history of Islam is just as good an illustration of the enduring conflict between capitalist and socialist preferences. Islam's most important contribution to humankind's development was in acting as a bridge from earlier civilisations, Greek and Roman especially, to Europe. Muslim thinkers added their own innovations, but their role in translating ancient knowledge was crucial in preserving that legacy for humankind. Occupation of Spain by the Arabs gave the process a physical dimension. Ancient knowledge, translated into Arabic, was converted into Latin and then transmitted through the Andalus to the rest of Europe.

Muhammad (570-632 AD) was born in Mecca, in western Arabia, into a minor branch of Quraysh; a powerful tribe of considerable standing at home and abroad. Its power rested on its religious position in Mecca and its wealth and extensive trading links with the outside world. In addition to his theological message, Muhammad had a distinct social and economic agenda concerned with the rights and wrongs of wealth, privilege, and inequality. As his Islamic mission spread to other towns and nations, he also preached that all races and individuals are the same before God.

He left Mecca for Madina in 622 AD to avoid persecution and promptly started to hit Quraysh where it mattered; he attacked their trade caravans. After a few military defeats against Muhammad, Quraysh sued for peace and invited him back to Mecca in 630 AD. Soon thereafter all members of the tribe converted to Islam; an act of pragmatic realism worthy of special note by modern Arab states. It has been suggested that commercial and trading considerations played at least some part in that sudden

¹³⁸ For link between the two eras see Fakhri, *Aristotle: the First Teacher*, (Arabic), 1958 and Farookh, *Greek Philosophy and the Arabs*, (Arabic), 1970.

conversion.¹³⁹ Although the interests of Quraysh, predictably capitalist and elitist in nature, and those of Islam, egalitarian and socialist by definition, differed materially, it was futile to meet the challenge head on. Later events were to show how successful and divisive that policy was. The classic tension between private interests, on the one hand, and public welfare, on the other, marked Islam for years to come.

The death of Muhammad in 632 AD was a signal for that contest to come to the surface. One faction, and it is thought the Prophet himself, wanted his cousin and his son in law, Ali, to be his successor. Ali was disliked and distrusted by Quraysh, and for good reason. He did not belong to the elite branch of the tribe, and worse still he was a fanatical socialist with definite views about the piety of sharing wealth, the impiety of earning interest from loans, and many other practices dear to the tribe's coffers. In the event Abu Bakr was chosen instead. He only ruled for two years to be followed by Umar who reigned from 634 until his assassination in 644. Finally Quraysh had the opportunity to place their own man, Uthman, in the caliphate. His years were distinctly liberal and were of considerable advantage to Quraysh. Free trade and the accumulation of wealth and power were given full rein. It must be stressed that economic activity was almost wholly in private hands. State involvement as such was practically unknown.

Predictably, matters had to come to a head and the power brokers of Quraysh foresaw the drift of events and took steps to protect their interests. Over several years their power base was transferred to Syria. When Uthman was assassinated, life continued with little disruption despite the fact that Ali was at last installed as Caliph in Arabia. He ruled from 656 to 661 when he was assassinated. The Syrian contingent of Quraysh was heavily implicated in the murder. The followers of Ali, *Shiat Ali* in Arabic, who believed in succession to the Caliphate on the basis of lineage from Muhammad, gave the world *Shiism*, a distinctive Islamic sect now comprising about 10 percent of Muslims. The schism from the *Sunnis*, representing the dominant sect of Islam, undoubtedly stems from some religious differences. In the early days at least, the split was caused by political and economic disagreements reflecting Mercantilist dispute over power and wealth, and clear socialist versus liberal interpretations of what an Islamic society should stand for.¹⁴⁰

¹³⁹ See for instance views expressed by Al-Wardi in *The Sultan's Preachers*, (Arabic), 1995.

¹⁴⁰ See, for example Musawi, *Shiism and Reformism*, (Arabic), 1978. The author is a leading Shiite.

The Caliphate moved to Damascus and Muawiya ruled from 661 to 680.¹⁴¹ He is of special interest in the modern context. He had a genius for politics and power that could easily be compared favourably to that envisioned by Machiavelli in *The Prince*. Analysis of Muawiya's political attitudes and methods shows unmistakable Mercantilist traits. He had few if any moral scruples when it came to the exercise of statecraft and his security system and terror methods, unleashed at the least challenge to his authority, was unsurpassed. His philosophy left its mark on succeeding dynasties, and some would say on styles of government in present day Syria.¹⁴²

To complete the picture, it is important to discuss the special contribution made by an eminent Islamic scholar, ibn Khaldun (1332-1406), for a time a professor at the world famous Al-Azhar Islamic university in Cairo. He took a sabbatical of four years (1375-1379) in a castle in the Algerian countryside to write a history of Islamic dynasties in North Africa in several volumes. The publication was prefaced by a Prologue, *Muqaddima* in Arabic, recognised by universal acclaim as a milestone of immense social, political and economic significance. The *Muqaddima* covered a range of topics including, an exposition of the rise and fall of dynasties and the acquisition of power. Ibn Khaldun traced events in the development of societies from primitive beginnings, through the Greek, Persian and Islamic empires. In so doing, he triggers in the mind of the modern reader distinct parallels with Mercantilist writings of a later age. His theories on the acquisition of power by followers of a leader possessing *asabiyya*, or group solidarity, closely resemble those advocated by that supposedly modern IPE ideology.¹⁴³

Ibn Khaldun penned his monumental work to educate rulers of his time in the art of statecraft in a similar format to that followed later by Machiavelli when he dedicated *The Prince* to Lorenzo, Duke of Urbino. That style was adopted by others, as in the case of Al-Ghazali (1058-1111 AD) who dedicated his *Advice to Kings* to Sultan Muhammad Ibn Malikshah, and lesser-known Nizam Al-Mulk (1018-1092 AD) in his *Book of Government*. The genre is often referred to in Islamic literature as *Mirrors for Princes*.¹⁴⁴ One particular statement by Al-Ghazali helps to illustrate his brand of state supremacy. He wrote, "the

¹⁴¹ In that time he managed to create a vast empire that stretched from North Africa and Spain in the west to the Oxus valley and India in the east. The Umayyad dynasty lasted until 750 when the Abbasids succeeded in moving power to Iraq. That empire lasted until 1258 AD when it was devastated by the Mongol hordes.

¹⁴² Al-Wardi, *The Sultan's Preachers*, (Arabic), 1995, p 55.

¹⁴³ Ibn-Khaldun, *Muqaddima*, (Arabic).

¹⁴⁴ Saad, *Political Thought Before and After the Prince*, (Arabic), 1990, pp 233-236.

tyranny of a sultan for a hundred years causes less damage than one year's tyranny exercised by the subjects against each other."¹⁴⁵

Islamic hegemony, up to 1258 AD when the Mongols sacked Baghdad, was comprised of several independent states held together by ties of culture and religion. The centre moved from Arabia to Syria and then to Iraq but the extensive empire remained substantially intact. Hegemony gave a boost to extensive international trade. Hourani makes the point that fragmentation of political power, the Abbasid Empire in Iraq and the Umayyad Empire in Syria, did not imply weakness.¹⁴⁶ By that stage other social and economic ties linked people over vast distances. International traders worked outside the confines of the prevailing political system in true capitalist fashion. Hegemonic power based on a single religion helped considerably in securing stability, dependable transport, and extensive banking services. Inevitably, "an internationally recognised monetary system grew up." But the state did not interfere much in day to day economic matters.¹⁴⁷ The private sector reigned supreme here in a fashion that would have received enthusiastic approval from the IMF. Economics, therefore, went beyond the confines of the political structure. Trade and commerce forged their own regimes that allowed the system to function even at times of total political anarchy.

Again, this section presented instances, from the Islamic period in this case, to support the contention that the core IPE ideologies are not of recent vintage. They played a major role throughout the sequence of events that accompanied the birth of Islam and the later rise and fall of Islamic hegemony. Moreover, the section argued that practices that might seem to be modern are part of older traditions. That is certainly the case, for example, with respect to thinkers who penned books for submission to their lords and masters with advice on how to acquire and retain power.

Forgotten Civilisations of China

It is useful at this point to discuss Chinese history very briefly merely to show that the above traits are truly global. In the turmoil that characterised the Zhou Dynasty (c. 1027-256 BC), several profound schools of thought prospered in what came to be known as the *classical age* of Chinese philosophy. The Zhou Dynasty is significant as it

¹⁴⁵ Saad, *Political Thought Before and After the Prince*, (Arabic), 1990, p 43.

¹⁴⁶ Hourani, *A History of the Arab peoples*, 1991, p 144.

¹⁴⁷ *Ibid.*, p 46.

illustrates a number of early developments that mirrored events in Europe many centuries later. At the start, feudal states paid allegiance to the house of Zhou. But in time they gained economic and military power and feudal bonds were broken. At the same time, expansion in commerce and trade transformed rural communities that hitherto depended on agriculture exclusively. That period was distinctly capitalist: economic activity was in the ascendancy but politically China was in chaos. In that climate of social upheaval several scholar-officials urged reform.

Confucius (c. 551-478 BC), for instance, advocated the attractions of the *middle way* and the desirability of a world republic. The role of good government, he suggested, should be to allow communities to be self sufficient, to distribute wealth equitably, to restore unity to nations, and to extend learning to all people.¹⁴⁸ Confucianism combined features of Liberalism, Marxism, and Mercantilism. In accord with the first ideology, it defined the individual as a pivotal element in the system. In line with Marxism, the avowed object was to seek social justice. But Confucianism placed the state, in effect the ruler and his elite, at the top of the hierarchy in true Mercantilist fashion.¹⁴⁹

Han Fei, an exponent of *Legalism*, a school that gained popularity in the 4th and 3rd centuries BC, was the Machiavelli of his age. The philosophy was “concerned with practical and amorally efficient statecraft.” Legalism defined laws for strict enforcement by rulers. It was founded on the supposedly modern assumption that the state was the primary element in the life of the nation. Its purpose was to acquire power and, in that quest, to wage wars on others. Han Fei believed that growing populations and scarce resources created pressures that were impossible to reconcile through traditional morality.¹⁵⁰ In contrast, Taoism elevated the individual above all else, in accord with more recent Liberal teachings. Restrictions imposed on the individual by social and other dictates were abhorred by that school of thought.¹⁵¹ Notwithstanding all that, the ideal state was seen as a dictatorship presided over by a philosopher-king; a concept much loved by Greek philosophers and 20th century dictators.

¹⁴⁸ Saad. *Political Thought Before and After the Prince*, (Arabic), 1990, p 217.

¹⁴⁹ Watson, *Basic Writings of Mo Tzu, Hsun Tzu, and Han Fei Tzu*, 1967, and Zhengyuan Fu, *China's Legalists*, 1996.

¹⁵⁰ *Microsoft Encarta Encyclopedia* '98.

¹⁵¹ The author of the principal text of Taoism, the Tao-te-ching, *The Way of Life*, is believed to have been Lao-tze, born about 604 BC. His teachings themselves came from more ancient Chinese mystics and Brahmans. See Pears Cyclopaedia, p J51.

The Chinese were essentially the same as the other civilisations discussed above in relation to international trade as well. Commercial links were sufficiently advanced by about 100 BC for Emperor Wudi of the Han Dynasty to order the building and operation of the 4000 mile Silk Route. Goods changed hands several times on the way to their final destination. The administrative and financial management of the enterprise, therefore, imposed considerable demands, but by then the Chinese Grand College for civil servants, complete with civil service examinations, had been in existence for about a quarter of a century. In short, neither trade nor bureaucracy is a new feature; again, circumstances simply imposed their own solutions.

Conclusion

This historic review was included to focus attention onto the evolutionary nature of human knowledge and experience. It was argued that the essential features of Liberalism, Marxism, and Mercantilism are neither new nor Western. Throughout history people have traded as much and as far as technology allowed at the time in true liberal fashion. Some monopolised wealth and power and that generated socialist calls for equity and justice. Hierarchies and elites, therefore, emerged as a natural consequence of that process. Once 'states', as tribes or empires, came on the scene they endeavoured to increase their hold on wealth and power at the expense of others. There is hardly any difference between Babylon and the USA on that score.

As today, state intervention in the economic arena varied widely from time to time. It was asserted, therefore, that the validity of the belief that the spread of economic activity well beyond the prevailing political structure is a modern phenomenon is open to question. The section on China demonstrated that trade and commerce were in growth at a time of political anarchy. Conversely, hegemonic political stability at a later period in China's history promoted economic openness in the form of extensive international trade links.

Adam Smith remarked with his usual acumen that the "propensity to truck, barter, and exchange one thing for another" is an innate part of human nature. Marco Polo (c.1256-1323) and Ibn Battuta (c.1304-1377), in recording their observations during their astonishing travels throughout the known world provided ample evidence to back

Adam Smith's comment.¹⁵² Al-Muqaddasi (c.1000) and al-Yaqut (c.1200) advanced robust academic evidence to support that viewpoint in their studies of the political and economic geography of their period.¹⁵³

It would be fitting to end a chapter that sought to highlight longevity, diversity, and evolution of political economic processes by making reference to early signs of growing doubts about the adequacy of the global economic system to bring stability and prosperity for all. Continuing previous practice, the soul-searching originated from within the top echelons of the capitalist hierarchy. Soros, a legend in the world of finance and the man who almost single-handedly forced Britain to withdraw from the European Monetary System, expressed grave misgivings about the global economy in late 1998. He argued that assertions by "market fundamentalists" that markets should be regulated by nothing more than profit and competition distorts global capitalism into "a greater threat to open society than any totalitarian ideology."¹⁵⁴ Soros is not a lone voice but he has shown himself in the past to be a shrewd forecaster of trends. Clearly, the pendulum might be about to change direction yet again. If that were to happen, Liberals should not panic. Judging by the evidence presented in this chapter that course correction would be only the latest in a long history of twists and turns.

¹⁵² Ibn-Battuta, *Travels in Asia and Africa 1325-1354*, 1984.

¹⁵³ Hourani, *A History of the Arab peoples*, 1991, p 201.

¹⁵⁴ Soros, *The Crisis of Global Capitalism*, 1998.

PART TWO

**EXPLORATION
OF THE
DOMAIN OF COMPLEXITY**

Chapter 6

DAWN OF THE PROBABILISTIC AGE

Part One presented evidence that gave initial support to the hypothesis that political economic processes might be nonlinear phenomena that would respond more readily to rules defined for Complex Systems than to Newtonian linear prescriptions.¹⁵⁵ Nonlinearity, it was posited, would explain the failure of IPE 'theories' to converge onto stable scientific theories that would "separate out rules from special or accidental circumstances" to model accurately "a whole class of situations". Part Two explores the paradigm shift that broadened the horizon of the natural sciences to embrace nonlinear phenomena and describes the basic features of their associated Complex Systems.¹⁵⁶ Part Three then presents evidence to test whether political economic processes exhibit traits similar to those observed in such systems. If the results were positive, they would combine with the conclusions reached in Part One to provide final confirmation of the validity of the fundamental hypothesis of this thesis.

The present chapter launches the discussion by giving a brief history of the developments that moved the natural sciences beyond the confines of Newtonian physics and linear systems to include nonlinear phenomena. A major task addresses the need to explain that methods associated with Complex Systems are just as scientific as the traditional tools used in linear systems. Schrödinger estimated that it takes more than fifty years for major breakthroughs to gain general recognition. There are good reasons for this diffidence. Nevertheless, lack of awareness caused by increasing specialisation and natural resistance to change also contribute to the delay.¹⁵⁷

¹⁵⁵ Complex Systems were recognised in recent decades as an integral branch of science. Traditionally, Ilya Prigogine is credited with sketching the possible applications of what he called 'dissipative structures' in the physical sciences as well as in society. He was awarded the Nobel Prize in 1977 for his contribution in this field. The basic features of Complex Systems will be outlined in chapters 7 and 8. For more details see Nicolis and Prigogine, *Exploring Complexity*, 1989, and Kondepudi and Prigogine, *Modern Thermodynamics*, 1998.

¹⁵⁶ The concept of paradigm shifts was advanced by Kuhn in 1962 to describe dramatic revolutions in thinking brought about by new perspectives that allow issues in a given field to be addressed within a totally altered frame of reference. Kuhn, *The Structure of Scientific Revolutions*, 1970.

¹⁵⁷ For deeper discussion of the process of transformation, including the switch from linear to nonlinear thinking, see Ferguson, *The Aquarian Conspiracy*, 1983.

Reductionist Age of Certainties

Scientific inquiry usually proceeds within prescribed conventions. Galileo (1564-1642), for instance, ventured outside that envelope when he declared his preference for the theory, propounded by Copernicus (1478-1543), that the earth revolved round the sun. Galileo was promptly put under house arrest, and was only rehabilitated by the Roman Catholic Church in 1992. The Age of Enlightenment in Europe, reaching maturity in the 18th century, impacted on the way life is perceived at all levels from the mundane to the profound. Its indelible effects colour human beliefs and methods to this day. In the wake of Newton's remarkable discoveries, science liberated minds from centuries of control by religious authorities and blind trust in ancient philosophies. However, the new age of reason substituted its own conventions, more enlightened than before but just as limiting in some respects.

Descartes (1596-1650) and, slightly later, Newton (1642-1727) set the scene. The former advocated rationalism while the latter unearthed a wondrous collection of fundamental laws. A flood of other discoveries in fields such as magnetism, electricity, and chemistry soon followed, injecting a heightened sense of confidence in the power of reason to tackle any situation. By the end of the 19th and early 20th century, a notion gained credence that few surprises remained to be discovered. From that point onwards theoreticians working in the natural sciences have laboured to discover a *Theory of Everything*. So far success has eluded them. Nonetheless, their labours helped to expand the scope of science considerably. The acceptance of limits to predictability has been the most notable transformation between Newton's era and the late 20th century.¹⁵⁸

Traditional scientific methods are founded on three basic assumptions:

- Causes lead to known effects in a predictable and repeatable manner.
- Any system could be taken apart to determine, on the basis of observations, the behaviour of its constituent elements.

¹⁵⁸ Hawking provides in Chapters 1 and 2 of *A Brief History of Time* an insightful analysis of the way scientific beliefs and methods changed through the ages. The process could be summarised as ignorance followed by increasing certainty that was then replaced by uncertainty that verges on mysticism. Hence Laplace (1749-1827), the French scientist and author of *Celestial Mechanics*, was moved to conclude that the universe is totally deterministic. Clarke, *The Hammer of God*, 1993, p 26. But Hawking advanced reasons why "Laplace's hopes of determinism cannot be realised". Hawking, *A Brief History of Time*, 1988.

- The parts could be reassembled, clockwork fashion, to model the behaviour of the whole system under differing conditions.

The conventional methods worked remarkably well yielding guaranteed results each and every time, up to and including space travel. Success in the technological arena had a profound effect on attitudes in all sectors of human activity, spreading well beyond the disciplines embraced by the original scientific discoveries. The social sciences, as in the case of the political economic and development issue areas, were no exception. Theorists and practitioners alike entered into the prevailing spirit of certainty and predictability by slicing politics and economics into simpler segments more amenable to modelling, and then putting them together again to make pronouncements on how the larger units would behave under specified conditions.

Vast corporations committed themselves to long term business strategies and nations pinned their hopes on elaborate five-year plans. Mercantilists hoarded gold and silver and ring-fenced their borders against all comers. Liberals deified free trade and the market, with occasional micro and macro-economic diversions. Marxists countered with the ultimate in reductionism, the command economy, central planning and ceaseless class conflicts leading ultimately to communism. In most instances, there was an assumption that the process moves inexorably towards a natural end state of perfection along a predetermined path. In other words, the system did not only operate in accordance with laws that are accessible to humankind, but events progressed in a reliable manner that made it possible to predict 'the end of history'.¹⁵⁹ It was natural for those working within the social sciences to adopt methods that seemed so effective and reliable elsewhere. The concept is attractive for obvious reasons; events are not left to chance and humankind could enjoy life in the knowledge that someone is in control.

Missed Ripples of Doubt

Doubts within the traditional sciences appeared soon after World War I, although there were earlier indications that a paradigm shift was in the offing.¹⁶⁰ Einstein (1879-1955), Bohr (1885-1962), Schrödinger (1887-1961), Heisenberg (1901-1976) and Dirac (1902-1984) were among the leading scientists who pushed the envelope of

¹⁵⁹ See, for example, Fukuyama, *The End of History and the Last Man*, 1992, Chapter 5.

¹⁶⁰ One of the early pioneers, Poincaré (1854-1912), possibly the greatest mathematician and physicist of the late 19th and early 20th century, voiced disquiet about certain hallowed scientific beliefs of his era, and anticipated chaos theory by some seventy years.

conventional wisdom beyond the limits set centuries before by Newton, Descartes and their colleagues. These scientists, all Nobel laureates, changed the face of physics beyond recognition. But in doing so they set in motion a process that eventually affected attitudes and methods in many other disciplines.

Twentieth century physicists and mathematicians did not prove Newton to have been wrong. Essentially, they defined circumstances where Newtonian methods yielded acceptable results, and others where they did not. More specifically, they proved beyond dispute that many phenomena in physics, and other fields, are *probabilistic*. They are moulded by chance, accidents, and other unpredictable factors. The shift in scientific analysis from utter certainty to consideration of probability was not accepted lightly. By the early 1930s, however, the battle was, for all intents and purposes, over. However, quantum mechanics' probabilistic domain of sub-atomic particles was later found to have implications that extended to the world of macroscopic phenomena. Is this page made of matter or is it simply a collection of minute waves held together by force fields? Physicists now think it might well be the latter, but they are not certain.¹⁶¹

But there was a schism between the exclusive niches occupied by particle physicists, cosmologists and mathematicians, on the one hand, and the rest of humanity, on the other. Gathering doubts about the inadequacy of the old paradigm were missed or ignored by many of those working in the natural science arena. Mounting specialisation meant that even experts involved in the same discipline were not necessarily aware of what their colleagues were discovering. Moreover, the language of science itself became almost unintelligible beyond a small group of experts. Intriguing speculations were not seen to be of everyday concern, and traditional metaphors built on assumptions of certainty went on as before. Basically, reductionist methods were still seen as the proper means to render difficult situations more amenable to prediction and control.

Mounting Uncertainty

Specialists from a broad spectrum of backgrounds administered, after World War II, the next jolt to that cosy concept. As before, mathematicians and physicists were in the lead, but now meteorologists, chemists, geneticists, and economists joined them. But

¹⁶¹ Hawking, *A Brief History of Time*, 1988, Chapter 4 (The Uncertainty Principle). For a review of developments in physics see Davies, *Superforce: The Search for a Grand Unified Theory of Nature*, 1987. Comparison with the later contribution by Peat, *Superstrings and the Search for a Theory of Everything*, 1991, illustrates the endless nature of the process of scientific evolution.

the transformation would have been virtually impossible without computers capable of performing lengthy tasks at great speed.¹⁶² A fundamental issue that occupied researchers concerned a family of systems each involving numerous components that interact with each other to influence the whole system in a manner that could not be discerned by observing the activities of the internal elements themselves. Such entities are referred to variously nowadays as *nonlinear*, *complex*, *dynamical* or *dissipative* systems, to highlight particular aspects of the system.

A game of chess is a complex system. There are sixty-four squares and each player starts with sixteen pieces of only six types. Moves are made according to simple rules. Many books have been written about Chess, and powerful computers have been deployed in recent years to explore its intricacies. Nevertheless, the eventual outcome of any game could not be predicted by knowing the rules of interaction and the history of previous moves. The two players provide the energy that gives the game evolving patterns of *complexity*. Without the players the chessboard would present an *orderly* state of one unchanging, and highly uninteresting, pattern.

Stable patterns observed under conditions of nonlinearity require a constant flow of energy or matter through the system. Hence the reference to such entities as being *dissipative*.¹⁶³ Researchers were driven to complex nonlinear phenomena through simple curiosity or necessity imposed by their field of research. The BZ reaction, named after Belousov and Zhabotinski, for instance, presented a chemical cocktail that exhibited regularly oscillating patterns of colours. That feature, a mere novelty at the time, was later to lead to far-reaching applications in fields as diverse as medicine and computer science.¹⁶⁴ Weather forecasting gives another, more familiar, illustration of nonlinear phenomena. That is how Lorenz, one of the leading early converts to nonlinearity, entered the new domain in 1960. His computer model of the weather exposed richer layers of order within apparent chaos.

Extending the confines of the scientific envelope to embrace study of nonlinear systems was a lengthy process that moved in fits and starts. Gleick, Gell-Mann,

¹⁶² See Coveney and Highfield, *Frontiers of Complexity*, 1996, for detailed history of the tortuous route that led to recognition of Complex Systems as a major scientific discipline, and the role played by computers in that task.

¹⁶³ Prigogine was the first to use that expression, Nicolis and Prigogine, *Exploring Complexity*, 1989. See also Kauffman, *At Home in the Universe*, 1996, p 21.

¹⁶⁴ Coveney and Highfield, *Frontiers of Complexity*, 1995, p 175.

Coveney and Highfield, Kauffman, and others described in detail how science finally moved beyond linearity. As a result, new analytical tools were added to the armoury of science to illuminate problems that were previously left in the dark. Portrayal of the bitter reaction of the scientific community to the early pioneers given in Gleick's *Chaos* is particularly telling. Linear systems comprised the bulk of past analytical work in the applied sciences. A ball falling to the ground under the force of gravity is a linear system. Simple calculations indicate how long it would take to reach the ground, and the same result would be obtained repeatedly. These systems are safe and seductively computable through the conventional reductionist methods. The process fitted well into the institutional structure of academic life. By contrast, and in the words of Gleick, analysing nonlinear systems "is like walking through a maze whose walls rearrange themselves with each step you take."¹⁶⁵

Needless to say, reductionist methods could not be discarded. Their aptness for dealing with linear situations does not require elaboration. However, the new discoveries brought into view and within the scope of scientific analysis, other equally important facets of life. Tools based on *integrative* methods are different and the terms used are unfamiliar. But above all else, within the new frame of reference humankind is being asked to accept a large measure of unpredictability. That is a serious challenge.

Assimilation of the New Paradigm

Abstract mathematical ideas and physical and chemical experiments, were soon followed by research on phenomena for which historical data were readily available. An early but significant extension of nonlinearity to the analysis of issues falling within the field of social sciences began to take shape in the late 1950s. For instance, Mandelbrot, one of the pioneers of Complex Systems theory, explored the distribution of incomes. On a 1960 visit to Houthakker, professor of economics at Harvard, Mandelbrot was surprised to discover striking similarities between his work and the professor's research into historic fluctuations in the price of cotton.¹⁶⁶ Research in stock exchange movements was another early candidate for this form of analytical technique. At the same time biologists, geneticists and physiologists joined the field and started to consider their respective disciplines within the framework of complexity.

¹⁶⁵ Gleick, *Chaos*, 1988, p 24.

¹⁶⁶ *Ibid.*, pp 83-84.

Gleick's description of the consequences of nonlinearity, or organised complexity, in every day events is important here. There is an expectation that stock exchange movements, say, are random in the short-term but that they are explainable by events in the long-term. Citing research undertaken by Mandelbrot and others, Gleick was able to demonstrate that such an assumption might not be valid. He quoted Leontief, Nobel laureate, as saying, "in no field of empirical inquiry has so massive and sophisticated a statistical machinery been used with such indifferent results." Economics and, by implication, other similar issue areas do not present the traditional standard, Gaussian, bell-shaped distribution, where measurements cluster round an average. On the contrary, each change is random and unpredictable. Moreover, as Mandelbrot discovered, change involves *discontinuities*, rapid changes as opposed to smooth ones, and *persistence*, low for instance does not necessarily follow high. Therefore, the longer an area suffers from drought, say, the more likely that it would continue to do so.

Under different guises, analysts of nonlinear systems set out to investigate the properties of entities that had a large number of internal parts that interacted locally in what looked like a state of anarchy that somehow managed to engender self-organised global order. That order manifests itself in well-defined system-wide patterns of behaviour that could not be explained or predicted by examining the way the parts behave locally. And the patterns often evolve in ways that could not be modelled for the purpose of predicting the future course of events. Typically, tiny differences in initial conditions might be magnified, through feedback, into large unforeseen developments. Assimilation of nonlinear systems and their methods into the natural sciences is far from complete. Nevertheless, enough has been learnt about the new methods to command acceptance of their validity as scientific analytical tools.

Entities that exhibit the properties described above are normally referred to as *Complex Systems*. Those capable of modifying their behaviour in line with changing conditions are known as *Complex Adaptive Systems*. In biology, for instance, animals and plants are now routinely treated as Complex Adaptive Systems. When internal elements of a system have the gift of conscious thought, and hence ability to exercise a degree of choice, the system is occasionally referred to as a *Conscious System*. Clearly, those involving human beings, for instance committees, companies and political economies, fall into this category. However, to avoid confusion, the term Complex Adaptive Systems will be used for the remainder of this thesis.

Conclusion

Concepts inherited from Descartes and Newton transcended over time the boundaries of science and found their way into common every day experience. They formed an intuitive system of beliefs through which life is perceived and responded to. The average person is hardly conscious of the existence of such a filter. It is taken for granted that methods based on linear assumptions would solve all problems. However, as shown in this chapter, there are many phenomena that fall outside that envelope. Scientists have gradually come to terms with probabilistic situations, and Complex Systems theory is now deployed regularly to study an ever-increasing list of nonlinear processes, including those concerned with business management and economics.¹⁶⁷

The present chapter described briefly the transformation that propelled the scientific frame of reference beyond the confines of linear Newtonian certainty to embrace nonlinear phenomena. The history of the transformation was surveyed to highlight two points. Firstly, as in all other scientific revolutions it has taken a long time for nonlinear Complex Systems to be admitted into the fold as an approved scientific field of study. Cynicism is vitally necessary in developments of that nature. Secondly, extension of the discipline to cover additional situations radiated outwards from a few esoteric phenomena to include more familiar topics. The present thesis explores the possibility that political economic processes, including development, might be suitable candidates for similar treatment.

¹⁶⁷ See for instance Day, *Complex Economic Dynamics*, 1994, McMaster, *The Intelligence Advantage*, 1995, and *The Praxis Equation*, 1997, and Ormerod, *Too Complex to Manage?: Chaos and Complexity in Economics*, lecture at the RSA London, February 1997.

RICHES AMID ORDER AND CHAOS

Hierarchical Structure of Science

What makes the market an efficient economic medium? Is Marxism now dead forever and why? Are the recommendations in *Our Common Future*, published by WCED in 1987, more effective than any other set of proposals advocated by a group of sensible people and in what way? Is emphasis on sustainable development and basic needs justified and why? Is it better to put more faith in the structural adjustment programmes favoured by the World Bank and IMF? Present political economic models do not offer convincing answers to these questions. Chapters 2 to 5 revealed the core IPE theories and their offshoots as empirical efforts applicable to specific events at given times and places.¹⁶⁸

The study explores the merits of moving development and political economic processes onto a different frame of reference that would also include assessment of possible links to other disciplines. The search for linkage to wider roots is normal in the evolution of scientific knowledge. It provides a measure of quality assurance. Biology, for instance, found in time links to physics and chemistry. The collective actions and desires of human beings, whose behaviour is determined in part by genetic factors, determine outcomes in the political economic arena. Kinship to biochemistry and genetics is, therefore, implied here. Furthermore, control, as exercised by people, institutions, or states is a prominent feature in political economic activities. A link to Cybernetics, the science of "steering and governing" founded by Wiener, is also indicated. And that would lead to information technology and links to Game Theory and the role of elites and hierarchies, and cooperation and competition.

Sciences, and their theories, range themselves in a clear hierarchical structure. So-called less fundamental sciences require specification of additional conditions to modify general laws to fit their requirements. Biology, for example, is more complex, and hence

¹⁶⁸ Such theories are sometimes referred to as being *phenomenological*. They are resorted to when "we see what is going on but do not yet understand it." Gell-Mann, *The Quark and the Jaguar*, 1994, p 93.

less fundamental, than chemistry, while particle physics is simpler, and therefore more fundamental, than chemistry.¹⁶⁹ As discussed in Chapter 6, the natural sciences experienced a major change in the 20th century. At one end, there has been intensive search for the simplicity of fundamental laws. At the other end, science has embraced complexity in the context of nonlinear phenomena. It seems reasonable, therefore, to suggest that the time is right to define the proper place of political economic processes within the broader hierarchy of science. Are they less fundamental and, therefore, more complex than hitherto assumed?

The present chapter is the first step in that quest. It presents certain basic concepts as a necessary prelude to the more detailed description of Complex Adaptive Systems given in Chapter 8. Components of evolutionary change, including fitness landscapes, gateway events, survival and adaptability, and learning and accumulation of knowledge, are given particular attention to identify attributes that feature prominently in complexity. The chapter, furthermore, begins the process of drawing parallels between Complex Adaptive Systems and the flow of events in the political economic field.

Rich Seam of Complexity

Water in a bathtub provides a good illustration of three regimes of behaviour, *order*, *chaos* and *self-organised complexity*. When tap and plug-hole are closed, the water is in a state of unchanging order. It is simple to describe and its parameters, how much water, how deep, and so on, could be specified precisely.¹⁷⁰ If the tap were to be fully opened, the water in the bathtub assumes a regime of chaos that is most difficult, if not impossible, to describe. There is noise and agitation, but to describe the regime further would require infinite effort, as the state of each particle would have to be specified individually. There are no *regularities* here. However, with the tap turned off and the plug removed, the water assumes the familiar shape of a vortex. The water is said to have *self-organised* itself into a complex regime. If water from the tap is allowed to run at a controlled rate, the vortex could be maintained indefinitely. Individual molecules of water come, contribute to the global pattern, and then go. They are unimportant details. But the significant vortex is left behind.

¹⁶⁹ For discussion of hierarchy in science see Gell-Mann, *The Quark and the Jaguar*, 1994.

¹⁷⁰ All regions of the water "freeze in fixed states of activity", often likened to death, Kauffman, *The Origins of Order*, 1993, p 174.

The three regimes have been studied by the use of Boolean networks, named after Boole (1815-1864). The network has many internal components, each of which has two possible states: active or inactive. The easiest way to visualise such a setup is to think of the elements as light bulbs that could be turned on or off. The binary system is familiar in computer science, but it has similarities in other fields. For example, an individual might choose to cooperate or compete in some activity, and a nation might decide either to join or abstain from taking part in world trade. The letter 'N' denotes the number of elements while 'K' describes *connectivity* of the network; the number of elements affected by each element. Simple local rules are specified to dictate how the 'K' elements would switch each element under their control on and off and global patterns are then observed through successive cycles of engagement. Kauffman reported that by simply altering connectivity and the local rules deathly order, rampant chaos, or organised complexity could be created.¹⁷¹ The experiments demonstrated that local capability to interact is essential for a state of complexity. But, significantly, there has to be some control over the nature and frequency of interactions permissible to avoid chaotic conditions, or *complexity catastrophe*.

Connectivity is of special importance here. Clearly, some of the elements must be able to interact with each other, for anything to happen. In the case of a sparsely connected network, say each element is only linked to one other element, when $K=1$, the system rapidly settles into one *orderly regime* and that is that. Turning next to a network consisting of a substantial number of elements, each connected to several other elements; say $K=5$ or more. The resulting patterns observed are typical of a *chaotic regime*. The system does not settle into any state worth observing as it hunts through a vast number of states. There are obvious parallels here with the situation whereby each of the member states of the United Nations interacts directly, in the absence of international regimes, with all other states in a particular issue area.

When connectivity is reasonably small, $K=2$ or 3 say, the network enters a regime of *organised complexity*. The system has markedly fewer numbers of possible states to explore. The time taken for the system to cycle through all possible states is finite.¹⁷² States of similar, but not identical, behaviour congregate together into families known

¹⁷¹ Kauffman, *The Origins of Order*, 1993, p 36.

¹⁷² Potentially, a system comprised of N elements, each of which having two states, off and on, would have two to the power N possible states in all. Even for a small network this turns out to be a large number. In a chaotic regime there is an almost infinite number of states, therefore the system does not show a recognisable pattern.

as *attractors*.¹⁷³ An attractor pulls the system into a repeating cycle. Hence, while it is in the grip of one attractor a network in a state of complexity presents a self-organised global pattern although internally the elements are interacting feverishly and the system is scrolling through many near-identical states. In that way it is reminiscent of Adam Smith's invisible hand.¹⁷⁴

The delicate balance between variety of local interactions and states and global regularity and stability within a limited number of attractors, are key factors in the pattern's ability to survive through continual adaptation. Too few states produce unvarying order and too many create chaos: both are dead-ends. Poised between the two regimes, complexity is the zone where self-organisation allows new stable patterns to emerge and then evolve in response to local and global circumstances. Parallels with situations such as national economies or relations between nations are easily detectable. In all cases the system must have some variety to give it flexibility to adapt and survive under altered conditions. But limits on variety are also necessary to avoid chaos.

Under conditions of complexity, minor variations cause some change but this is normally contained within the attractor in control at the time. Occasionally, small mutations might bounce the system into a neighbouring, roughly similar attractor. Very infrequently, a large mutation might cause radical transformation into a substantially different domain. Small variations, unimportant in themselves, might accumulate over time to finally trigger that major shift into a new attractor. Hence, an entity that appears stable for a long period might suddenly, and for no clear reasons, undergo a radical conversion. In evolutionary terms this is sometimes referred to as *punctuated equilibrium*, as discussed later. One feature must be highlighted and kept in mind for future reference: there is no way of knowing which minor initial perturbation would lead to a major future change. Again parallels with events on the international political economic scene are indicated. Crises might, and often do, crop up when least expected.

There are, as already mentioned, pointers to suggest possible parallels with social activities. People, as individuals or groups, are the internal elements of the system. In a national setting, they interact with each other in ways that could produce either chaos,

¹⁷³ Clearly, there are fewer attractors than states. The number of attractors is roughly N divided by 2.71828, the 'e' of natural logarithms.

¹⁷⁴ A full analysis of dynamic order and regularity is outside the scope of this study, but several authors have covered the field comprehensively. See for instance Kauffman, *At Home in the Universe*, 1996, p 82 onwards.

under free-for-all conditions, or organised complexity when their interactions follow sensible rules of engagement. Conversely, there could be deathly stasis, as clearly seen in extreme situations caused by dictatorship or famine say, if people were not allowed to interact or were incapable of doing so. Nations in the mixed economy model operate within a *Liberal attractor*. They are essentially different from each other but they belong to a family that has certain idealised characteristics that are never completely attained in practice, such as liberal democracy and market economy. Citizens are reasonably free to interact in their own different ways, but they have to keep within well-defined rules. This pragmatic system survives because it has sufficient variety to adapt constantly.

It is useful to summarise below the distinctive traits exhibited by Complex Systems:

- Their component elements interact locally according to simple rules.
- The elements are lightly but not sparsely connected.
- Local interactions provide the energy needed to create and maintain stable self-organised global patterns without the need for external compulsion.
- The system has both internal variety and global stability.
- Variations in initial conditions result in many minor changes and a few large mutations. But it is not possible to predict the outcome in advance.
- When the system mutates into a different attractor it soon settles down to a new regular pattern.

Survival and Adaptation

Boolean networks allowed *adaptation* and *survival* in a changing environment to be researched. To adapt an entity has to survive long enough to reproduce, otherwise the next cycle could not begin. Survival and adaptation are, therefore, linked in a circular process. Nonlinear entities blessed with the ability to evolve are called *Complex Adaptive Systems*. Living organisms are an obvious example of such a system. Observing their evolution, however, presents a number of logistical problems, the most obvious being the question of time between cycles of reproduction.¹⁷⁵

¹⁷⁵ Mendel (1822-1884) did his best to overcome that drawback by studying fast growing garden peas in 1865 to develop his laws of heredity, six years after Darwin (1809-1882) had published his *Origin of the Species*.

Computers are now employed to explore more speedily metaphors for evolution, with benefits to genetics, computer science, and the study of complexity. Ray designed a classic simulation of Darwinian evolution, TIERRA, in which replicating digital 'organisms' competed over limited computer memory space. He defined local rules for interaction that allowed the 'organisms' to read each other's instruction codes; the genome of the living world. A killer 'reaper' was also added, to enable fitter organisms to monopolise the available resources.¹⁷⁶ TIERRA combined the complexity of Boolean networks with replication and mutation to simulate the behaviour of Complex Adaptive Systems. The most illuminating outcome was the realisation that inside the computer, as in nature and in accordance with Darwin's views, selection pressures for adaptation came from activities by other coevolving creatures. The physical environment, in this case the central processor, is the junior partner in this game of life. Similarity with interdependence between states in the world system is fairly clear.

Computer simulations, in the context of the present thesis, managed to mimic complexity in humankind's real world, from aggression and parasitic behaviour to cooperation and competition. In every case variety was a major asset for survival. However, a far-reaching, and curiously under-remarked, phenomenon is laid bare through these studies: evolution does not lead to an optimal end-state. 'Good enough' seems to be the sum total of what nature hopes to achieve. Successful evolution is an ongoing open-ended process of, typically small, effective improvements. The quick skip to Nirvana at the end of a rainbow, promised by ideologues and politicians, does not feature on nature's agenda.

One further aspect of evolution of Complex Adaptive Systems should also be emphasised, as it could shed light on common occurrences in the field of IPE. Evolution does not proceed at a steady uniform rate. Most systems stay more or less as they are for relatively long periods of time and then experience fast radical change. This phenomenon is referred to as *punctuated equilibrium*. The lengthy interval of apparent inactivity is deceptive, however. At the local level change takes place continuously. As mentioned before, the system scrolls through many states within one attractor and that gives it its recognised global pattern. The system is affected by many factors that leave

¹⁷⁶ The series of program runs started in January 1990. The first digital entities were akin to "a single-celled sexless organism". The entities soon mutated into a diversity of new creatures complete with parasites. A form of community life appeared, and this was observed by later researchers as well. Coveney and Highfield, *Frontiers of Complexity*, 1995, p 253.

little or no discernible trace. But occasionally one perturbation or the cumulative effects of many might succeed in shunting the system into the domain of a neighbouring attractor. Only at that point does the observer recognise that a definite change had taken place. Equally significant, life quickly settles down to the new pattern. Variety, and hence flexibility, allows the system to absorb the shock; the only other alternative being extinction, the very opposite of evolution. Parallels with the social, economic and political affairs of humankind, such as the collapse of the USSR, are again suggested, but more of that later.

So far, this section established a number of key points. Firstly, survival and adaptation are linked in a circular process, an entity has to adapt to survive and it has to survive long enough to adapt. Secondly, evolution does not lead to an optimal end-state; 'good enough' is nature's way of making progress. And thirdly, evolution exhibits clear signs of *punctuated equilibrium*, long periods of relative calm sprinkled with brief episodes of rapid change. One further feature, *gateway events*, is needed to complete the picture. Such events arrive from time to time to open up niches that offer new and unexpected possibilities. A gateway event could of course spell disaster for some as well. That happened at the end of the Permian period, 245 million years ago, when more than half of all species on earth disappeared, and during the Cretaceous extinction, some sixty-five million years ago, when dinosaurs became extinct along with one third of the world's animal and plant life. The rest of creation, those able to tolerate or benefit from the new conditions, adapted and then flourished. Equivalents of *gateway events* in the political economic field include the Industrial Revolution, and the invention of the combustion engine and the computer.

Treks in Fitness Landscapes

Adaptation is "any open-ended process by which a structure evolves through interaction with its environment to deliver a better performance."¹⁷⁷ The environment embraces activities by other coevolving entities, and better performance is achieved when the structure becomes more suited to that particular habitat. Topographical representations are utilised as metaphors for this continuous process of adjustment. A terrain of flat lands, peaks and valleys, referred to as *fitness landscape* depicts the entity's degree of fitness to survive under certain conditions. In any situation, the landscape has

¹⁷⁷ Covenay and Highfield, *Frontiers of Complexity*, 1995, p 118.

flat lands of neutral significance, mountains representing degrees of fitness and valleys indicating lack of fitness. Variety ensures that some existing versions of an entity suit a given set of circumstances better than other versions of the same entity. The former would flourish in the 'mountains' while the latter might perish in the 'valleys'.¹⁷⁸

In simple adaptive evolution affecting one entity, the landscape is fixed, comprising local optima where conditions are most amenable to the survival of that specific entity. However, when coevolving entities exist together, the fitness landscape assumes a fluid nature. Its features alter over time to reflect the activities of all entities sharing the same space. What might be a peak at one point in time, indicating good fitness, could easily turn into a trough, suggesting lack of fitness due to the actions of others. Yet again comparison with social, economic and political events is unavoidable. For instance, what nations choose to do or are forced to do affects the fortunes and responses of other nations, sometimes quite disastrously. Those able and willing to adapt pragmatically would survive, while inflexible regimes could be expected to suffer badly.

So far, this chapter revealed three related key features germane to the present study:

- Sustainable evolution is not a rush to the nearest peak. A more efficient policy would involve leisurely exploration of the whole landscape in order not to miss higher peaks further on. Passage of time is, therefore, a vital component to successful adaptation. A strategy built on that premise "accepts small short-term penalties in exchange for potentially larger long-term rewards."¹⁷⁹ Variety within the structure, and ability to venture through the whole *search space*, facilitate such exploration. The contrast with attempts by the World Bank and IMF to impose a few selected prescriptions on all their client nations is striking.¹⁸⁰
- Connectivity between elements of the system affects fitness to survive and adapt. As it increases, interdependence begins to impose conflicting requirements that could only be resolved through frequent compromises by all coevolving entities. They shed variety and become, more or less, similarly fit or unfit to one set of conditions. Entities lose their ability to adapt to changes that

¹⁷⁸ The 'appearance' of new bacteria resistant to antibiotics is a case in point. The resistant strains were already there, possibly in small numbers. They increase and become dominant because other strains find the environment less hospitable.

¹⁷⁹ Coveny and Highfield, *Frontiers of Complexity*, 1995, p 108.

¹⁸⁰ This point is discussed more fully in Chapter 9.

might affect their local environment, and the fitness landscape becomes flatter, leading ultimately to a *complexity catastrophe*. Overall progress eventually grinds to a halt due to repeated local failures. This point is significant in connection with globalisation of the world economy. Basically, forcing sameness on nations might not be an evolutionarily stable strategy, ESS.

- Fitness landscapes are in continual flux caused by activities by all coevolving entities. Optimal and inflexible solutions are not the answer under these conditions; today's successful creature could be tomorrow's dinosaur. Pragmatism, resilience, and making allowances for chance events and accidents are the only sensible strategies for survival. Here again the parallels with real-life situations are compelling. Examples will be given later, mainly in Chapter 9, to reveal the contrast between flexible strategies suited to Complex Adaptive Systems and their uncertainties, and actions by national governments and international agencies such as the World Bank.

Accumulation of Knowledge

The above observations clearly indicate the unfolding of a process over time. Complex Adaptive Systems have to traverse cycles of change to adapt and survive. Thermodynamics' Second Law suggests that as time goes on, things when left to their own devices move towards disorder. In scientific terms this law defines a natural tendency for the *entropy* of closed systems to increase.¹⁸¹ In all cases disorder is a more probable condition. Conversely, positive action is required to maintain a system in a stable, less probable, state. An open system could achieve self-organised complexity through its ability to exchange energy or matter with the outside world. The structure is locked in small, less probable, regions of its state space. In the case of a living entity, homeostasis is achieved in this manner. It could then live long enough to pass on through its genes its record of the past, including alternative interpretations and suggestions. Next generations receive the message, amend it, and then in turn pass it on. Earlier in the chapter it was pointed out that survival and adaptation are linked in a

¹⁸¹ Gas molecules neatly arranged at one end of a box slowly disperse to occupy the whole volume. The system rotates through many 'fine-grained' microstates. To start with it flicks through improbable, in other words fewer, states of molecules at one end of the box. Gradually more probable, and hence more numerous, states, in which the molecules are dispersed throughout the box become more noticeable. As time flows, order turns into chaos: the *entropy*, a measure of disorder in a system, is said to have increased.

circular process. It is now possible to add *learning* as a third dimension to that slow and uncertain process.

Computer simulations demonstrated conclusively that learning is involved in survival and adaptation. There is an inexorable escalation into higher levels of elaboration in a process that clearly implies communication and learning. If the tools of knowledge storage, transfer, and learning are impaired, the process is affected, slightly or catastrophically. Later, in Chapter 10, the significance of this feature will be highlighted in relation to illiteracy and disregard for indigenous knowledge as components of the *capability divide* that inhibits some nations from making sustainable progress.

It is now possible to advance a more rigorous definition of complexity. The expression does not mean more difficult or more important.¹⁸² Basically, the length of message needed to describe a system defines complexity; generally the shorter the message is the simpler the structure might be. Although seemingly obvious, this yardstick is potent in differentiating between order, complexity, and chaos. The measure uses what is known in computer science as *compressibility*. A binary message string in the form 001001001 and so on is highly compressible: 001 repeated so many times. A string of random 0s and 1s is incompressible: to describe it one has to simply repeat the whole string in toto. The former string represents a state of complete order while the latter denotes chaos. An information string that describes a Complex System would have *regularities* that could be compressed, and other bits of data that are *random* and, therefore, incompressible; a mix of order and chaos.

Hence, a Complex Adaptive System has a key facility for “acquiring information about its environment and its own interaction with that environment, identifying regularities in that information, condensing those regularities into a kind of ‘schema’ or model, and acting in the real world on the basis of that schema.”¹⁸³ As mentioned, the length of the schema needed to describe and predict properties of the system under observation defines the complexity of that system. The schema takes into account only what it identifies as *regularities*, out of the total input of data it perceives. Evidently,

¹⁸² Murray Gell-Mann describes Einstein’s general relativity theory as being wonderfully simple. He accepts of course that few people understand it. A mouse, by contrast is a Complex Adaptive System. Gell-Mann, *The Quark and the Jaguar*, 1994, p 16.

¹⁸³ *Ibid.*, p 17.

regularities are vital to the process by which a Complex Adaptive System builds up a picture of its environment. In a system comprised of living organisms regularities might represent food, danger, competition, and so on.

In science, theories primarily identify regularities, their origins, associated conditions and implications. The topic of 'learning' is revealed in that way as a process, by which a system perceives its environment, evaluates the inputs, identifies regularities and determines responses. But a Complex Adaptive System with living organisms as internal elements manages to do more than that: it preserves a comprehensive record of past events experienced by previous generations, adds its own perceptions and conclusions and then passes the updated record to the next generation. A relentless process of knowledge gathering, transmission and refinement is, therefore, in operation.

Learning comes in two dissimilar but linked formats: *collective* and *individual*. Collective learning is shared by all elements of a system, and handed down through the *genome*. By contrast, in individual learning a member of the group utilises its brain to gather new information for use during its lifetime. Some of the knowledge collected might also be recorded and passed on through its genes to the next generation. In the case of human beings collective learning is also preserved through records kept in a variety of ways. Sterile hair-splitting has gone on for years over the relative importance of the two types of learning. That argument misses the point. Both are unavoidable and inseparable parts of one whole. Later on, this aspect will be discussed in the context of *indigenous knowledge*, practically the 'genome' that communities inherit from previous generations.

Rise and Fall of Complexity

Science now includes study of *organised complexity*, "living systems, organisations, communities and coevolving ecosystems" being prime examples.¹⁸⁴ Much has been learnt from advances in biology, and in particular genetics, leading to a better understanding of the process of handling information and the accumulation and application of knowledge. Neural networks, parallel processing, variability and redundancy, and other features were borrowed from several disciplines to lift the veil on how Complex Adaptive Systems operate. Such systems are poised at the edge of chaos by the energy provided through interactions between their elements. Redundancy

¹⁸⁴ Kauffman, *The Origins of Order*, 1993, p 173.

and variety, far from being optional luxuries, are designed into the very fabric of the system, to ensure survival through ability to withstand frequent small changes and occasional large ones. Experiences are then faithfully recorded and added to that of previous generations to set up a reservoir of knowledge.¹⁸⁵

There has to be knowledge by an entity of its environment, which includes other entities, for any rational response to changing circumstances to occur. Both knowledge and response have to be stable over time and organised as well as being heritable and dynamic. Just as fundamentally, the events and responses recorded receive a massive contribution from chance and accident. History of the living world is littered with random occurrences that altered the course of events dramatically. Some left gigantic effects; for instance the carbon based life form on earth. The change from the early oxygen hating organisms to oxygen dependent beings is another example. Events that are found to be useful or stable for whatever reason, become *frozen accidents* shown on the record as regularities. In time they acquire the status of law. As chance events continue to occur, the number of frozen accidents that feature as regularities increases.

Hence, complexity in total has a tendency to rise with time. To put it more accurately, at each step in evolution, "complexity can either increase or decrease", but evidence indicates that "the greatest complexity represented has a tendency to grow larger with time."¹⁸⁶ But reference to tendency or inclination is vitally important. As mentioned earlier, Complex Systems inhabit a probabilistic domain with few certainties. Hence, in the long-term entities possessing high complexity come and go, but for long periods of time and on the whole they stand a good chance of maintaining and even increasing their complexity. Moreover, while that lengthy process of adjustment unfolds there is a very high probability that total complexity of all systems would also increase.

The high probability that average complexity would increase, that those with higher complexity stand a good chance of making the most gain, and the ever present possibility that complexity could also be lost, are three significant *regularities* in Complex Systems theory. The emergence of hegemonic powers among nations and the inclination for the rich to get richer hint at political economic similarities. At a broader level, the three regularities offer an explanation for the ubiquitous presence of elites and

¹⁸⁵ Kauffman, *The Origins of Order*, 1993, p 232.

¹⁸⁶ Gell-Mann, *The Quark and the Jaguar*, 1994, p 244.

hierarchies in businesses, nations and the interstate world system. Clearly, there is a large measure of common sense in the way Complex Adaptive Systems operate. For instance, it is natural for rich individuals to become richer, and for their offspring to do just as well. They are able to invest and, moreover, they could afford to invest in risky businesses that might bring higher rewards. They have a larger network of contacts that enables them to be better informed about opportunities and risks. In short the odds are stacked in their favour.

Certain Unpredictability

Coevolution, constant adaptation, and the regularities mentioned above identify the causes of the permanent state of unpredictable flux that characterises all Complex Adaptive Systems.¹⁸⁷ Present beliefs and methods on the other hand, derived from a linear viewpoint, are firmly based on implicit assumptions of predictability. At all levels of endeavour, forecasting of future events is assumed to be feasible through knowledge of the behaviour of a system or its component parts. Nowhere is this more valued than in business, economics, and politics. Despite every indication to the contrary, these articles of faith are generally accepted without much thought. In many ways they form a substantial part of the design principles round which society is structured.

It was only in the last half-century or so that scientists began to explore uncertainty, firstly in quantum mechanics and then in nonlinear phenomena. In addition to quantum uncertainty in particle physics, there are two major factors that conspire to make unpredictability a standard feature of Complex Adaptive Systems. Firstly, and possibly most importantly, even infinitesimal local disturbances could be magnified by feedback, to produce large global changes. The same disturbance might produce different results at different times. These are direct consequences of the vast number of interactions that take place within the system. In order to know what the system would actually do, it might be necessary to watch while it did it! Kauffman suggests, that ecosystems and economic systems might “behave in ways that are their shortest descriptions.”¹⁸⁸ As discussed earlier, regularities must be identified and compressed to formulate a creditable theory. If regularities were far apart, it might take just as long to experience or observe the process from beginning to end, as it would take to advance a

¹⁸⁷ For a thorough discussion of the topic see Kravtsov, *Predictability of Complex Dynamical Systems*, 1997.

¹⁸⁸ Kauffman, *At Home in the Universe*, 1996, p 22.

theory to describe what was going on, why and how. In short it is impractical to model the process. The implications to social sciences, including development, are obvious. Linear theories would be unreliable in this case; hence providing a rational explanation for the incessant revision of IPE 'theories'.

Secondly, global patterns are the product of numerous local interactions that take place within a Complex Adaptive System. The pattern at any point involves *emergent properties* that could not be predicted simply by observing the elements of the system. It is virtually impossible to trace effects back to specific causes because astronomically large numbers of events are involved. Potentially, a system comprised of N elements, each of which having two states, off and on, would have two to the power N possible states in all. Even for a small number of elements this turns out to be a vast number.

The above inherent indeterminacy sets strict limits on what is possible to predict when dealing with Complex Adaptive Systems. This constraint is undoubtedly most uncomfortable when viewed in today's frame of reference. However, it is also inescapable. The assumed certainty in reductionist scientific methods when applied to Complex Adaptive Systems is an illusion. The danger lies in trading real but admittedly limited predictability for spurious certainty. In effect, explanation and prediction in the case of such systems centres on their robust global properties. However, "one gives up on predicting the details."¹⁸⁹ The laws that govern these properties have been found to be essentially the same for all scales of complexity, from small organisms to ecosystems and economic systems, which are themselves made up of internal elements that are Complex Adaptive Systems in their own right.

This section is fundamental to the overall theme of the thesis. It reinforced the concepts of uncertainty and unpredictability in relation to Complex Adaptive Systems. Admittedly, that viewpoint, if it were to be applied to political economic matters, would not be to everyone's liking. Predictability and control are fundamental components of the general framework within which life is currently perceived. To suggest that there are strict limits to what 'experts' could foresee and plan for would challenge a number of cherished concepts that provide a measure of emotional security to humankind. Such an assertion might also be seen as a threat to the livelihood of the vast number of people now involved in the business of forecasting, and shaping, the future.

¹⁸⁹ Kauffman, *At Home in the Universe*, 1996, p 19.

Conclusion

Echoing Adam Smith's prophetic words, Kauffman wrote: "As if by an invisible hand, each adapting species acts according to its own selfish advantage, yet the entire system appears magically to evolve to a poised state where, on average, each does as best as can be expected...economic systems link the selfish activities of more or less myopic agents."¹⁹⁰ The reference to 'as best as can be expected' should be underlined. The process does not promise perfection. It was argued in this chapter that sustainable progress is not achieved through a rush to the summit. On the contrary, progress was shown to be a slow and uncertain activity in which diversity and the passage of time are essential factors.

Three basic regimes were identified, order, chaos, and complexity, and the conditions required for self-organised complexity to emerge were defined. The dangers of too little or too much connectivity, or interdependence, were also highlighted. Ultimately, the former could result in stultifying order while the latter could lead to complexity catastrophe. The chapter also provided a scientifically robust description of complexity as a mix of regularity and randomness. It was argued that total complexity tends to increase over time, and that systems having a higher level of complexity stand a good chance of making the most gain.

It was suggested that regularities in the political economic issue area might be far apart. To ensure that they were adequately accounted for in the course of advancing theories, events might have to be observed from start to finish. South Korea's economic performance, say, could be examined from the liberalising reforms initiated between 1963 and 1965 and through the miracle decades.¹⁹¹ A few regularities might be unearthed but these apply to South Korea during that specific period. If the time scale were extended other regularities might become apparent. Conversely, if the search area were to be enlarged to cover other geographical locations, then further regularities could be revealed. To formulate a stable theory, the political economy would have to be studied for all time periods and in all locations, hardly a useful preoccupation.

¹⁹⁰ Kauffman, *At Home in the Universe*, 1996, p 27.

¹⁹¹ See for example Haggard and Moon, *The South Korean State in the International Economy: Liberal, Dependent, or Mercantile*, 1983, p 131.

Moreover, the chapter identified an inseparable key trilogy in sustainable evolution comprised of adaptation, survival, and learning. That relationship is circular and impairment of one component could lead to ultimate failure. In this, as in the other facets considered here, examples were presented from economic and political activities to suggest likely parallels with the mode of operation of Complex Adaptive Systems. More fundamentally, links were outlined between political economic processes and other branches of science to underline the fact that IPE, development, and other issue areas within the social sciences are parts of a comprehensive network. Linkage between all sectors of knowledge is a desirable feature and the chapter took the first steps in defining the place of IPE theories within the broader scientific hierarchy.

COMPLEX ADAPTIVE SYSTEMS

Parallels are explored in greater detail in this chapter between Complex Adaptive Systems and situations in which large numbers of human beings interact. The aim is to evaluate the appropriateness of analysing the social sciences in general and political economic and development processes in particular as nonlinear phenomena. The role of *Cybernetics* in these fields is touched on briefly. That science defines laws of control processes “in large complex probabilistic systems”, from “populations of animals, to the economy...and business firms”.¹⁹² However, utility is assessed in more detail of *Game Theory*, an analytical technique dealing with the attributes of evolutionarily stable strategies adopted by conscious entities to compete or cooperate.

Chimera of Predictability

It was argued previously that evolution is not a rush to an optimal end-state. The primary aim is for the system to survive through small adaptive changes.¹⁹³ The trilogy of survival, adaptation, and learning was highlighted as a key feature. As it is not feasible for a system to plan for unpredictable events, that trilogy is the only evolutionarily stable strategy for long-term sustainability. Complex Adaptive Systems and political economic processes share similar traits. Their system-wide, *global*, patterns exhibit a fair measure of stability. It is known, for instance, that liberal economic policies give better prospects for material progress, and that sustainable growth is achieved through cumulative modest increments over lengthy periods.¹⁹⁴ Similarly, the link between openness in international trade and the presence of a hegemonic power is another system-wide feature that is amenable to prediction.¹⁹⁵ However, attempts to predict events in detail regularly end in failure. The unexpected collapse of the USSR is the standard illustration of unpredictability on the world stage. But it is not presented as

¹⁹² Beer, *Platform for Change*, 1978, p 105.

¹⁹³ Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design*, 1996.

¹⁹⁴ See Chapter 10.

¹⁹⁵ As demonstrated by Wallerstein, Krasner and other scholars through their researches into the *theory of hegemonic stability*. See Chapter 4.

evidence here, as the intention is to demonstrate that uncertainty is a common every day occurrence. Commentary on the twists and turns of the international economy in 1997 and 1998 was, therefore, chosen instead for this purpose.

At the start of 1997, most observers were agreed that Asia presented the ultimate in growth and stability. The Japanese 'miracle' was looking slightly tarnished but it was still sufficiently impressive to merit admiration. Experts agreed at the time that American and European economies were languishing under the burden of supposedly well understood problems. Then came one of those events that clearly mark a nonlinear system in full swing: Asian economies went into an unanticipated nosedive, while American and European economies performed well.¹⁹⁶ Speculators, who were blamed for the collapse, were not better able to predict the event; the international financier George Soros is said to have lost \$2 billion in a matter of days.¹⁹⁷

Then unexpectedly other economies began to suffer as well. As 1998 came to a close there were dire predictions of world recession fuelled by decline in consumer spending. Nevertheless, all that changed by the first week of 1999. Predictions were revised merely because anecdotal evidence suggested that shoppers had returned to heavy buying during sales in early January. In due course statistics were published that showed massive loss in consumer confidence. Then it was the turn of the leading South American economies to go into sudden recession. At the time of writing, opinions of every description are on offer.¹⁹⁸

As usual, the period of turbulence in 1997 and 1998 coincided with a flurry of crisis meetings between leading politicians, such as the world economic forum held in Davos in the first week of February 1998. That itself is a telling indication that events frequently catch politicians by surprise, sometimes verging on panic. There were of

¹⁹⁶ The turn of the tide became apparent on 2nd July 1997 when the Thai currency collapsed and had to be uncoupled from the US dollar. *Sunday Times*, 31 August 1997. The headline chosen on that occasion for Garth Alexander's article was "Asia Crashes". On 2nd November 1997 the headline changed to "Ten Days That Shook the World". By 11th January 1998 the paper described the crisis as the "Asian Plague".

¹⁹⁷ The experts did not linger long over their inability to forecast the shift in fortunes. They were busy debating whether Japanese recovery would be "V-shaped", meaning sharp and speedy, or "U-shaped", meaning more prolonged. *Sunday Times*, 8th February 1998, "Japan, Asia's Sickest Man".

¹⁹⁸ It might be unfair to select one commentator to illustrate this point but that is unavoidable to chart the swings of opinion. David Smith, a respected economic correspondent of the *Sunday Times*, was chosen for this purpose. His 1998 contributions on 8 January, 30 August, 27 September, 4 October, and 3 January 1999 show with clarity the near impossibility of making stable forecasts. It would be wrong not to mention that David Smith himself makes that point regularly. His anecdotes about views on this topic of politicians, such as Macmillan, and economists, such as Leigh-Pemberton, a past governor of the Bank of England, are particularly apt here.

course the standard announcements that the meetings were necessary 'to make certain this sort of thing never happens again'. In the context of unpredictability, Larry Summers, America's Deputy Treasury Secretary, made a pertinent observation on the Davos meeting. He remarked that if an international audience had been asked in the late 1980s whether America, Europe or Japan would have the fastest growing economy they would have nominated Japan by a large majority, followed by Europe, and then America in poor third position. He added that in the event Japan and Europe eventually stumbled while America surged ahead.¹⁹⁹

Examples of unpredictability could also be presented from the political arena. At the end of the Gulf War in January 1991, the odds on Saddam's regime surviving into the late 1990s were exceedingly remote. He had just been soundly defeated by a massive coalition of military powers, and he had few friends left. Against all expectations his regime survived and was sufficiently strong to cause the USA much irritation. Heavy bombing in December 1998 did not yield, it seems, the desired results either. Similarly, the bombing of Serbia in 1999 to help Kosova turned almost one million Kosovans into refugees. It is far from clear how that protracted political adventure would ultimately end. By contrast, the resignation in March 1999 of Santer and the entire European Commission was rapid, but just as unexpected. Complaints about corruption and nepotism at the Commission have been rife for years without much impact. However, it seems the protests of one relatively junior whistle-blower finally managed to topple the Commission. Tiny perturbation could indeed lead to unforeseen cataclysmic results.

This section had a straightforward message: detailed predictions are untenable in the political economic arena, a clear sign that this issue area behaves, in this respect at least, as a nonlinear phenomenon. Does it matter that 'experts' consistently, in fact inevitably, fail to predict the future correctly? In the long-term the answer must be in the negative. Their pronouncements serve a purpose as they reinforce the pretence of certainty. But the whole question is relatively unimportant. Some political economic systems will survive because they have learnt from past experience that the future is uncertain. Pragmatism and readiness and capability to adapt are built into their fabric to allow for this precondition. Others will suffer, but that anticipates later discussion.

¹⁹⁹ *Sunday Times*, 8 February 1998.

More than Politics or Economics

An essential task in drawing parallels between political economic processes and Complex Adaptive Systems must include specification of how they operate in detail. The following topics will be discussed for that purpose:

- Irreversible Arrow of Time.
- Frozen Accidents and Relentless Adaptation.
- Predictable Inequalities.
- Elites and Hierarchies.
- The Fundamental Unit.
- Cooperation and Competition.
- Reputations: Good and Bad.

Irreversible Arrow of Time

The irreversible arrow of time was launched when the universe exploded from a *singularity*, some ten to twenty billion years ago. The trinity of past, present, and future was thus established as an integral feature of existence.²⁰⁰ The following properties of Complex Adaptive Systems should be re-emphasised in this context:

- History casts a long shadow over the present, but the future is highly, and predictably, uncertain.
- It is not feasible to foreshorten the time needed for certain processes to unfold, time is needed for the system to scroll through its states.
- Evolution follows a *punctuated equilibrium* path; long periods of stability coupled with short sharp transformations.²⁰¹

The arrow of time only assumes significance through association with other phenomena. There are, hence, several versions including a *thermodynamics* arrow, the natural tendency for order to become disorder; an *information* arrow, concerned with the

²⁰⁰ Coveney and Highfield, *The Arrow of Time*, 1992, is the standard textbook on this topic.

²⁰¹ The concept of punctuated equilibrium was put forward in 1972 by Eldredge of the American Museum of Natural History and Gould of Harvard University. Coveney and Highfield, *The Arrow of Time*, 1992, pp 232-233, and Dawkins, *The Blind Watchmaker*, 1996.

accumulation of knowledge; and a *psychological* arrow, associated with experiences encountered sequentially over time.²⁰² The psychological arrow of time is naturally the most common perception of the trilogy of past, present and future. Events build up in a manner that leaves no doubt about the flow of time. But the other two variants are just as significant in the context of this thesis.

As mentioned in Chapter 7, a state of order is less likely than disorder. Passage of time since the universe came into being has resulted in steady increase in disorder. All systems drift towards disorder unless energy is expended to channel the change into stable, but not static, patterns of escalating self-organised complexity. Examples of increasing complexity in social, political, and economic structures could be readily identified. Comparing the size and composition of the government of any nation now and fifty years ago, for instance, illustrates the point perfectly. The same is true of natural evolution, economic practices and institutions, and modes of social behaviour.²⁰³

A state of order, complexity, or chaos could be identified by the amount of information required to specify the system as described in the previous chapter. Little information would suffice to describe a system in an orderly state, while infinite data is needed to describe it when it is in chaos due to the absence of regularities. A Complex System occupies a middle ground; it presents regularity and randomness. For example, extensive but finite information would be required to construct an up to date model of the US government. Regularities, such as administrative hierarchies, elections, separation of powers, and constitutional arrangements, reduce the volume of data needed. By contrast, the effort to model the government of a small country under successive dictators would demand lengthy description, as each segment of time has to be specified separately. The country exists in a regime of chaos with minimal regularity.

Regardless of how time is measured, its role in mediating the unfolding of events is paramount. Chapter 10 describes the long time taken by prosperous nations to amass wealth through small but steady increments. That span of time itself is merely a brief moment in an unimaginably long process of accumulating complexity. Earth formed about five billion years ago, but it took two billion years for early self-replicating entities to appear. Many momentous events took place long before humankind made its debut,

²⁰² Gell-Mann, *The Quark and the Jaguar*, 1994, p 227.

²⁰³ Gell-Mann considered this significant feature at length. *Ibid.*, pp 217-228.

as recently as 250,000 years ago. The Cambrian era, about 550 million years ago, for instance, witnessed a massive increase in diversity of organisms. There were also notable extinctions. One such event in the Permian era, 250 million years ago, wiped out almost half the known species at that time. Another, at the end of the Cretaceous era some 65 million years ago, saw the disappearance of the dinosaurs.²⁰⁴

Nonetheless, the advent of humankind marked a quantum leap in complexity with the arrival of a creature capable of conscious thought. History of that being proceeded along a *punctuated equilibrium* path, commonly observed in natural evolution and in the way Complex Adaptive Systems operate. The rise and fall of ancient empires and hegemonic powers is one obvious example. Wallerstein, for instance, cited three lengthy periods of stable hegemony: the United Provinces, mid-17th century, the United Kingdom, mid-19th century, and the United States of America, mid-20th century. They all attained ascendancy after a relatively brief world war.²⁰⁵

Ancient empires and modern hegemons sought to freeze the arrow of time in mid-flight but they invariably failed in that endeavour. In essence, the international *fitness landscape* deforms continually in response to internal and external influences. Nations, singly or as groups, scroll through many roughly similar *states* within one *attractor*, giving a reassuring impression of abiding stability. Then, unexpectedly, events conspire to shift the whole system into the field of influence of another attractor with different attributes. Subtle undetected internal transitions accumulate over a lengthy period, but outward recognition only dawns when a nation or the global system fall within the grip of the new attractor.²⁰⁶

Periodic swings in fortunes, akin to fluctuations of states within one attractor and fewer jumps into new attractors, are not new discoveries. Kondratieff's long-waves and shorter business cycles are familiar concepts to economists and political scientists. Business cycles baffled experts over the ages. Jevons (1835-1882), respected economist and originator of the theory of marginal utility, blamed sunspots! Others advanced a

²⁰⁴ Hecht, *Vanishing Life*, 1993.

²⁰⁵ Wallerstein, *International Journal of Comparative Sociology*, 24, 1-2, 1983.

²⁰⁶ When Ceausescu (1918-1989) stood on a balcony to address Romanians on 22 December 1989, it took only a few minutes for everyone to realise that things would never be the same again. Three days later he and his wife Elena were dead and Romania was in the domain of a new attractor.

fertile assortment of causes and remedies.²⁰⁷ Complex Systems theory reveals that business cycles are essential components of the overall picture, and offers an explanation of why they could not be predicted or avoided. The aptness of these conclusions is demonstrated by failure of politicians over the years to fulfil the often-repeated promise that their particular actions would 'make the cycles of booms and busts a thing of the past'. Within the present linear frame of reference this is viewed as a failure caused by personal or organisational shortcomings. In reality, the only yardstick of competence is how the system confronts inevitable and unforeseen transformations, and the ultimate test, as in nature, is whether the system survives or succumbs.

Time has piled complexity over even more complexity. Evolution under the influence of selection, made possible by massive variety and reproduction, inevitably forces all living entities to go down one of only two avenues; extinction or increased average complexity.²⁰⁸ There might be an occasional loss of complexity, but there is also a tendency for the most complex structures to gain even more of the same. Culture, society, economics, and politics evolve towards increasing complexity in the same manner, and as elsewhere it takes time for complexity to build up. Many layers of interconnections and adaptations have to come into being at a pace that could not be accelerated appreciably. Money, imported expertise, and grim determination to succeed are no substitutes for the time needed to accumulate "depth".²⁰⁹ Hence, it is possible to draw four conclusions from this section as far political economic change is concerned. Firstly the past affects the present. Secondly, the future is unpredictable. Thirdly, there are no shortcuts to sustainable evolution. And fourthly, change follows a pattern of punctuated equilibrium. These conclusions are identical to the characteristics of Complex Adaptive Systems enumerated previously.

Frozen Accidents and Relentless Adaptation

In natural evolution, *frozen accidents* from the past help to determine current patterns. Complex Adaptive Systems evolve in a similar manner. Parallels with this phenomenon are also evident in the socio-economic context. Attitudes to women, multiparty politics,

²⁰⁷ See Samuelson and Nordhaus, *Economics*, 1995, especially pages 555 to 557, for informed discussion of business cycles and related theories.

²⁰⁸ Dawkins, *The Selfish Gene*, 1989.

²⁰⁹ When a system has an abundance of 'depth', Murray Gell-Mann wrote, that is "an indication that it took a long time to evolve or that it stems from something that took a long time to evolve." Gell-Mann, *The Quark and the Jaguar*, 1994, p 103.

concepts of beauty, censure of incest, and the family group, for example, were all found appropriate at some stage and were then incorporated into the overall framework. The carbon-based form of life on earth is a striking example. Scientists suggest it could have been otherwise, and that might well be the case if there were life elsewhere in the universe. But once that frozen accident was built into the system, the future of all creatures on earth was set on a distinctive path.

Such haphazard inherited influences indelibly shape the course of history. At the same time, relentless adaptation fuelled by ever changing circumstances imposes a counterbalancing force for constant transformation within the general direction imposed by past frozen accidents. The unending contest between the conservatory influences of frozen accidents, on the one hand, and adaptation, on the other, typifies Complex Adaptive Systems. The structure of such entities; involving stable global patterns that coexist with infinite local variety and continual change, is clearly evident in many activities associated with common everyday life. For example, the frozen accident of belief in a mystical power with representatives on earth who interpret its wishes still endures. Religion itself, however, adapts and changes all the while. In a similar vein, support of the individual in need has shifted from his or her kin to the state. The *welfare state* is now a frozen accident. Circumstances indicated at some point that it was appropriate and it was therefore included into the model that describes 'modern living'. However, the details of that welfare state are not static; they are in constant transformation. In short, enduring global patterns coupled with variety and adaptation are in evidence in the political economic issue area, a clear similarity to Complex Adaptive Systems.

Natural evolution is marked, in addition, by *gateway events* that have their social, economic and political counterparts. The Industrial Revolution and, later, the invention of the internal combustion engine and the computer are perfect specimens of *gateway events*, comprising radical changes and subsequent steady filling of niches they bring forth. Numerous *gateway events* and *frozen accidents* touched the history of earth, and that of humankind. Chance events, discovery of America by European explorers in the 15th century being an obvious example, turned into gateway events of far-reaching implications that were not anticipated at the time. In the case of the discovery of America, European wealth accumulation was accelerated rapidly and then the new continent turned in time into a hegemonic power.

Parallels from the world of economics are also plentiful, the most pertinent for the present purpose being international trade. As mentioned in Chapter 5, people regularly traded across national borders and over vast distances for thousands of years. At some point in human history, international trade became a frozen accident. People found that it paid to trade, and politics, geography, and ethnicity were of little consequence, as was posited by Adam Smith centuries ago. Advice and pressure from the USA, WTO and IMF are hardly necessary in this issue area. Periods of relative closure ebb and flow, naturally, under the influence of numerous special circumstances. Reminiscent of the way Complex Adaptive Systems behave, international trade is here to stay as a predictable global feature. However, openness and closure are shifting matters of detail that alter from time to time.

This section introduced other features of Complex Adaptive Systems to add to the arrow of time discussed before. It was shown that frozen accidents, gateway events, and incessant adaptation, significant telltale signs of complexity, are commonly observed in social, political, and economic situations. In the context of the international political economy the rise and, inevitable, fall of empires gives a convincing hint that this issue area behaves as a Complex Adaptive System. The particular reigning hegemonic power at any time is only a detail. The relevant frozen accident is the high probability that there would be at least one major power, or elite, somewhere in the global hierarchy. But then, as befits a Complex Adaptive System, hegemons and empires change in time. Sooner or later they give way to someone else.²¹⁰

Predictable Inequalities

Average complexity, in a group of Complex Adaptive Systems, increases because entities with the highest complexity experience the largest growth, as described in Chapter 7. Organisms that possess a high level of complexity could look forward to rapid increase in sophistication and specialisation. Ample evidence is available from the natural world, including the appearance of human beings and their domination of other creatures, to put this feature beyond doubt. But clear parallels are available in the affairs of humankind as well. Rich individuals, and nations, enjoy obvious advantages. They have extensive links, wider spread of possibilities, and the resources to exploit opportunities that come their way. In short, they are able to interact more often and

²¹⁰ Paul Kennedy's *The Rise and Fall of the Great Powers*, 1989, makes invaluable reading in relation to this example. It traces the relentless rise and fall of powers from 1500 to the year 2000.

more effectively. The few who made millions overnight when the government in Britain privatised the railways were destined to profit. They were 'connected'. There was no conspiracy or malpractice involved.²¹¹

Communities of people, as well as nations are, therefore, stratified in wealth as well as in other respects, and the gap between those at the top and others has a propensity to grow larger.²¹² In effect, wealth and power are distributed unevenly between people, and between nations. Chapters 10 and 11 will present detailed evidence to underline this point. The same mechanisms are in operation, therefore, in both Complex Adaptive Systems and the affairs of nations. It would be unnatural for the system to work differently; hence the failure of good intentions to eliminate or reduce inequality at personal, national, and international levels. Massive effort has to be expended in a determined and constant manner, well beyond what appears reasonable, to effect even a modest realignment. Essentially, sustainable evolution is a long-term process aimed at producing best results under prevailing conditions. It does not promise equality.

Elites and Hierarchies

Inequality and elites and hierarchies are closely linked. Study of social, political and economic elites that exercise disproportionate power over others is a vast subject. Remarks made here are only intended to present a few facets of direct relevance to this thesis.²¹³ As described in the next section, it is natural for egoist individuals to compete in the search for survival and dominance. The hierarchical model is an inevitable consequence of that process, and it is now firmly established as a *frozen accident* in most instances where people are involved, including the international political economy.

The rigidity and shape of the hierarchy in the context of a political economy is determined by a number of factors, including history, tradition and form of government. In an Emerging Nation ruled by a dictator or a despotic royal family, the hierarchy is steep; those who monopolise political and economic interactions might

²¹¹ *Sunday Times*, 23 February 1997 and *The Independent*, 7 March 1998.

²¹² By the turn of the century, it is expected that there will be 200,000 millionaires in Britain. *Sunday Times*, 8 December 1996 and 11 January 1998.

²¹³ References on the topic of elites and hierarchies are plentiful. See for instance, Marger, *Elites and Masses*, 1986, Bottomore, *Elites and Society*, 1993, Cassis, *Business Elites*, 1994, and Etzioni-Halvey, *Classes and Elites in Democracy and Democratisation*, 1997. For a critical look at elites in the USA see Lasch, *The Revolt of the Elites: And the Betrayal of Democracy*, 1995. Lerner, et al, *American Elites*, 1996, presents an interesting concept of 'strategic elites' as an explanation of the pattern in the USA, while Carlton, *The Few and the Many: A Typology of Elites*, 1996, advances reasons for the emergence of elites in most societies and economies from ancient Athens to the late 20th century.

amount to no more than a few hundred people. In an Elite Nation, by contrast, the hierarchy is distinctly flatter, the elite embraces more individuals, and almost all people are free to interact locally in a huge variety of situations where they have 'bosses' above and 'underlings' below. The elite in this case is a flexible group with slowly changing membership. This distinction between highly complex Elite Nations and less complex Emerging Nations is a critical feature that will recur in later chapters.

Hierarchies, within nations or among groups of nations, are particularly significant as means of ordering interactions to regulate choice at all levels. They, and other measures that predetermine what is and is not permitted, control variety at source, for good or bad. To contain a situation with a given level of variety, matching or *requisite variety* of the same amount has to be mustered. This is known in Cybernetics as Ashby's Law. There are two ways to achieve that goal. "The first is to increase the variety of the controller until it matches the variety to be controlled...The second is to take action which will drastically reduce the variety to be controlled."²¹⁴ The law of the land is an instance where the process is deployed benevolently. The question of whether to drive on the right or left side of the road, for example, is answered in advance. The police, therefore, do not have to keep watch on every car. Conversely, the whims of dictators might be malevolent. When Taliban fanatics entered Kabul in late 1996 they unleashed their version of Ashby's Law. They decreed that men should not shave and women should cover themselves from head to foot and stay at home without work or education. For whatever purpose, variety was successfully curtailed in that way.

The global hierarchy, comprised of a hegemonic power, Elite Nations, Emerging Nations, and international regimes, is a typical manifestation of the above feature of complexity. Interactions, within bounds, are crucial for self-organised complexity. They energise the system and thereby confer positive benefits. However, too many interactions could shunt the system into chaos. *Complexity catastrophe*, as explained in Chapter 7, is an ever-present risk. Conversely, too few interactions might push it into a deathly state of order. Ultimately, a balance has to be struck somewhere between the two polar positions. It will be argued in later chapters that dictatorships as well as the regulating activities of regimes such as the IMF and World Bank, often go too far towards stultifying order. Hierarchies are inevitable, and their shape and mode of behaviour, steep or shallow and rigid or flexible, is of vital significance to national

²¹⁴ Beer, *Platform for Change*, 1978, p 34.

performance. However, the primary aim in this section was to highlight the point that they exist because nations evolve in a similar manner to Complex Adaptive Systems.

The Fundamental Unit

The driving force in natural selection is not the good of the species, or group, but the good, meaning survival, of the individual gene. Selection, therefore, takes effect at the lowest level, and individual *selfishness* is a basic component of the overall picture.²¹⁵ Selfishness in this instance describes self-interest rather than ill will to others. Similar traits could be observed in the behaviour of egoist individuals. Nonetheless, there are two fundamental differences between what happens at the genetic and conscious levels:

- Genetic evolution, and the tendency for average genetic complexity to go up, is much slower than its social equivalent. The first unfolds over millennia while the latter speeds along at a pace that is measured in centuries, decades, or years.
- Genetic evolution is blind to the future, the aim being to survive today. Its conscious partner has often been accused of displaying similar myopia, but the fundamental units are capable of pursuing longer-term preferences if desired.

Dawkins suggested that if there were a general principle that is true of life it would be that it “evolves by the differential survival of replicating entities”. He argued convincingly that the basic unit in natural evolution is the *selfish gene*. It often acts on its own, but sometimes it collaborates with others if that were to help it achieve its aims. Genes developed for themselves increasingly more elaborate ‘survival machines’, including of course human beings. The one and only aim is for a gene of certain characteristics to survive, spread and dominate on the fitness landscape of the gene pool. In seeking survival, genes could only do their best by programming their survival machine “in advance with rules and ‘advice’ to cope with as many eventualities as they can anticipate”. But “prediction in a complex world is a chancy business”. Hence, genes have to program brains to perform well on average in the hurly-burly of daily living. “The currency used in the casino of evolution is survival, strictly gene survival, but for many purposes individual survival is a reasonable approximation”.²¹⁶

²¹⁵ Dawkins, *The Selfish Gene*, 1989, p 19.

²¹⁶ *Ibid.*, p 55.

Dawkins' words were quoted above as they succinctly reveal the nature of the motivation that shapes animal behaviour, including that of conscious beings. In the case of animals the process is simple. Over the centuries, a record has been imprinted on genes to specify 'enemy', 'food', etc. Beyond that, actions by an animal are left to its volition. Humans behave in a similar way, but they also have the ability to augment their inherited knowledge through more effective learning, recording, and transmission of information. More to the point, humans could prepare for future events by constructing mental scenarios and assessing costs and rewards of possible actions.

Within the specific definition used by Dawkins, humans are fundamentally 'selfish'; they basically want to prevail and then survive long enough to pass their genes to their offspring. That is their *raison d'être*. When Thatcher pronounced her view that there was no such thing as society, she was partly right. Individuals see life through a subjective lens that focuses almost exclusively on their own concerns. However, that does not mean that they could not, or would not, cooperate to achieve societal aims. Even here the welfare of the species as a whole has no real meaning in practice. Genes compete and cooperate with other genes to further their subjective aims. Ultimately, therefore, they are sole agents. They do not know or care what happens to the species. The same distinction could be drawn in the case of human beings. Basically, decisions to compete or cooperate are meaningful in the main only at the level of the individual. The phenotypes of the conscious world: groups, committees, businesses, sectors of an economy, communities, whole nations, and ultimately the entire international political economy, are shaped substantially by interactions pursued egoistically at the basic level of conscious individuals.²¹⁷

Families, tribes, and nations are 'survival machines' for individuals. The terminology might be modern but the idea is ancient and does not require elaboration. Nevertheless, it is important to specify that simple concept to see the picture in its true colours. Looking at events through ideological, moral, religious, or nationalistic glasses obscures the most salient feature. One would be observing the vehicle rather than the purposeful driver within.²¹⁸ Political movements, from tiny affairs to world empires, could be

²¹⁷ These phenotypes are themselves Complex Adaptive Systems. For instance, a few individuals might be handpicked to form a committee in the hope that its decisions would reflect known personal preferences of the members. However, once members begin to interact, novel patterns of behaviour often surface.

²¹⁸ Buddhism, Judaism, Christianity and Islam were all triggered by a single idea that germinated in the supreme intellect of one individual. Customs, rituals, rules and regulations that were added later were mere elaboration reflecting natural accumulation of complexity.

traced back similarly to individuals. Hammurabi, Alexander the Great, and Genghis Khan essentially created something out of nothing. In the same manner, if the history of the British Empire were to be analysed, there would be little argument about the identities of the handful of individuals who initiated and then nurtured that grand design through its long history. One fundamental fact must be kept clearly in mind though: they did not set out to create an Empire. They simply wished to promote or safeguard their interests and to impose their opinions on others.²¹⁹ History of other nations shows similar traits. One needs only mention Gandhi, Lenin, Mao Tse-tung, Stalin, Hitler, Franco, Castro, Saddam Hussein, Ayatollah Khomeini, and Mandela, to illustrate the point. There is naturally a measure of sincerity and belief in all cases.

The basic process is essentially the same in a modern multiparty democracy. For example, Ramsay MacDonald (1866-1937) and a few other trade union leaders formed the British Labour Party in 1906. It is only to be expected that the Party should have evolved over the decades. However, a glance at its recent history exposes the extent to which the Party is stamped by the will of its leader and his close associates. The contrast could not be greater between the Party under Kinnock, Smith and then Blair. When the latter became leader in 1994, the Party ceased, for the moment at least, to be recognisable as a socialist party. It is of course possible to imagine a return to a more traditional regime at some future date, as machinations within the Party while Blair was away on holiday during 'Black Christmas' 1998 clearly suggest. The Conservative Party followed an identical path. The contrast between what the Party stood for under Heath, Thatcher and Major is manifest. It is not altogether impossible, to foresee a lurch towards a 'socialist' mode if that were to help the latest leader of the Conservative Party to come to power. Ultimately, any party is the means for a few individuals to gain control, power, and all that goes with them. That has to include a certain 'spin' of political or economic ideology.²²⁰

The same comparisons could be made, in the case of the former USSR, between Stalin, Khrushchev, Gorbachev and Yeltsin. A differentiation must be drawn between what had to be done under force of circumstances and what was actually done. Gorbachev and Yeltsin confronted an almost identical situation, but their responses were materially dissimilar. The tussle between the two during 1990 and 1991 was not

²¹⁹ See Ferguson, *Virtual History*, 1997, for informed speculation on major historic events.

²²⁰ See discussion of egoist behaviour of politicians in the section on Public Choice Analysis in Chapter 4.

over politics or economics. It is of interest to recall, as an illustration, that when the Central Committee of the Communist Party voted in February 1990 to abolish the leadership role of the Party, Yeltsin opposed the motion. His popular image as the defender of liberal reforms is not completely beyond question.

The mechanics are identical under all systems of government. A dominant individual comes to the fore having selected an ideology beforehand to provide a rallying cry.²²¹ On the way, the aspiring leader assembles a clique of supporters whose fortunes are tied to his or her cause. Ibn Khaldun (1332-1406) and then Machiavelli (1467-1527) described the process in vivid detail. More recently, Bakhash, professor at Princeton University, summed up the procedure as it applied to the Islamic Revolution in Iran. Khomaini, Bakhash wrote, "was able to articulate themes and touch on issues that powerfully roused the mass of the people. He managed to be all things to all people. Islamic fundamentalists and westernised intellectuals, bazaar merchants and the urban masses, came to see in his vision of an Islamic state the chance to realise their very disparate aspirations." Khomaini also "had in Iran a network of clerical leaders, religious students and political activists."²²²

The interests of a few individuals, often those of a single person, shape businesses as well as empires. Weinstock, to cite one instance, dominated Britain's electrical and electronic industry through his grip on the General Electric Company. He battled for over two decades against the Clark brothers, who ran Plessey, GEC's main competitor. At base the battle was between individuals not businesses. Far from being an exception, such sagas of dominance and rivalry are common. For example, plans to merge Glaxo and SmithKline, a £100 billion deal that would have created a company that is only second in size to General Motors, foundered in early 1998 because of disagreement over who would take the top jobs.²²³ Again, it should be stressed that a degree of belief is involved. Individuals convince themselves that they are working for the public good, and to an extent that might actually be the case.

Cascading rewards and penalties keep the hierarchical system in being, structured around the needs of those few egoist individuals. For instance, chairmen of companies

²²¹ This does not have to be blatant. For instance, it was perfectly natural for the son of Bush, 41st President of the USA, to follow in his father's footsteps in reaching the upper echelons of the Republican Party.

²²² Bakhash, *The Reign of the Ayatollahs*, 1985, p 19.

²²³ *Sunday Times*, 15 February 1998, and 1 March 1998.

ostensibly recruit non-executive directors to their boards to foster good governance. But, non-executive directors also set salaries for chairmen. In practice, a few persons basically play a national game of musical chairs. Each serves as a chairman in one corporation and as a non-executive director on a number of other boards. Herman and Chomsky presented evidence to illustrate this aspect of business life. Taking ten large American media companies as an example, they reported that the same 95 non-executive directors "had directorships in an additional 36 banks and 255 other companies (aside from...their own firm of primary affiliation)."²²⁴

This section underlined the role of the egoist individual as the fundamental unit in the political economic arena. As such it verified one of Liberalism's cardinal tenets. An analogy was drawn between the function performed by the individual in social change and the role of selfish genes in natural evolution. In another parallel with Complex Adaptive Systems, it was argued that individuals are not necessarily concerned with the good of society. They seek to survive and provide their progeny with the best possible chances of survival. They are programmed to do so, as they are themselves 'survival machines' for their genes. But, as suggested by Adam Smith a few centuries ago, in doing so they might benefit society at large, although that might not be their intention.

Cooperation and Competition

In the midst of mushrooming complexity fuelled by actions of selfish egoists, it would be unrealistic to expect anything but rampant competition. However, contrary to that plausible expectation there is undeniable evidence, at the level of genes as well as living entities, of widespread cooperation. At heart, states wish to act as true Mercantilists. In practice they often behave as Liberals. Companies work closely with each other even though they might be potential or active competitors. Politicians, certainly in democracies, find common ground for collaboration even when they feel deep-seated hostility to their political adversaries.²²⁵ Interactions between individuals in everyday life are not haphazard events driven by blind self-interest. They show unmistakable imprints of cybernetic laws and Game Theory, imposing an added layer of rationality to self-organisation induced by complexity.

²²⁴ Herman and Chomsky, *Manufacturing Consent*, 1994, p 8.

²²⁵ For instance, several traditional arrangements, such as 'pairing' between members of opposing parties in Britain's Parliament, are a common feature of political life.

Cooperation could be traced in the final analysis to self-interest. At one level, the incentive for cooperation is easy to comprehend. Cooperation between kith and kin has rational bases as they are survival machines for practically the same genes. Group cooperation between a few unrelated individuals could also be rationalised reasonably easily. Experience shows that by working together animals are able to fight common enemies more effectively. The same principle no doubt entices nations to form alliances against others. Under some circumstances, survival could be assured with higher probability when individuals collaborate towards a shared objective.

However, the above examples do not explain numerous instances of cooperation in situations where these relationships are not in evidence. Explanations for this paradox are emerging through the field of Game Theory. In one game, the famous *Iterated Prisoner's Dilemma*, there are two players and a 'banker' who pays out rewards and levies penalties. The players could choose to cooperate or compete. If one always cooperates when the other persists in competing, the former would lose badly while the latter would gain handsomely. But if both were to cooperate at all times, then there is a high probability that they would both benefit. Admittedly the rewards in this instance might be less than those derived when one competes against a foolishly cooperative opponent. But equally there is a good chance that the rewards would be more than for costly mutual competition.

Many encounters in life, including events in the international political economy, could be shown to be variations on the *Iterated Prisoner's Dilemma*. Does one cooperate or compete for best results? When two parties meet for the first time the temptation to compete is high, in the hope that the other side would choose to cooperate. As the encounter is repeated a few times, it becomes clear that cooperation could lead to benefits at the expense of the banker. A constant state of competition is costly to both players; third parties, the banker or the public, benefit more in that case. Hence, when considered in purely selfish terms, it is often best for the two parties to cooperate at the expense of others. However, Game Theory defines two key requirements for spontaneous cooperation to emerge:

- There has to be a significant probability of continuing future encounters between the same parties, otherwise the possibility of quick once and for all profit becomes too tempting. For cooperation to evolve without outside

compulsion, the future should cast “a large enough shadow onto the present.”²²⁶ If future encounters were unlikely then the only evolutionarily stable policy, ESS, would be to compete on all occasions.

- The two sides should be able to recognise each other and recall actions in previous encounters.²²⁷ In this context, Game Theory recognises *reputation* and communication as significant factors in determining the nature of interactions between conscious partners, including nations.

Game Theory asserts that rewards do not have to be symmetric, or even of the same type, for spontaneous cooperation to emerge.²²⁸ For a strategy to be stable over time, a player should have only one aim: to do as well as possible without envy and irrespective of how well the other player is doing.²²⁹ This also reflects the basic aim of natural evolution as discussed earlier. Contrary to classic Mercantilist ideology, therefore, relations between states, and of course individuals, are not always of the zero-sum variety, where a gain by one side inevitably means a loss by the other.

In consequence, Game Theory advances practical ideas that are of significance to the topics discussed in this thesis. For example, as copious variety and freedom for internal elements to interact are essential for optimal performance by a Complex Adaptive System, Game Theory indicates preference for minimal controls, by national governments and international regimes say. Similarly, the obsessive intent of dictators to enforce total compliance is seen as costly and irrational. The effect on the nation is disastrous due to lack of variety and inadequate frequency of interactions. Moreover, the state has to set draconian rules to limit dissident variety and then put enough security police on the street to control what is left in accordance with Ashby's Law. In other words, the price of enforcing compulsion is routinely too high for it to be an evolutionarily stable strategy. Sustainable control could be achieved more efficiently by adopting rules that “elicit compliance from a majority of the governed”, because they “find it profitable to obey most of the time.”²³⁰ Game Theory, in that way, throws light on the poor performance of dictators. As they also risk an early and violent death, they

²²⁶ Axelrod, *The Evolution of Cooperation*, 1984, p 20.

²²⁷ *Ibid.*, p 24.

²²⁸ Kuwait and Saudi Arabia place large orders for arms from the USA for that very reason. America profits while the two other nations shelter under the US security umbrella.

²²⁹ Axelrod, *The Evolution of Cooperation*, 1984, p 22.

²³⁰ *Ibid.*, pp 150-153.

come out as all time losers. It is argued here that heavy handed attempts by the USA and its allies, the IMF, WTO, and the World Bank, to impose global 'cooperation' based on a specific view of world affairs might be just as short-sighted.

Elites and hierarchies are of particular interest in Game Theory. It is undeniable that the global system presents a hierarchy that stretches from a dominant hegemon, through other powerful states to the weakest and poorest. Game Theory suggests that one side in an interaction would always compete if it were known that the other side has no option but to cooperate. Even in cases of mutual cooperation, the rewards might well be asymmetrical. A powerful nation faced with the possibility of interaction with a weaker nation would compete and become more dominant, while the weaker side would cooperate and receive significantly fewer rewards. At the same time, a prosperous state has more scope for interactions with partners at the same level in the global hierarchy. In this case mutual cooperation is more profitable for both sides. Room for manoeuvre for the weaker nation, by contrast, is strictly limited. This might suggest echoes of Mercantilism; Game Theory merely identified the underlying processes. Could a nation at the lower end of the hierarchy do anything to make life more tolerable for itself? As discussed in Chapter 14, Game Theory throws a glimmer of hope for the underdog.

Several conclusions emerge from this section. Firstly, cooperation without the need for external coercion is more efficient and profitable. Secondly, Complex Systems theory and Game Theory provide an explanation for the commonly observed phenomenon that rich nations are more likely to grow richer, and the richer they are, the faster they could expect to flourish. Morality, fairness, and ideology have little to do with that inevitable process. Dependency theorists have argued that investment by wealthy countries in poorer areas of the world creates a "structure of dependence" that leaves the balance of benefits with the powerful economies.²³¹ The contention here is that the process is rational and predictable. Thirdly, poorer and weaker nations could adopt strategies, explained in Chapter 14, which would improve their performance in international encounters.

²³¹ Between 1946 and 1967, for instance, new capital from the USA for direct investment in Latin America amounted to \$5.4 billion. About \$4.4 was later reinvested from profits. However, transfer of profits from Latin America to the USA amounted to \$14.7 billion. Dos Santos, *The Structure of Dependence*, The American Economic Review, Volume 16, 1970.

Reputations: Good and Bad

Reputations and *labels* feature prominently in Game Theory. As illustrated below they also play a major role in socio-economic encounters. Knowledge of how each side might behave and, even more importantly, what they are capable of doing affects future interactions between players.²³² But reputations also perform a more active role in politics and economics. Powerful countries strive to acquire a reputation for toughness, to ensure voluntary compliance by other players, without the need to 'fight' on each and every occasion. They could then elect to *compete* while inducing others to *cooperate*, and thereby gain better rewards than otherwise would be the case. Such a reputation could be acquired more efficiently by soundly, and very publicly, defeating a weaker 'miscreant'.²³³ An elaborate edifice of weighty ideological and moral disagreements might be erected to justify action and to highlight perils to national and international interests. In that way negative labels brand enemies and positive labels extol the virtues of the dominant power. Causes, however, are not sufficient in themselves. A ground swell of demands for decisive action is indispensable. A variety of tactics are deployed for this purpose.²³⁴ Press briefings and dramatic journeys abroad by senior government representatives amid copious publicity are the visible signs of that activity.

Leading powers favour voluntary compliance with their wishes from most nations without the need for overt compulsion. In that effort nothing is left to chance, including the use of *memes* in sports, culture, fashion, and history.²³⁵ British 'fairness' in sport was a meme used for a long period to sell the idea that Britons are uniquely fair in all their dealings. That ploy delivered handsome returns. For instance, it was difficult for most people to believe that the British government told an untruth when Egypt was attacked by Israel in 1956 following nationalisation of the Suez Canal by Nasser. It was claimed that Britain and France stepped in to restore peace. Years later it was revealed that the three countries had conspired to attack Egypt in concert.²³⁶

²³² Axelrod, *The Evolution of Cooperation*, 1984, pp 152-154, especially an example Axelrod gives in relation to US actions in Vietnam.

²³³ Hence the USA is in constant agitation against 'enemies' such as Cuba, Libya, and, more recently, Yugoslavia.

²³⁴ The Kurds, for example, were used after the Gulf War to whip up feelings against the regime in Iraq. They are a minority that has genuine grievances against Iraq, Turkey, Syria and Iran. Turkey is particularly brutal to the Kurds. But the 'international community' does not find that as objectionable as Iraq's less determined efforts.

²³⁵ Dawkins described a replicator of cultural transmission as a *meme*. Dawkins, *The Selfish Gene*, 1989.

²³⁶ The episode, incidentally, underlines the role of the individual in world events. Eden (1897-1957), British Prime Minister at the time, was obsessed with hostility against Nasser. He, it is reported, went as far as ordering his cabinet secretary to destroy documents relating to that event. Heath, *The Course of my Life*, 1998.

The above examples were given to highlight an important element in the global system. Nations and their leaders seek to present their concerns and interests in the best light. Equally, they set out to attach negative labels to those who stand in their way. In that respect they clearly behave in accordance with the provisions of Game Theory. The basic aim is to be able to decide when to *compete* or *cooperate* for best results. But why do so many nations fail to adopt that strategy. Undeniably, cultural sophistication, education, and wherewithal have a great deal to do with differences in performance. Dictators routinely consider force and bluster as the main tool in retaining power at home and winning arguments abroad. More importantly, dictators could not expect willing support from their subjects to 'sell' a particular message. The *meme* of 'good reputation' has to be reinforced by constant repetition and transmission without supervision. It would not, and could not, be successful otherwise as an evolutionarily stable strategy. Conversely, it is relatively easy to plant a negative reputation on a dictator, as people would be inclined to believe the worst in that situation.

In other words, a *meme*, not unlike a gene, has to sink or swim in line with its success against other *memes* competing on the fitness landscape. Willingness by most individuals to back one *meme* in preference to another is fundamental to a successful outcome. Alienation of the common people under the stifling conditions of dictatorship renders consensus a virtual impossibility. In that instance, the effort to acquire a positive reputation never goes beyond being a tawdry attempt at propaganda. Higher levels of complexity confer on a nation, or more accurately a state or an elite, better capability to engender consensus at home and a desired reputation abroad.²³⁷

Complexity requires a large measure of variety and individual freedom to interact. In other words, complexity and consensus thrive under the same conditions. A free-for-all does not exist anywhere though. In a democratic state, a distinction is made between tactical day to day affairs and matters of strategic significance. Hence, commentary and interactions of every conceivable variety are not only allowed but also encouraged in the former instance. On the other hand, little if any debate is permitted on topics bordering on fundamental issues such as the distribution of wealth and power, and the basic political structure. Notwithstanding that important distinction, a state in that

²³⁷ Herman and Chomsky, in *Manufacturing Consent*, 1994, pp 1-35, described the power of the media and the means by which they are manipulated. The authors presented a propaganda model with filters that ultimately determine what the public are told and what they are conditioned to believe. They highlighted in particular the use of ideological labels to differentiate 'friends' from 'enemies'.

position manages to secure for itself a 'democratic' reputation, and achieves in the process a large measure of compliance at home and abroad at little cost.

This section argued that actors in the political economic issue area implicitly conform to the tenets of Game Theory, through their use of reputation as a means to enhance their performance in local and international encounters. Successful nations, it was shown, fully understand the utility of public relations. However, there are two requirements. Firstly, a positive reputation has to be built on some bases of fact. It could not be wholly fictitious although it might well be a gross distortion. Secondly, little could be achieved without consensus. Obtaining compliance by compulsion, it was asserted, is the least efficient option that could be pursued by a state.

Conclusion

This chapter presented further evidence to test the hypotheses that international political economic processes behave as Complex Adaptive Systems. It explored also the role of Cybernetics and Game Theory in the issue areas considered in this thesis. Early in the chapter it was demonstrated that detailed forecasts and plans are untenable in these fields, a clear sign that they act as nonlinear phenomena. It was posited that some political economies might be better equipped to succeed, and survive, because they have learnt from past experience that the future is uncertain. Readiness to adapt and to learn is built into their fabric to allow for this precondition.

While considering the arrow of time it was concluded that the past affects the present substantially, through accumulation of frozen accidents and gateway events, that the future is unpredictable, and that there are no shortcuts to sustainable evolution. Discussion indicated, furthermore, that continual change in the political economic field follows a pattern of punctuated equilibrium, with long periods of apparent calm and short bursts of intense activity. These traits, it was pointed out, were identical to the evolutionary characteristics of Complex Adaptive Systems.

The chapter revealed yet another fundamental feature, *inequality*, that links Complex Adaptive Systems and social, political, and economic phenomena. As mentioned earlier, Dawkins argued that life "evolves by the differential survival of replicating entities". And the entity with the highest complexity, or wealth or power, stands a better chance of acquiring more of the same. It was shown that social systems exhibit a distinct

hierarchical structure with an elite of a few individuals enjoying a virtual monopoly on power. The hierarchy could be steep or shallow and the elite could be more or less exclusive, depending on factors such as tradition and form of government. Moreover, it was stressed that evolution is an open-ended process that does not lead to an end-state.

Examples were advanced to paint a picture of how political economic systems operate, and to highlight parallels with Complex Adaptive Systems and Game Theory. The following features were underlined to that end:

- Individuals, and by implication nations, act as *selfish entities* in that they seek to promote their own interests above all else. However, their efforts might result in unintended benefits to society at large.²³⁸
- Spontaneous cooperation often emerges without external direction, but nations near the top of the international league would always have a decisive advantage in their dealings with those near the bottom. Hence, there is a natural, and explainable, tendency for the gap between the two to grow wider.
- Nations could not substantially compress the time needed for them to acquire higher complexity or, in common parlance, to develop.
- Finally, nations use reputations and labels to enhance their performance in international encounters, but success in that task depends on the balance of legitimacy, or consensus, enjoyed by the two sides.

²³⁸ Adam Smith suspected so much back in the 18th century without knowing the primary forces that powered the *invisible hand*.

PART THREE

**LINEARITY AND NONLINEARITY
ON
THE WORLD STAGE**

GLOBAL INSTITUTIONS AND INTERACTIONS

Part Three shifts the focus of the thesis from theoretical to practical issues. The present chapter assesses the mode of behaviour and past performance of the United Nations, World Bank, and other international organisations. The aim is to direct attention to the linear frame of reference within which these bodies, and especially the World Bank, operate and the implications of applying reductionist methods associated with such a viewpoint to political economies that operate, as argued in previous chapters, as Complex Adaptive Systems. Inequalities between nations are analysed at a strategic level, leaving the details to future chapters. Aid, debt, and international trade are also reviewed in this chapter to test for complexity in these activities. To provide a context for later discussion, the next two sections contrast the need for universal variety to enable nations to function optimally as Complex Adaptive Systems, on the one hand, and the wish of leading political powers to impose a high degree of global uniformity, on the other.

Essential Variety

Theoretical work in the development arena has concentrated mainly on analysing the performance of Elite Nations, with an implicit assumption that there is an ultimate state of 'development' that has been attained by these countries. Attention was focused, therefore, on discovering universal prescriptions to allow the process to be repeated elsewhere, hopefully even more speedily than was the case in the past. Essentially, that belief is founded on a linear frame of reference that takes predictability and determinism for granted. However, previous chapters mounted an initial challenge to the one-model-for-all conception. It was argued that political economic processes are largely unpredictable and that evolution is an open-ended process without shortcuts. It was also stressed that variety is essential for sustainable adaptation and survival under such conditions of uncertainty.

Depth, as used in Complexity Systems theory, implies build up over a long period of time of variety, redundancy, resilience, and growth of interactions on a wide front.

Comparison between England as it was over three centuries ago, say, and some present-day Emerging Nations reveals a huge gap in *depth*. When Charles I (1600-1649), for example, decided to fight the rebels in Scotland in 1639 “Lords Saye and Brooke staged a damaging public protest against the non-parliamentary expedition” used by him to wage that war. There were other challenges to the king’s *Personal Rule*, as in the case of the Earl of Mulgarve and the other eleven Petitioning Peers who called on him to convene the *Long Parliament* in 1640. At the heart of the debate was common law guarantees of personal property rights.²³⁹ Mengistu, for example, could not have had such an easy ride had he lived in 17th century England rather than late 20th century Ethiopia. His regime exercised arbitrary power and inflicted great harm while Ethiopians watched from the sidelines. More importantly, depth allowed Britain to withstand numerous internal and external challenges. Its numerous institutions and checks and balances provided essential variety and flexibility. In that sense Britain, unlike Ethiopia, could be thought of functionally as an evolutionarily stable strategy.

When variety is low, most individuals, or nations, are equally suited or unsuited to one set of conditions. That might not be disastrous if conditions remain unchanged. However, they are known to vary continually over time and from place to place. Sameness in this case could be positively harmful, as it does not permit the system to respond flexibly to new demands. Uniformity could only be achieved through numerous compromises. Consequently, no one could be perfectly suited for the average conditions specified and, hence, everyone is disadvantaged. Constitutions, legal systems, ideologies, and technologies might be borrowed from others. But it is essential to visualise the intricate cross links, and added variety, that must evolve gradually, often painfully, for these elements to become natural components of the fabric of a nation. The notion that in decades to come most people would acquire life styles modelled on a few ‘leading nations’ is, therefore, questionable as a sustainable strategy.

Imposed Conformity

The intentions of nations at the top of the global hierarchy are straightforward. They seek to retain the present global division of labour in which they are exporters of manufactured goods and services, while Emerging Nations are suppliers of raw materials and minerals. In Game Theory parlance, leading nations prefer to *compete*

²³⁹ Ferguson, *Virtual History*, 1997, pp 97-109.

while forcing others, lower down the line, to *cooperate*. It might be thought that the above scenario is a modern feature, but history suggests otherwise. Hourani gave a graphic picture of the decline of the Ottoman Empire in step with the emergence of European powers. Attrition started when the Ottomans gave France concessions, known as the *Capitulations*, in 1569.²⁴⁰ Representatives of foreign powers gradually assumed an ever-increasing role in steering the Ottoman economy. By the 19th century, the Ottomans were at Europe's mercy. Asia and Africa followed similar lines.²⁴¹

Simultaneously, European enterprises, known as the *East India Companies*, were created to integrate and intensify political, military, and economic power abroad. Queen Elizabeth granted the charter for the British East India Company in 1600. It effectively ruled India for over two centuries. Its Dutch equivalent was formed in 1602, and the Danish version appeared on the scene in 1729. They were backed by their governments and were given extensive powers to rule and exploit without limits. The parallels between these powerful enterprises and some modern multinational corporations and international regimes, such as the IMF, are unmistakable.

Influences such as those of the *Capitulations* in the Ottoman Empire and the East India Companies in south and Southeast Asia had an important, but largely ignored, bearing on the global political economy. At the height of their influence, from the 17th to the 19th centuries, Europe was experiencing a notable period of openness in 'international' trade. But there was no global openness. In many regions on earth, the powers of the day were doing their utmost to inhibit free trade. At home, in Europe, openness yielded better results, while abroad closure, in the face of local competition and that from other foreign powers, worked better. Methods used in the past, as in the case of the *Capitulations*, are remarkably similar to those employed at present, as exemplified by the *Structural Adjustment Programmes* advocated by the IMF and World Bank. This assertion will be substantiated in detail later when international debt is discussed. Basically, leading powers seek to impose one common fitness landscape in which they are best equipped to occupy the summits.

²⁴⁰ Frenchmen were allowed to "travel and trade freely and to have commercial disputes decided in special tribunals, not in Islamic courts" throughout the Ottoman Empire. Italian cities had acquired similar concessions earlier and Dutch and English traders followed suit later on. Hourani, *A History of the Arab Peoples*, 1991, p 274.

²⁴¹ It is perhaps worth stressing that the *Capitulations* were first granted when the Ottoman Empire was quite powerful. The Sultan was indulging himself in alliances with certain European kings against the Habsburgs of Austria and Spain.

The United Nations

When it was created, idealists saw the UN as the obvious world venue for defining and policing equitable international economic and political practices. After fifty years of disillusionment many believe it has not fulfilled that hope. Criticism is not fair though. The structure chosen for the UN in 1945 reflected the balance of power that existed immediately after World War II. A Security Council of fifteen members dominates the organisation. The five permanent members, USA, Britain, France, China and Russia, each have the all-important power to veto any proposal at the Security Council. The General Assembly on the other hand includes all member states, each having one vote. Normally, it meets once a year and the proceedings involve in the main speeches by heads of governments beamed at their domestic audiences. In effect, the structure ensures that a nation, or even a group of nations, would find it most difficult to push a proposal through the UN that did not meet with the approval of the leading players.

Changes to the UN Charter have to be agreed by at least two-thirds of members of the Assembly; most have sound reasons to fall in with the wishes of this or that power. Therefore, although proposals to restructure the UN are aplenty, the organisation has not materially altered in over fifty years. The most likely development is expected to be cosmetic in nature; an extension to the permanent membership of the Security Council by the inclusion of Japan and Germany and two members from Africa and Asia. The addition of Japan and a second European member would imply formal recognition of the emerging global tripolar hegemony referred to later in this chapter.

Weakness of the UN and its domination by the USA became more noticeable following the collapse of the USSR. For instance, Boutros-Ghali, the sixth secretary general of the UN, experienced problems in his relations with the US government soon after he took office in 1992 over a number of issues. In such a contest, the USA holds all the winning cards as he later found to his cost.²⁴² The weakness of the UN was also revealed by its fruitless efforts to effect a settlement in Bosnia through the UNPROFOR so-called peace keeping mission. It cost about \$3.5 billion in the three years from January 1992 to early 1995 with next to nothing to show for that expense but broken promises. A solution was only found when the USA, operating through NATO, decided that the time was ripe for action.²⁴³ Impotence of the UN was exposed

²⁴² Meisler, *Foreign Policy*, Spring 1995, p 180.

²⁴³ *UN Blues*, 1995.

yet again when NATO bombed Serbia in early 1999 because of problems over Kosovo without seeking a mandate from the Security Council.

For the moment, therefore, world affairs are viewed at the UN through the prism of America's interests and those of its close allies. US actions are often legitimised through the UN, and that procedure is now incorporated into America's rules of engagement for all overt operations whenever possible. The UN, therefore, presents a classical, and highly predictable, hierarchical structure with a small elite at the top, giving clear evidence of Game Theory in action. The cardinal point here concerns the imposition on a large number of member states of an inflexible viewpoint on security, politics, and economics. Under these circumstances, diversity is discouraged, and often punished.

The UN has so far concentrated on three uncontroversial tasks. Firstly, it acts as a relief agency at times of extreme hardship. Secondly, it provides a natural clearinghouse for issues that command ready global support, such as the work undertaken by WHO. And thirdly, the UN exercises an advisory role in several issue areas. In pursuing this last task, the UN adopted the format of 'world summits' in recent years. It is fair to say that in general, observers view the summits as being good at rhetoric but short on results.²⁴⁴ The 1995 Copenhagen Social Summit failed to attract many heads of state from leading nations. The Berlin conference on climate change, held in the same year, was the follow-up to the 1992 Earth Summit in Rio. But it also continued the tradition of other UN events. Achievement of the moderate targets agreed in Rio for reducing carbon dioxide emissions, it was decided, will have to wait longer than the year 2000. The conference, as predicted, failed to set any clear targets to combat environmental problems that were yet again pored over at great length. The Rio event itself did not yield many concrete results, although it succeeded in linking development and the environment and in establishing the United Nations Commission on Sustainable Development, CSD.²⁴⁵

Essentially, perceived shortcomings of the UN reflect the fact that it is principally a means to retain the present global structure rather than an agency for change. But there is another more significant message in the above remarks. The UN's role and influence are, and could only be, marginal. In over fifty years, it has demonstrated beyond

²⁴⁴ See for instance comments on the 1995 World Social Summit in Brown, *State of the World*, 1997, p 129.

²⁴⁵ *Ibid.*, pp 3-22.

question the futility of attempting to place a single organisation at the top of the international pyramid for the purpose of handing down recipes of practical and global utility. Top-down systems of government and other reductionist actions plainly did not work. This is hardly surprising in a system that involves over six billion egoist elements grouped in some two hundred states absorbed by their, and their elites', diverse concerns. The organisation is positively linear while the processes it seeks to influence are patently nonlinear. Unpredictability and diversity of history, opportunities, problems, capabilities, beliefs, and values make any attempt to steer global affairs in one direction doomed to failure. Comparison with actions by a hegemonic power to impose its wishes far and wide is inappropriate, as the task is much simpler in that instance.

If the UN were free and able to act as it pleases, it would still be confronted by the traditional cybernetic quandaries. To move the global system in a desired direction, assuming agreement on what that direction might be was feasible, the UN could elect to match variety with an equal amount of control variety on every issue. That is plainly impossible. Alternatively, the UN could legislate for every significant eventuality to define the 'rules-of-the-road' at all such instances. Again that would present serious practical problems. Alternatively, the UN could leave the global system to self-organise itself. The emerging pattern would be shaped by numerous influences, including the balance of political and economic power between states. The UN would then find its niche within the emerging pattern, and would operate as a facilitator rather than initiator of change in accordance with the wishes of the dominant powers. That is what has happened since 1945.

If the above conclusion were to be taken a small step forward, it would be possible to argue that the international political economic processes imposed the pattern presented by the UN because they behave as unpredictable Complex Adaptive Systems. The actors involved in defining the UN's structure and in managing its affairs did not have to be aware of the existence of Complex Adaptive Systems, Game Theory or Cybernetics. These fields are just as intuitive as the laws of motion or gravity that govern linear phenomena. However, the picture is not all bleak. The UN could, and does, fulfil a subtle but constructive role in development through the work of its agencies, such as WHO, UNDP, and UNICEF, in addressing basic needs.

The World Bank

The leading powers, working through G-7 summits, have insisted all along that the IMF and the World Bank, as opposed to the UN, should be the principal media for determining global economic and development policy issues. Despite that vote of confidence, both agencies have met with constant criticism since their early days. In late September and early October 1998, concern that they are not succeeding in their tasks became official when heads of state, significantly led by those from Britain and the USA, met in New York to consider ways of improving their performance in the future. As described below however, the World Bank experimented for over fifty years with a variety of strategies without finding a solution to its shortcomings. The hypothesis in this thesis postulates that a remedy could not be found if actions designed with linear systems in mind were applied to what are evidently Complex Adaptive Systems.

The inaugural meeting of the sister organisations took place in Savannah Georgia in 1946, and at the end of that meeting no one was left in any doubt that the USA was in the driving seat. The USA chooses presidents for the World Bank and the IMF; by tradition an American for the former and a European for the latter. For good measure, the Bank is located in a building owned by the State Department, a stone's throw away from the White House and, furthermore, "the US reviews each loan proposal in detail." Not content with that level of cooperation, "the Reagan administration in the summer of 1983 had a 'spy' software program secretly installed on the Bank computers" to make sure the US government missed absolutely nothing.²⁴⁶

The two organisations started life as institutions designed primarily with the economies of the industrialised world in mind. The Bank issued grants to European countries, while the IMF concerned itself with maintenance of stable exchange rates to facilitate growth in international trade. However, lending by the World Bank switched from Europe to 'developing' economies when the Marshall Plan was launched with substantially higher funding. Floating exchange rates made the original role of the IMF somewhat irrelevant as well, but the debt crises in the early 1980s caused a greater shift in emphasis. Major banks in Elite Nations required rescue efforts on a large scale, and consequently the IMF directed its attention to Emerging Nations to ensure that they met their debt obligations. Later, the collapse of the USSR and the need to absorb its past members into the 'world economy' gave the IMF an added preoccupation.

History of the World Bank since 1946 demonstrates clearly the impact on the Bank's business of its elite, led by its president, and the hierarchical nature of its structure. The first president, Meyer, lasted only six months. He left because he could not gain unquestioned control over the organisation. The second, McCloy, received assurances that "he, and not the board, would run the Bank." He brought his team with him from Wall Street.²⁴⁷ The Bank restricted its lending to reliable clients only, in other words to European countries, until the Marshall Plan made that role obsolete. The Bank then shifted its attention to Emerging Nations but that was not to McCloy's liking and he resigned after only two years in office.

Eugene Black succeeded him as president. He respected the stipulation that the Bank should lend money for infrastructure projects mainly.²⁴⁸ But he insisted that borrowers should be required to implement wide-ranging reforms. That dictum became a *frozen accident* that was to involve the Bank's officials, in later years, in more or less determining the national policies of so-called sovereign states. Caufield, Rich and other authors documented a veritable litany of blunders in that context. Caufield wrote, for example, that the Bank "was founded on disdain for, and even fear of, local knowledge and opinion...The trial-and-error method, the common wisdom that had worked for centuries in the backwaters of Africa and Asia, would not suffice....By translating complex and messy real-life problems into numerical terms that could be broken down and analysed, the Bank's Washington experts could formulate solutions to problems in countries they hardly knew."²⁴⁹

When Black left in 1963 he handed over an organisation to George Woods that was highly profitable. However, while total GDP for Emerging Nations was growing, their foreign debts were increasing three times faster. Black also bequeathed another enduring *frozen accident*; he measured the performance of the Bank in terms of how much it lent. Success meant high lending irrespective of the consequences. Emerging Nations borrowed money for infrastructure projects that were then designed and built by firms from Elite Nations. Most of the money went back to the donors. The loans had to be paid back in foreign currency and, hence, Emerging Nations were forced to

²⁴⁶ Caufield, *Masters of Illusion*, 1996, pp 197-203.

²⁴⁷ *Ibid.*, p 52.

²⁴⁸ The World Bank's Articles of Agreement allow 'general purpose' loans only in special circumstances.

²⁴⁹ Caufield, *Masters of Illusion*, 1996, pp 60-61.

export, almost at any price. In short, Elite Nations could not lose and Emerging Nations could not win; an unambiguous illustration of Game Theory at work. In time structural stabilisation and adjustment programmes became inevitable to squeeze more out of that pot, with drastic effects on the populations involved.²⁵⁰ Fast inflow of large sums of money had one unavoidable result: profiteering, and corruption, by elites in Emerging Nations on a vast scale. Woods, president from 1963 to 1968, admitted in his last month in office “waste, inefficiency and even dishonesty have all too often deflected resources from development”. Furthermore, Woods acknowledged that development, no matter how well funded, was not working out as intended.²⁵¹

He handed the reins to Robert McNamara who promptly decreed that Bank activities up to his time did not much improve prospects for the development of Emerging Nations. His solution predictably was to lend them even more. He continued Wood’s modest shift to basic needs, albeit the emphasis was still more in words than in deeds as funds for that budget head never exceeded 10 percent of total lending. Major infrastructure projects were still in fashion. Four points should be highlighted here as they illustrate the main theme in this section. Firstly, throughout McNamara’s reign, from 1968 to 1981, the Bank’s board was marginalised. Secondly, his simple philosophy was based on a linear view of the international system in general and development of Emerging Nations in particular.²⁵² Thirdly, by the usual yardstick of the Bank he succeeded spectacularly; during his term of office the Bank pumped just under \$6 billion in loans annually. And finally, he failed miserably. The gap between rich and poor within Emerging Nations and that separating these nations from Elite Nations widened significantly. Furthermore, to some extent at least, the Bank induced the 1980s debt crisis.

McNamara did not last long once the debt crisis came into full bloom. He was followed by Clausen who introduced a new credo to the Bank: supply-side economics, “a version of trickle-down, the economic theory that McNamara had declared a failure ten years before.” Clausen is said to have declared “that McNamara’s rhetoric on

²⁵⁰ See for instance Allen and Thomas, *Poverty and Development in the 1990s*, 1995, p 29.

²⁵¹ Caufield, *Masters of Illusion*, 1996, pp 95-96. A major example of corruption comes, almost inevitably, from impoverished Africa. “By 1982 Zaire had accumulated a foreign debt of \$5 billion, and its president, Mobutu Sese Seko, had accumulated a personal fortune of at least \$4 billion...” *Ibid.*, p 132.

²⁵² Senator Barry Goldwater described him as “an IBM machine with legs”. His faith in ‘science’ was legendary. *Ibid.*, p 96.

poverty was never the policy of the Bank.” The policy of the Bank was thus changed at a stroke! He appointed Krueger as his chief economic theorist, and billions in Emerging Nations quickly learnt what it was like to be structurally adjusted. It is fair to say that, after some fifteen years of turmoil and billions of dollars in loans, the new experiment did not meet with unqualified acclaim either. On the other hand, the Bank pointed out in 1996 that “just a decade ago, only about 1 billion people lived in economies that could be called market-oriented; today, the figure is around 5 billion.”²⁵³ But that did not materially improved conditions for the billions concerned. Conversely, structural adjustment did bring the debt crisis under some control to the satisfaction of the donors and their bankers.

Barber Conable was appointed president of the Bank in 1986, and as befits a new leader, he felt a reorganisation was in order. His method was simple: all employees had to reapply for their posts in the Bank. Selection was then undertaken in layers down the hierarchy; each person appointing those working under him or her. A Bank well known for cronyism turned overnight into an army of confirmed ‘yes-men’. As pointed out in the previous chapter, compliance in hierarchies is acquired by a system of rewards and penalties, and having or not having a highly paid job with massive fringe benefits are the ultimate levers in that process. Conable left after five years without having achieved much. Lewis Preston, another banker, who also left little behind, followed him in 1991.

James Wolfensohn took over in 1995, and promptly promised major changes in the Bank’s outlook, practices and focus. It is reasonable to say that the period since his appointment has been characterised by critical self-appraisal by the Bank. On past evidence, substantial realignment was unlikely, but there was a feeling that something more than the usual rhetoric might be in the offing. Certainly the Bank’s *1996 Annual Report* mentioned social topics as often as economic matters. Significantly, it stressed that under its Articles of Agreement “the Bank cannot allow itself to be influenced by the political character of a member country”. In its overview of activities, the Report kicked off with the statement that “poverty reduction and sustainable development remain the central objectives of the World Bank”, a shift from Clausen’s position and back to McNamara’s ‘rhetoric’! As mentioned in Chapter 14, research work by the Bank in recent years shows early but distinct signs of a shift to a nonlinear viewpoint of development. Admittedly, that move is intuitive and unplanned at present.

²⁵³ World Bank, *Annual Report 1996*, p 11.

Judged by its policies and actions so far, the World Bank views the process of development as a linear phenomenon in the best Newtonian-Cartesian tradition. Once the 'appropriate' facts are gathered and analysed, problems are carved up into chunks, and solutions, independent of local variations, are put forward that would deterministically lead in a short while to the desired end.²⁵⁴ Despite changes in emphasis and details, Bank officials never managed to shrug this questionable practice off and it remains therefore one of the most criticised aspects of the Bank's work. Emphasis on large infrastructure projects, itself a product of linear thinking, was equally damaging. Faith in the inevitability of *economic take-off* that would follow capital investment was unshakeable in the face of compelling evidence to the contrary. That obsession was to prove a disastrous mistake for many Emerging Nations. Conversely, the policy was a godsend to consultants, suppliers and construction firms from donor countries.²⁵⁵

Structural adjustment programmes much favoured by the IMF and World Bank attracted equally vehement criticism. For a long period the Bank estimated that the process of structural adjustment to a fully-fledged market economy might require no more than five loans and could be completed within three to five years. After some spectacular failures the Bank admitted that it took longer, exacted higher social costs, and required vast sums of money, to effect transformations of this type.²⁵⁶ How long and how much? After almost a decade of adjustment Turkey, as one example, is in a worse position now than before the process was started.²⁵⁷ Time and money might not necessarily be the deciding factors. As suggested by several commentators, features such as who is leading the change, how, and for what purpose, might be just as important. It does seem somewhat improbable that a single process comprised of a few specific steps could meet the diverse needs of all nations. If it were accepted that nations, and their political economies, conformed to the mode of operation of Complex Adaptive Systems, then that conclusion becomes technically self-evident.

²⁵⁴ The IMF faces similar criticisms. James Morgan, BBC Economics correspondent cited the IMF's "one-size-for-all" policy as the main bone of contention. *BBC News*, 17 May 1998.

²⁵⁵ In UNICEF's words, "the rich got the loans and the poor got the debts." Adams, *Odious Debts*, 1991, p 160.

²⁵⁶ In a book published for the Bank, Elaine Zucherman concluded that adjustment programmes "have taken longer to implement and have proved far more arduous than originally expected." Thomas, *Restructuring Economies in Distress*, 1991, p 263.

²⁵⁷ Turkey received \$4.2 billion in project loans and \$3.0 billion in adjustment loans from the Bank between 1980 and 1988. It continued to borrow heavily after that; its foreign debts in 1995 were \$70 billion and repayments absorbed almost a third of its export earnings. Following years of adjustment, per capita income, GDP, and real wages have all been reduced, and it has an unhealthy inflation record. Caufield, *Masters of Illusion*, 1996, p 148.

Well-documented critiques, such as that by Rich in *Mortgaging the Earth*, support the widely held view that the World Bank has failed in its declared role as a development agency. Annual meetings of the Bank and IMF have now become occasions for demonstrations that attract representatives from almost every country and social group that these agencies were supposedly set up to help.²⁵⁸ Various explanations have been put forward for this failure but none are completely convincing. Puchala and Hopkins observed, for instance, that "each regime has an elite who are the principal actors within it." They went on to point out that regimes "buttress, legitimise, and sometimes institutionalise international patterns of dominance, subordination, accumulation, and exploitation...in general regimes favour the interests of the strong."²⁵⁹ Admittedly, vested interests play a role in defining the policies of the Bank. Nevertheless, it is also clear that the Bank experimented with different strategies in seeking to perform its development tasks. Explanations based essentially on a conspiracy by powerful states, on the other hand, pose a nagging doubt: how could thousands of highly qualified individuals spend half a century and many billions of dollars on numerous schemes without, at least inadvertently, transforming the lives of their clients for the better? Modest progress has been made but the original basic ills are still there, and some have become more acute.

Persistent failure on the magnitude presented by the World Bank connotes more radical causes. The World Bank admittedly serves the interests of the hegemonic power and its allies first and foremost. But even within that framework, assisting Emerging Nations to develop is still a major priority for the World Bank. In purely selfish terms, leading economies would wish poorer nations to make some progress for obvious security and economic reasons, if nothing else. It seems reasonable, on the basis of the arguments presented in this thesis so far, to suggest that the Bank did not succeed because it experimented only with models conceived within a linear frame of reference. Adopting such a standpoint for nonlinear issue areas was destined to fail and to dissatisfy the Bank's masters and clients, as evidenced by copious criticisms from both

²⁵⁸ At the 1988 Berlin meeting "the greatest number of police since the Second World War- some 17,000 from all over Germany - were deployed to guard against potentially violent demonstrations and possible terrorism." Rich, *Mortgaging the Earth*, 1994, p 9. Three years later, a non-governmental International Forum held at the same time as the 1991 meeting in Bangkok, ended with a "declaration urging the rich nations of the world to reduce their financial contributions to the World Bank and the IMF". "Bangkok that week in 1991 was a tale not just of two cities, but of two separate planets". Ibid., p 24.

²⁵⁹ Puchala and Hopkins, *International Regimes: Lessons from Inductive Analysis*, International Organisation, Volume XXXVI, Number 2.

camps. Bruce Rich made similar observations, in relation to suspect assumptions on which the Bank's work is based, when he drew attention to the Cartesian roots that fed almost all activities undertaken by that organisation from the start.²⁶⁰

It is appropriate to summarise below remarks made by Caufield in the Epilogue to *Masters of Illusion*, as they provide clear, but unintended, backing for an explanation based on nonlinearity in the topics under discussion:²⁶¹

- “By now, the rich countries are so far ahead of the poor that simple mathematics demonstrates that the poor are unlikely to catch up, and will be hard pressed to narrow the gap...”
- “Neither food, nor money, nor anything else is distributed evenly in any country.”
- “Perhaps the key assumption underlying the Bank's creation was that there was a condition called underdevelopment and that virtually every country in Asia, Africa and Latin America suffered from it.”
- “Variety is as important to the survival of the human species as it is to crops... Monoculture lack depth and resilience.”
- The Bank assumes that “poor countries cannot modernise without money and advice from abroad.” Caufield quoted Levit's words that “development is...the capacity of a society to tap the root of popular creativity, to free up and empower people to exercise their intelligence and their individual and collective efforts to achieve a better life.”

In the last sentence of her book Caufield wrote, “...there is much truth in the saying that development...is largely a matter of poor people in rich countries giving money to rich people in poor countries.” That naturally leads to the topic of foreign debts.

Shackled in Debt

International indebtedness is not a 20th century phenomenon. Debts of the Ottoman Empire offer an excellent illustration. By the middle of the 19th century, the

²⁶⁰ Rich, *Mortgaging the Earth*, 1994, p 200, and the chapter on ‘Modernity as Development’.

²⁶¹ Caufield, *Masters of Illusion*, 1996, p 330.

Ottoman sultans were in need of new money to maintain the lifestyle to which they had grown accustomed. They borrowed money from Europe where wealth had accumulated as a result of the Industrial Revolution, growing trade, and colonisation. The loans were on a huge scale and on suitably crippling terms. Hourani wrote, "of a nominal amount of 256 million Turkish pounds (the Turkish pound was equivalent to £0.9 sterling) [the Ottomans] received only 139 millions, the remainder being discounted."²⁶² The rest of the story followed thoroughly modern lines. By 1875 the Ottoman Empire was unable to meet payments of interest and principal, and by 1881 a Public Debt Administration representing foreign powers was set up and promptly imposed its own version of a structural adjustment programme on the Ottomans.

Inability by Tunisia to repay its debts led ultimately to occupation of that country by France in 1881. Two years later France assumed total responsibility for administration and finance. Egypt followed an almost identical path, only more lavishly. Muhammad Ali (1769-1849) created a dynasty that lasted until the 1952 revolution. His successors, 'Abbas I (ruled from 1849 to 1854), Said Pasha (from 1854 to 1862), and then Isma'il Pasha (from 1862 to 1879) decided to modernise Egypt by borrowing from Europe. Isma'il was forced to sell his country's shares in the Suez Canal to Britain in 1875. The year after, an Anglo-French Commission moved in, IMF style, to run Egypt's financial affairs. The next step was formal occupation by Britain in 1882.

The above examples were included firstly to highlight the significance of foreign debts as a means of control and domination, and secondly to draw attention to the identical sequence of events the process followed then and now. In most cases a corrupt and dictatorial elite was at hand with a mixture of good, if misguided, intentions and some not so virtuous aims to line their pockets. Foreign banks were replete with money in need of investment. More often than not, large-scale projects were involved, such as the Suez Canal, accompanied by madcap schemes to transform society quickly into some other idealised model. And in line with more recent efforts the results were disastrous to borrowing nations. Nowadays the World Bank, some governments, and private banks perform a similar role. External debts of Emerging Nations took off during the 1970s and 1980s. There were new as well as old incentives for the latest explosion in indebtedness:

²⁶² Hourani, *A History of the Arab Peoples*, 1991, p 282.

- Oil money in the 1970s flooded the banking sector in the West and exerted massive pressure on banks to seek new investment opportunities.
- Conventional wisdom decreed that money is the prime mover in development. Newly industrialising countries, Brazil and Mexico for instance, borrowed money on an unrealistic scale.
- Prices of primary products exported by Emerging Nations declined, while finished goods produced by Elite Nations increased in value. Borrowing money became almost inevitable.
- The drought, particularly in Africa, left the nations affected with little choice but to seek more loans to buy food and other essential goods.
- Many Emerging Nations acquired weapons on a prodigious scale, and these were frequently financed through foreign loans.

The above factors are a sample of the main stimuli for a state to request or accept loans. Clearly, the 'selfish' interests of egoist individuals, attracted by prospects of gains, legitimate or otherwise, were also a powerful incentive. Moreover, the indebtedness of a state provides a perfect opportunity for foreign powers, directly or through agencies such as the IMF, to apply effective pressure on that state to comply and cooperate. Naturally, loans are preferred to grants for this purpose. The essential difference between the two was certainly appreciated by the world's leaders at the end of World War II. Rich, in referring to the Marshall Plan inaugurated in June 1947 wrote that reconstruction in Europe "required not interest-bearing loans for specific projects...but the rapid disbursement of grants and highly concessional loans...to be used for balance of payments support and desperately needed imports for basic needs."²⁶³

The Complex Nature of Indebtedness

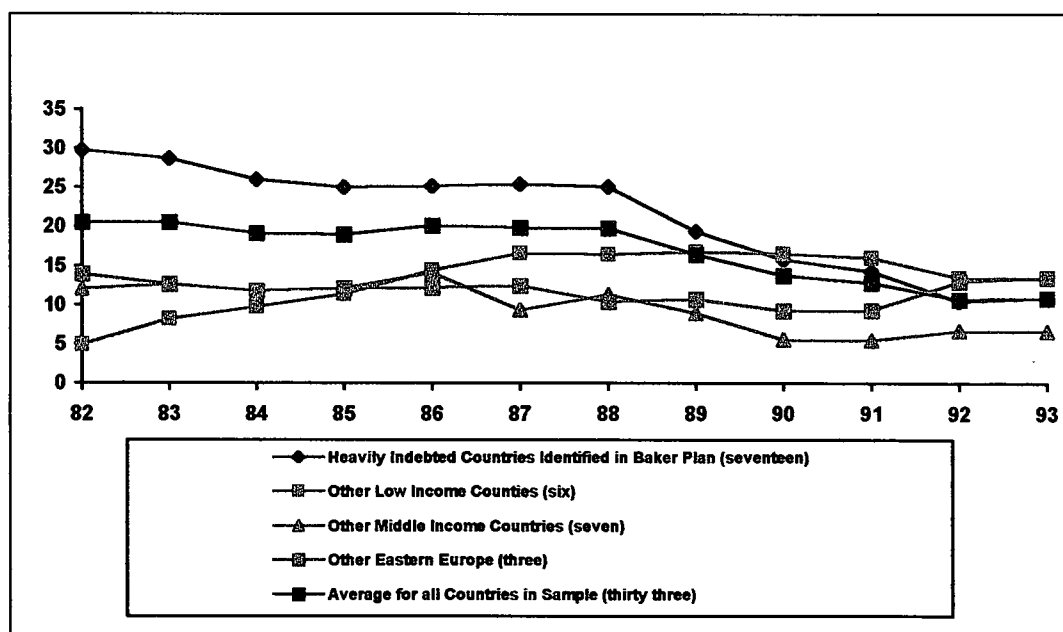
Indebtedness reared its head during the 1970s, at the time of the first oil crisis, and again during the 1980s. By 1983, private banks alone were owed no less than \$417 billion by Emerging Nations. Ten years later the figure had escalated to about \$750 billion. There are indications that this element of international debt is being effectively reigned in, mainly because of its significant impact on bank balance sheets and

²⁶³ Rich, *Mortgaging the Earth*, 1994, p 200.

reputations. Moreover, Emerging Nations with reasonably honest leaders have discovered at long last that debts are not a solution to their needs. If anything, debts were, and are, a major component of their difficulties. Greedy rulers are also beginning to find it less easy to convince banks and governments to lend money, even with the help of influential middlemen close to the seats of power in Elite Nations.

Following Bush's election as president in 1988, the need to solve the debt problem received top priority.²⁶⁴ The task was clear: avoid a collapse in the banking business, restore creditworthiness of debtor countries, and lastly, if possible relief the impact of indebtedness on the poorest nations. Baker, US Treasury Secretary, took the lead between 1986 and 1988. The *Baker Plan* put emphasis on "mobilising new lending under a more systematic program,"²⁶⁵ A new Treasury Secretary, Brady, masterminded the *Brady Plan* between 1989 and 1994. This later plan shifted attention from new lending towards forgiveness of debt.²⁶⁶ As shown in Figure 1, efforts were deemed to have been reasonably successful, certainly by the lenders.²⁶⁷

Figure 1: Net Interest as a Percentage of Exports 1982-93.



(Source: Cline, *International Debt Reexamined*.)

²⁶⁴ Stallings, *Global Change, Regional Response*, 1995, p 282.

²⁶⁵ Cline, *International Debt Reexamined*, 1995, p 208.

²⁶⁶ *Ibid.*, p 215.

²⁶⁷ See detailed analysis in Cline, *International Debt Reexamined*, 1995, pp 203-275.

It could be claimed, therefore, that the most recent global debt crisis that emerged in 1982 was brought to a successful conclusion by 1993. That cosy version of events owes its roots to a linear frame of reference. The serious social, economic and political fall-out from the debt crisis will be considered shortly, but at this point the debt crisis will be explored further, albeit briefly, to illustrate once more that most occurrences involving human beings are neither linear nor simple. They are on the contrary nonlinear, difficult to predict, and have multiple causes and effects that are not easy to mix and match.²⁶⁸

Debt crises come in cycles reminiscent of *punctuated equilibrium* as described earlier in connection with natural evolution and Complex Adaptive Systems: lengthy periods of apparent stability interspersed by sudden upheavals. There were defaults by others at roughly the same time as the Ottoman Empire. The states of Louisiana and Mississippi defaulted on their mainly British loans in 1839. That event led to the formation of the Council of Foreign Bondholders in 1868.²⁶⁹ About sixty years later, the next major debt crisis cropped up when several Latin American countries defaulted “as commodity prices tumbled in the wake of the Great Crash of 1929.” Private bondholders from many countries were affected and as such the crisis did not attract much attention.²⁷⁰ The most recent crisis surfaced sixty years later in Latin America, but in contrast to the previous event a few powerful creditors were involved backed by equally powerful governments. Understandably, the crisis engaged the attention of the global elite.

Various causes have been advanced to explain the latest crisis. In general terms they fall within the factors presented earlier. But Corbridge cautions against crude simplifications. He advanced three sets of factors to make his point. Firstly, there was “the question of the geography of commercial bank lending”, especially concentration on Latin America and the Caribbean. Secondly, there was “greed, naiveté, mismanagement and inexperience” by those responsible for lending vast sums. And thirdly, another set of factors concerned “the nature and terms of the financial transactions themselves”, including in particular the availability of funds early on and

²⁶⁸ An informed account of the history of the most recent debt crisis and its later management, as well as the intricate theories that concern themselves with that topic is given in Corbridge, *Debt and Development*, 1993.

²⁶⁹ Congdon, *The Debt Threat*, 1988, p 110.

²⁷⁰ Corbridge, *Debt and Development*, 1993, p 25.

the fast rise in interest rates when money became scarce. The shift to tighter money supply in the USA, and later in Europe, was a major element in this trend.²⁷¹

General consensus suggests Brady's Plan yielded excellent results. However, there is as usual less unanimity on how and why it worked so well. Cline summed the situation succinctly when he wrote, "politics and psychology are at least as important as economics in matters of creditworthiness and debt sustainability".²⁷² In effect, it is hard to match causes and effects. One final comment on this topic takes the discussion back to the natural 'selfishness' of individuals and nations. Volcker, Chairman of the US Federal Reserve at the time, in an address to the Subcommittee on International Finance and Monetary Policy, US Senate, said, "Our concern for maintaining a well-functioning international financial system is rooted in our self-interest, not in altruism."²⁷³ His honest words fell on deaf ears; indebtedness is crippling poor nations and will continue to do so for decades to come as explained in the next section.

Enduring Burden of Debt

Heated debate accompanied the Brady Plan from inception to implementation. In the event, however, not unexpectedly debt forgiveness as opposed to new lending and rescheduling played a minimal role in managing the crisis. Viewed from the perspective of the debtor nations the scene could not be gloomier. The burden of past debts is as heavy as ever, and creditors, or more precisely the IMF and World Bank, are still there telling these nations not only what to do in terms of exports, but also how much to spend on domestic basic needs. Nonetheless, leaders of Emerging Nations were negotiating additional loans soon after the crisis was declared officially over. The IMF estimated that by 1994, the ratio of interest to exports for the seventeen heavily indebted countries, "was back up to its 1989 level." The World Bank gave a rosier picture of the situation. But either way the business of borrowing and lending goes on.²⁷⁴ Restoring creditworthiness was after all one of the top aims of the Baker and Brady plans, second only to safeguarding the banking system. It would have been pointless to restore creditworthiness without securing new loans.

²⁷¹ Corbridge, *Debt and Development*, 1993, p 40.

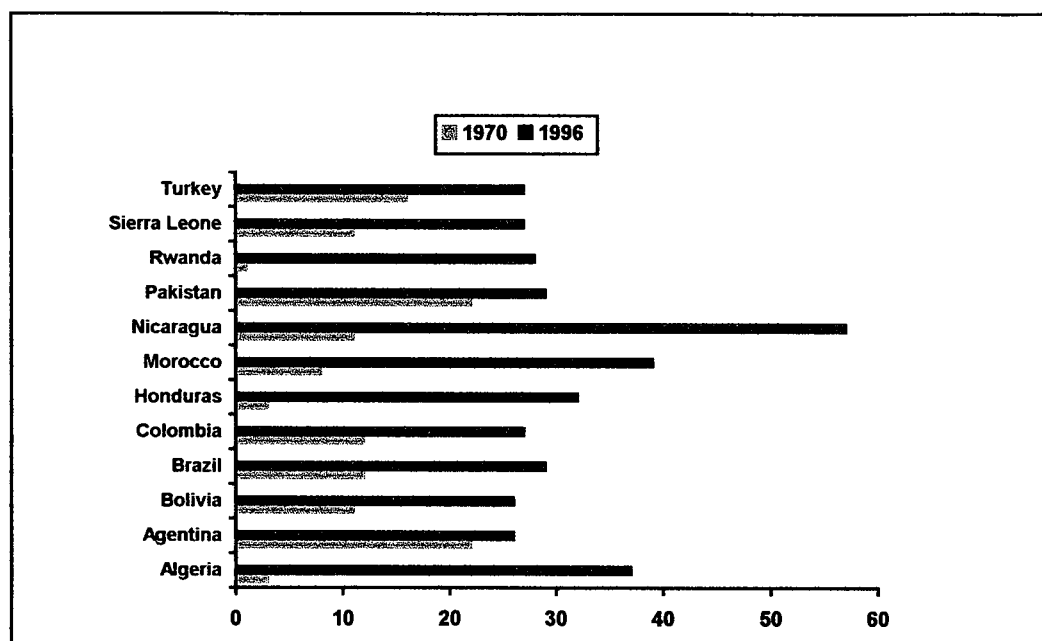
²⁷² Cline, *International Debt Reexamined*, 1995, p 52.

²⁷³ Corbridge, *Debt and Development*, 1993, p 42

²⁷⁴ Cline, *International Debt Reexamined*, 1995, p 246.

However, the overall level of external debts owed by Emerging Nations created an explosive situation that has been defused, for the present. By 1996, interest and repayments of principal as a percentage of exports stood at 13 percent for all developing countries. Within that group, least developed countries, sub-Saharan Africa, and the Middle East and North Africa were roughly at the same level at 14 percent, 11 percent, and 13 percent respectively. South Asia, mainly India and Pakistan, was the exception with a ratio of 22 percent.²⁷⁵ Conversely, when individual nations are considered, disconcerting variations emerge, as illustrated in Figure 2.

Figure 2: Debt Service as a Percentage of Exports for Selected Countries.



(Source: UNICEF, *The State of the World's Children 1998*.)

Figure 2 lists nations devoting 25 percent or more of their exports to payment of interest and principal. The cut-off is arbitrary but the figure demonstrates the burden that will have to be endured by these nations for the foreseeable future, even if their governments were to decide not to borrow another cent. Linkage between foreign debts and the need to export is readily understood, but the impact on domestic policies is not as obvious. Subsistence agriculture, for instance, would not do; cash crops that have a market abroad have to be cultivated at any cost, up to and including malnutrition. These additional dimensions to the problem of debt will be discussed later, mainly in Chapter 12. For the present, the principal aim was to highlight the

²⁷⁵ UNICEF, *The State of the World's Children*, 1998, p 117.

prolonged impact of debts in weakening nations' ability to make sustainable progress at home and to negotiate equitably abroad.

The "Shameful Condition"

It would seem from what has been said so far that the World Bank and IMF might have applied linear precepts to a system that quite clearly did not respond to that form of treatment. As demonstrated by the consequences of their actions over the decades, the system they were, and are, dealing with gives every impression of being nonlinear. Review of the World Bank's record and international debt indicated that these political economic sectors conform to provisions of Complex Systems theory and Game Theory. 'Selfish' individuals, elites, and hierarchies are all too conspicuous. Multiplicity of causes and effects without clear linkages is equally prominent. Furthermore, the push and pull of cooperation and competition is unmistakable. Finally, over the longer term, cyclic patterns associated with punctuated equilibrium are evident once the time horizon is extended beyond the recent past. It would be natural, however, to expect the donation of international aid to poorer nations to follow more altruistic, and linear, lines. What could be simpler than the transfer of money from more prosperous nations to poorer fellow human beings in other countries? However, evidence suggests that this sector of the international political economy is not different from the issue areas considered earlier.

Brundtland called aid-giving a "shameful condition".²⁷⁶ She certainly was not alone in her conviction that there is something amiss with the level of aid given, the conditions attached to donations, and the way recipients and causes are selected. Significantly, her remarks did not meet with dissension from any organisation. Two years after Brundtland's remarks, UNICEF declared that aid was "in the doldrums". An international target was agreed in 1969 by which 0.7 percent of donor nations' GNP was to be allocated for aid to needy nations. The figure for twenty-one members of OECD was 0.34 percent of their combined GNP in 1990. That shrank to 0.27 percent by 1995, and the downward trend continues. Aid-giving is now at its "lowest level since statistics were first collected in 1950."²⁷⁷ During 1996 alone, Official Development

²⁷⁶ UNICEF, *The Progress of Nations 1995*, p 45.

²⁷⁷ UNICEF, *The Progress of Nations 1997*, p 63.

Assistance was reduced by \$15 billion, to \$50 billion. In total, ODA declined by one-third in the 1990s.²⁷⁸

Shrinkage in the volume of aid has been attributed to many causes. The USSR was a donor until its collapse. Some of its past members themselves turned overnight into clients in need of help overnight.²⁷⁹ Oil producing countries, especially Saudi Arabia and the United Arab Emirates, took tentative steps towards aid giving in the 1980s but tumbling oil prices tended to hinder that promising move. Elite economies also suffered some reverses that affected their ability or willingness to offer assistance. The consequences of the recession in Japan in the late 1990s, the top donor in 1995 at \$14.5 billion, are not yet clear. In addition, some donors might have felt there was no need to 'buy favours' through aid once the cold war was over. The two super-blocs used aid in the past to gain advantage over the other side. At the present, the only element of aid that could be clearly labelled as being political is the disproportionate amounts allocated by the USA to Israel and Egypt. However, in a 1998 policy research report, described as being "a refreshingly frank assessment of the World Bank and the larger aid business", the World Bank advanced another factor for the decline in aid giving. The Bank attributed the fall to "a sense that aid does not work well."²⁸⁰

Official Development Assistance, ODA, "consists of loans and grants made on concessional financial terms by all bilateral official agencies and multilateral sources to promote economic development and welfare".²⁸¹ OECD's Development Assistance Committee, DAC, provides the bulk of ODA. International aid should have been a boon to impoverished nations, such as those in sub-Saharan Africa, as they are unable to attract investment or loans. But the distribution of aid between supported causes and between recipient nations does not follow a pattern related to basic needs. At least equal priority is routinely accorded to the donor's political and economic interests. This bias is not an oversight but the manifestation of consistent practices, as most donors provide aid primarily within the context of their own requirements. Hence, only 31

²⁷⁸ World Bank, *Assessing Aid*, 1998.

²⁷⁹ Halliday, professor of international relations at the LSE, suggested that the "greatest single anxiety expressed about the impact of the end of the cold war on the third world is that it will lead to a displacement of the developing world in terms of aid and trade." Stallings, *Global Change, Regional Response*, 1995, p 62.

²⁸⁰ World Bank, *Assessing Aid*, 1998.

²⁸¹ World Bank, *World Development Report 1994*.

percent of ODA in 1993 was given to 39 countries that comprised the most impoverished region on earth, sub-Saharan Africa.

Moreover, the distribution of funds does not reflect the most urgent social needs. These were defined, yet again, at the 1995 World Summit for Social Development, as being: nutrition, primary healthcare, clean water and safe sanitation, basic education, and family planning.²⁸² The Summit called for the 0.7 percent aid target, set in 1969, to be met, and then went on to recommend that on average 20 percent of ODA and 20 percent of the budget of recipient countries should be earmarked for basic social programmes. This has become known as the '20/20 formula'. It is interesting to note that the figure was pitched as low as 20 percent, reflecting the realities of how and why aid is currently dispersed. Two years after the 20/20 formula was adopted, UNICEF's *The Progress of Nations 1997* was only able to record that "a glimmer of hope in the disquieting aid picture is the evidence of a shift in aid allocations towards social sectors." It remains to be seen how well even this modest target will be pursued in future years.

A tripolar system, consisting of the USA, Europe, and Japan, with China and Southeast Asia, seems to be slowly replacing the previous bipolar system based on the two superpowers, the USA and USSR. Members of the 'triad' have their own regional preferences when it comes to aid. Almost half the ODA originating in the USA went in the early 1990s to Israel and Egypt. The next largest portion, 12 percent, was given to Latin America. In Japan's case, 62 percent of ODA was allocated to Asia, mostly to East and Southeast Asian countries. Europe, on the other hand, favoured Africa with 47 percent of its ODA allocated to that continent.²⁸³ Europe's distribution of ODA goes some way towards assisting those in greatest need, but that reflects in the main the preferences of Nordic nations. Clearly, the global political economic structure has a regional bias that determines to a large extent the distribution of aid. Clearly, the activity is seen through the prism of national economic and political objectives.

For readily obvious reasons, ODA is more amenable to the application of demanding conditions than commercial loans. In this respect, *conditionality*, setting preconditions to aid, has become an indispensable feature of the process. It increased

²⁸² UNICEF viewed these factors as the "foundation for sustainable human development." UNICEF, *The Progress of Nations 1997*, p 63.

²⁸³ Stallings, *Global Change, Regional Response*, 1995, p 359.

substantially during the 1980s “from macroeconomic policy (on the part of the IMF) and specific project feasibility (the World Bank) to structural adjustment policies.”²⁸⁴ Conditionality reduces the value of the assistance provided as it limits choice and competition. On average about one third of foreign aid is tied to purchases of goods and services from the donor country. In the case of the USA half its ODA in 1992 was restricted in this way. As usual, Nordic states perform better on this score: only twelve percent of their ODA is tied to preconditions. The stipulation, however, highlights the understandable wish of donor nations to get something in return for their money. That desire has a pronounced bearing on the selection of countries to be given aid. For instance, assistance from one government to another might be linked to the purchase of weapons, as reportedly happened in the case of British Government financial subsidy to the building of the Pergau dam in Malaysia and the construction of roads and a new power station in Samarinda in Indonesia.²⁸⁵ Not unexpectedly, aid is at its most useful when political favours are required. Egypt’s support during the Gulf crisis was secured in 1990 by judicious application of the stick of political pressure and the carrot of financial ‘generosity’.²⁸⁶

It would be appropriate to end this section by mentioning one instance where an attempt was made to offer multilateral assistance without strings. Dissatisfaction led some members of the UN to seek approval at the General Assembly in 1952 for the setting up of Special UN Fund for Economic Development, SUNFED. To retain control over funding for development, the World Bank, with US encouragement, created instead the International Development Association in 1960 to provide interest-free credits to qualifying countries. Though short of the SUNFED ideal, the multilateral nature of the assistance given undoubtedly overcame some of the bias associated with bilateral aid.²⁸⁷ IDA expanded faster than the World Bank: between 1961 and 1993 the Bank’s resources multiplied almost 28 times and those of IDA 67 times. Nonetheless, the Bank’s commitments in 1993 were still two and a half times those of IDA. Undoubtedly, however, the creation of IDA was an encouraging sign in the search for

²⁸⁴ Stallings, *Global Change, Regional Response*, 1995, p 361.

²⁸⁵ *The Observer*, 13 November 1994.

²⁸⁶ Heikal observed, “President Bush’s decision to forgive Egyptian debts of US\$7 billion helped Mubarak convince his public that Egypt’s involvement was worthwhile. Ironically, Bush’s generosity cost Washington nothing, as it was offset by donations collected from Gulf oil producers, Japan, and Germany.” Heikal, *Illusions of Triumph*, 1992, p 22.

²⁸⁷ The only charge made is a nominal administrative fee.

some parity between aid-giving and social needs.²⁸⁸ Significantly, a recent report from the World Bank on the subject contrasts aid-giving overall with that provided by IDA. It concludes that the latter awards aid to countries with environments that favour effective use of resources, especially in terms of maximising poverty reduction.²⁸⁹

In summary, the volume of aid is less than half the target agreed in 1969, and the available resources are not allocated to the most needy nations or to the top social priorities. Significantly, Emerging Nations received about \$65 billion in aid in 1995, as compared with \$159 billion in loans and foreign investment. The balance between grants and loans is entirely reversed from that adopted by the Marshall Plan to help rebuild Europe after World War II. Cooperation was required in that situation, while hard-headed competition is considered possible in the case of the Emerging Nations. The choice to put the emphasis on loans and investment when dealing with a weaker opponent is understandable. Principally, the aim in this section was not to lament these features of international aid but to illustrate the wide variety of factors that ultimately shape the overall setup, and the difficulty of ascribing linked causes and effects to that activity. Furthermore, the opportunity was taken to emphasise the workings of Game Theory in the interplay between cooperation and competition in this field. In other words, similar to international debt, this sector of the global system also exhibits distinct nonlinear attributes.

International Trade

Evidence points to a “shift from a bipolar system of military opponents to a tripolar system of economic competitors”, a triad comprising the USA, Europe and Japan.²⁹⁰ Although the details are far from clear, it is agreed that the ‘triad’ as well as the free-market, in some form, will be stable features of the emerging pattern. In that scenario, each of the three major political economic powers would endeavour to act as a focal point for nations within its region. Stallings referred to the new pattern as “nonhegemonic interdependence”; a world dominated by three regional powers with their own spheres of influence. Global networks of trade, production, ideology and finance bind members of the triad together. But there are also strong links between

²⁸⁸ World Bank, *World Development Report 1994*, p149.

²⁸⁹ World Bank, *Assessing Aid*, 1998. See also World Bank *Policy and Research Bulletin*, Volume 9, Number 4, October-December 1998, and Collier and Dollar, *Aid Allocation and Poverty Reduction*, 1998.

²⁹⁰ Stallings, *Global Change, Regional Response*, 1995, p 361.

each 'regional hegemon' and its group of nations.²⁹¹ Hence, global interdependence would coexist with a significant measure of regionalism. Debate will continue no doubt about the relative importance of these two influences.

Trade and investment are increasing at both triad and regional levels. However, areas such as sub-Saharan Africa are "being marginalised in the process".²⁹² Interestingly, now that cold war solidarity has become unnecessary, schisms between triad members about their respective interpretation of what free trade, and indeed capitalism, actually means are coming to the fore. Strains in relations between the three regional hegemonies are expected to increase and, in consequence, variety might acquire a new lease of life. This turn of events, if it followed the above lines, would be of fundamental importance to ideas presented in this thesis on three counts:

- It would reduce the significance of ideology in shaping the pattern of the world's political economy.
- It would challenge the current concept of one-model-for-all.
- And it would question the roles of the IMF and World Bank as global entities, and especially their vision of the single 'escalator' to development.

It is reasonable to speculate on the basis of the available evidence that the global system might eventually have a hierarchy in three layers; regional hegemonies, associated regions, and marginalised communities. Apart from its effect on the lowest group, the structure would have some attractive features. Firstly, it would enhance variety, allowing evolution based on exploration of appropriate regional fitness landscapes to proceed more effectively. Secondly, complexity catastrophe resulting from some two hundred nations all attempting to interact directly with each other, albeit under the watchful eyes of one hegemon and its enforcers, might be made less likely. And thirdly, concentration of interactions between partners at each level allows cooperation to develop naturally in classic Game Theory fashion. Such a structure would also question the idea of perfectly competitive environment that has so far underpinned orthodox views of international trade. Under present conditions, "each of many agents considers itself too small to influence market outcomes."²⁹³ In the emerging pattern of political economic power

²⁹¹ Stallings, *Global Change, Regional Response*, 1995, p 352.

²⁹² *Ibid.*, p 355.

²⁹³ Krugman, *Strategic Trade Policy and the New International Economics*, 1995, p 257.

distribution, triad members might have a better chance to influence outcomes and, hence, intervention might be more effective. Basically, a strategic, as opposed to perfectly competitive, environment might encourage interactions that involve cooperation as well as competition.

The USA is a less dominant economic power than it once was, but that only reflects relative changes in power. The other two economic powers are growing in significance. Game Theory requires, for cooperation to arise naturally, frequent encounters and good communication between participants. Concentration of global interactions at the top tier and more reliable communication between the regional hegemon would ensure that they would cooperate well with each other. Equally, they would compete when conditions permit. In line with tenets of Game Theory, distribution of rewards, with most going to the elite and least going to nations that do not belong to any of the three chosen regions, would follow the pattern of these interactions.

The above model is far from being fanciful. Substantial weight of evidence shows beyond question that the global system has been shifting towards a tripolar structure for quite some time. Internal trade and investment activity by each triad member is on a colossal scale. In 1992, for instance, trade within the European Union amounted to \$892 billion, while that between the EU and the USA stood at \$203 billion.²⁹⁴ Dominant trade and investment links mirroring the triad setup are unmistakable. Interactions within each bloc and between triad members are the most significant aspect of the international political economy at present. Linkage is far from being uniform between each and every member of the triad. Europe has, in relative terms, the weakest links with the USA and Japan. The same could be said about strength of trade links between the 'hegemons' and their regions. However definite bias is evident and, as highlighted by Stallings, such links are "mechanisms whereby the most powerful actors in the international economy can influence less powerful elements". Clearly, a hierarchical structure dominated by a privileged elite and game playing are evident at all levels of the structure. These overall patterns are reasonably stable while the details are uncertain; a distinct hint that the structure operates as a Complex Adaptive System.

Strength of internal trade links between member nations of each of the three regions is of considerable importance. Asian countries enjoy significant levels of trade

²⁹⁴ Stallings, *Global Change, Regional Response*, 1995, p 67.

and investment amongst themselves, amounting to well over \$200 billion in 1992. Latin American countries follow the same pattern but at a lower level of activity. African nations, by contrast, hardly trade with each other. The conjunction between strength of local links and sustainable growth is most eloquent. As stipulated in Game Theory, sustained cooperation with willing and comparable partners is infinitely more profitable and efficient than encounters with more powerful players or infrequent interactions with distant players.

Reducing barriers to trade was the fundamental mission for GATT and then WTO. That, so the scenario went, would assist all economies and it would eventually lead to improved performance by poorer countries; in line with the capitalist *trickle-down* concept. Theory and practice do not necessarily go hand in hand. In the Tokyo Round of GATT negotiations concluded in 1979, tariffs were reduced by 25 percent on industrial products to 'liberalise trade'. In contrast, the reduction on agricultural products was only 7 percent. The distinction between the two is interesting as it reflects the balance of power between Elite and Emerging nations. It also contradicted the proclaimed intention of the Round to give preferential treatment to poorer nations. Not content with that, Elite Nations reserved for themselves the right to invoke the *safeguard clause* wielded regularly against imports from Emerging Nations. The Tokyo Round achieved a decrease in tariffs, but it was accompanied by distinct moves towards erection of more sophisticated protective measures. For instance, four important bills were "passed in 1978-79 attaching Buy-American strictures to federal purchases totalling \$18 billion...six more procurement bills with Buy-American restrictions have become US law, covering even more trade."²⁹⁵ Moreover, poorest nations see tariffs as a source of revenue rather than an intentional hindrance to trade, and they do not have the administrative resources or clout to apply successfully nontariff barriers to trade.

The Tokyo Round was followed by the Uruguay Round, initiated in 1986 and concluded in 1993. The long time taken underlines the obvious fact that international negotiations, involving on that occasion 117 states, demand considerable horse-trading and arm-twisting. Despite the large number of participating countries, negotiation was essentially between the Elite and Emerging nations blocs. The latter group made some gains, but any concessions it gained were more than balanced by benefits derived by the former group. The World Bank, in commenting on the outcome of the Uruguay

²⁹⁵ Krugman, *Strategic Trade Policy and the New International Economics*, 1995, p 263.

Round, noted that "industrial nations didn't forget one another. They cut tariffs on trade with one another proportionately more than they did on imports from the developing world." Overall, "the results of the Round reflect realities- the leverage of the main contracting parties, particularly the United States and the European Union, with the European Union resisting even a modest liberalisation of agricultural trade." Agriculture was not the only activity in which lack of progress was detrimental to weaker participants. Textiles and clothing, ideal exports from less industrialised nations, continued to face "significant barriers in industrial countries". Additionally, the Uruguay Round imposed compulsory dismantling of export subsidies, phased over up to eight years; a policy tool used extensively by leading nations during their long period of development but now denied to others.²⁹⁶

Emerging Nations' exporters confronted, in addition, a hurdle known as *tariff escalation*: add value and the tariff goes up. Exports of raw materials, needed by industrialised countries, attracted the lowest tariff of 2.1 percent before the Round and 0.8 percent after. Semi-manufactured exports went from 5.4 percent to 2.8 percent. However, finished products continued to attract the highest tariffs, at 9.1 percent before the Round and 6.2 percent after. The aim of tariff escalation is not easy to miss: retention of Emerging Nations' role as exporters of low value raw materials and importers of high value finished products. In Game Theory terms, Elite Nations were able to compete against Emerging Nations at the Uruguay Round. They did not have to cooperate, and in that way they derived maximum benefits.

Agreements reached at the conclusion of the Uruguay Round illustrate another feature that was presented earlier in the context of Complex Adaptive Systems: those that have could expect to gain even more. A number of studies were undertaken to assess the likely impact of the Round on different economies. The results are highly significant. Elite Nations could look forward to the largest gain in real income. The next largest gains might accrue to East Asian nations, Indonesia, Malaysia, the Republic of Korea, and Thailand. Moderate gains were predicted for Latin American countries, but the Middle East and North Africa could only hope for very low rewards. Sub-Saharan Africa was estimated to be a net loser in every sense; welfare in absolute terms, welfare

²⁹⁶ World Bank, *Policy Research Bulletin*, Volume 6, Number 1, 1995.

as a percentage of GDP, and in real wages.²⁹⁷ Hence, distribution of rewards also underlines the impact of the new tripolar setup on marginalised communities.

The aim in this section was to explore parallels with Complex Adaptive Systems, to trace possible influences of Game Theory, and to highlight the impact of elites and hierarchies on international trade. The processes involved were shown to be highly complex in reality. Present concepts of trade are based on an assumption of an ever-widening circle of trading partners of more or less comparable status. Furthermore, it is taken for granted that the activity is regulated by near-perfect competition. Neither premise seems to be valid. In assessing outlook for world trade after the Uruguay Round, the Bank's Policy Research Bulletin felt "the key is politics, not economics." Reading between the lines, it is possible to suggest that politics in this sense means 'messy and unpredictable', as opposed to the supposedly tidy science of economics.²⁹⁸ Trade, it is possible to argue on the evidence presented above, also behaves as a Complex Adaptive System.

Conclusion

Analysis of political economic activities has always relied on ideas of linearity and certainty. A state of development and how to achieve it did not need much thought. Debate about development acquired added simplicity during the cold war. A nation had to make a choice between two basic models. The only remaining question was which of the two escalators led to ultimate success. By the late 1980s the Marxist escalator came to a dramatic halt. The single escalator to success was seen as capitalism and the route was unmistakable. The World Bank and the IMF already had a plan that reduced the journey to a few steps they called structural adjustment. In the space of "three to five years", any nation could enjoy the fruits of success. However, events steadfastly refused to follow the script. The edifice erected by prosperous nations and international regimes was patched up by an army of economists to media specialists, who were at hand to explain why the model did not deliver the goods at this or that time and place. That 'maintenance team' was efficient, but it was fighting a losing battle as criticism of the World Bank, for example, amply demonstrated.

²⁹⁷ World Bank, *Policy Research Bulletin*, Volume 6, Number 5, 1995.

²⁹⁸ World Bank, *Policy Research Bulletin*, Volume 6, Number 1, 1995.

One challenge to orthodoxy came in 1992 when the Japanese executive director at the World Bank asked for a report on the experience of Japan and the *four Asian tigers*, South Korea, Singapore, Hong Kong and Taiwan. The Asian model accepted a fair measure of state intervention while the US model, in word but not necessarily in deed, was against any such 'meddling'. Japan and its Asian partners believed the report produced by the Bank "understated the contribution of government intervention to economic growth in favour of the market-friendly policies the Bank had long championed- and that the understatement was deliberate."²⁹⁹ Despite that controversy, it is clear that there are variations on the basic concept of capitalism. Britain embraced *personal capitalism*. The USA, and Germany, preferred *competitive capitalism*. Other European nations chose *cooperative capitalism*. And there is *family capitalism* and *state-enterprise capitalism* as seen in Japan's *zaibatsu* and South Korea's *chaebol*. Chandler added managerial capitalism to the list. He wrote, "the visible hand of management replaced what Adam Smith referred to as the invisible hand of market forces."³⁰⁰ In short, there is no ultimate model and no single escalator to progress: an evolutionarily stable strategy is the one that works best under prevailing circumstances.

This chapter explored topics that have an important role in giving political economic processes their particular form. Institutions, such as the UN and the World Bank, as well as activities, such as debt, aid, and trade were examined for that purpose. Evidence was presented to support the assertion that the topics analysed here behave as nonlinear Complex Adaptive Systems with internal elements that interact in accordance with rules of Game Theory. Elites and hierarchies were shown to be clearly in evidence. Moreover, the significance of the passage of time and of punctuated equilibrium was underlined through a review of the history of international debts. It was also demonstrated that causes and effects are difficult to match. That was shown to be the case, for example, even in the supposedly straightforward activity of aid giving.

²⁹⁹ Caufield, *Masters of Illusion*, 1996, p 160.

³⁰⁰ Chandler, *The Visible Hand*, 1980, p 1.

POVERTY AND THE CAPABILITY DIVIDE

The present chapter examines wealth and poverty of nations as the next level of detail in exploring nonlinearity in the topics addressed by this thesis. It considers whether economic yardsticks on their own are adequate measures of development. The chapter considers a key question: could Adam Smith's *invisible hand* help the least developed communities to satisfy their basic needs, or would improvement on that front empower the *invisible hand* to kick-in? The need to study this old issue afresh stems from a Complex Adaptive Systems perspective, in which poverty, in its widest sense, might be seen as a situation in which most effort is expended in simply staying alive: a low-interaction low-energy mode that permits subsistence but little else. Exploration by interacting individuals of the local envelope of opportunities would be minimal under such conditions, inhibiting steady evolution to higher levels of complexity.

A Brief History of Exceptional Wealth

It is useful to begin by underlining certain wealth attributes of wealthy nations. Firstly, "high income countries tend to tax and spend a larger fraction of GDP than do poor countries."³⁰¹ Secondly, their governments redistribute income on a large scale and fund an impressive array of public services. Thirdly, to leading economies free trade does not necessarily mean trade without barriers. Hence, "for most of American history, the United States has been a high-tariff nation."³⁰² Nontariff obstacles are now used with equal vigour. Fourthly, the state in wealthy countries distances itself from tactical day to day issues. As McCraw emphasised, level of government intervention "means virtually nothing", but type of intervention is all-important.³⁰³ Therefore, the state permits citizens to act freely in all matters that do not impinge on strategic issues.³⁰⁴ And finally, size of economic unit is highly significant. Large populations and abundant natural resources give a better chance for success. Entering into local alliances

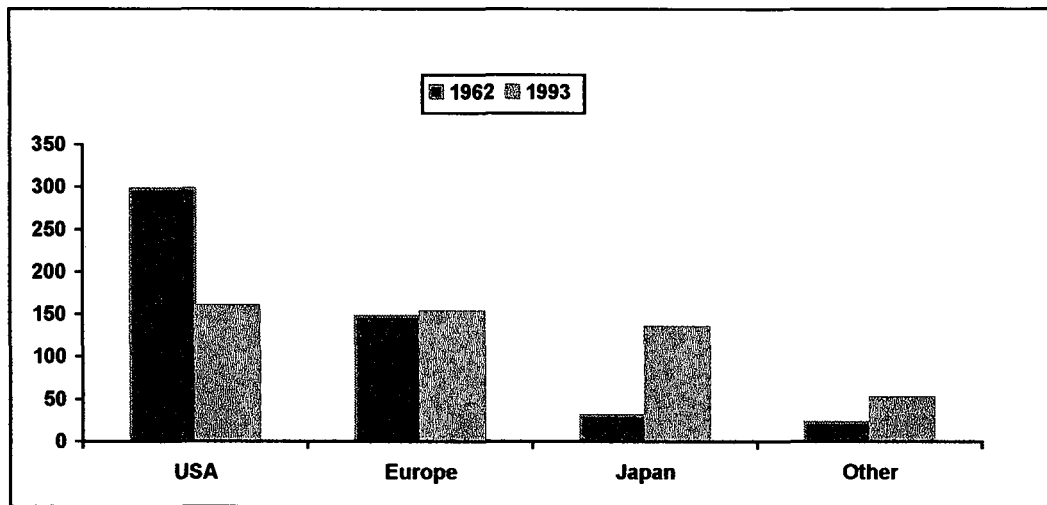
³⁰¹ Samuelson and Nordhaus, *Economics*, 1995, p 278.

³⁰² *Ibid.*, p 696.

³⁰³ Chandler et al., *Big Business and the Wealth of Nations*, 1997, p 525.

is therefore beneficial, as the unit does not have to be a single nation. Allied with this factor, big business is a key element in the accumulation of substantial wealth, as illustrated by Figure 3.

Figure 3: Distribution of the 500 Largest Enterprises in the World.



(Source: Chandler, et al., *Big Business and the Wealth of Nations*, 1997, p 53.)

An exhaustive analysis of how Elite Nations achieved their superiority in wealth is beyond the scope of this thesis, but exploration of parallels with Complex Adaptive Systems is, by contrast, at the heart of its subject matter.³⁰⁵ Analysis of successful economies will focus, therefore, on the following features:

- Ability and freedom for individuals to interact.
- Incidence of gateway events, variety, and indications of punctuated equilibrium; rapid upheavals followed by long periods of little or no visible change.
- Slow but steady long-term accumulation of wealth.
- Significance of chance events and accidents as opposed to planning and design.
- Willingness and opportunity to learn coupled with respect for and pride in indigenous knowledge.

³⁰⁴ Chandler et al., *Big Business and the Wealth of Nations*, 1997, p 534.

³⁰⁵ A well-documented record of how and why prosperous nations attained their unique position is given in *Big Business and the Wealth of Nations*, edited by Chandler, Amatori and Hikino. *The Visible Hand*, by Chandler, picks the story up where Adam Smith left off.

Nothing has been seen before to rival the prosperity enjoyed by a handful of nations that acquired riches on a spectacular scale during the last few centuries. As the sample presented in Table 1 illustrates, members of that elite have been exceptionally wealthy for a long time. Their GNP per head of population in the 19th century, converted to 1990 international dollars, seems quite acceptable by late 20th century standards.

Table 1: Gross Domestic Product/ Head, 1820-1992.

Country	1820	1870	1913	1950	1973	1992
USA	1,287	2,457	5,307	9,573	16,607	21,558
Japan	704	741	1,334	1,873	11,017	19,425
Germany	1,112	1,913	3,833	4,281	13,152	19,351
France	1,218	1,858	3,452	5,221	12,940	17,959
Britain	1,756	3,263	5,032	6,847	11,992	15,738
Italy	1,092	1,467	2,507	3,425	10,409	16,229
Spain	1,063	1,376	2,255	2,397	8,739	12,498
Switzerland		2,172	4,207	8,930	17,953	21,036
Sweden	1,198	1,664	3,096	6,738	13,494	16,927
Belgium	1,291	2,640	4,130	5,346	11,905	17,165
Netherlands	1,561	2,640	3,950	5,850	12,763	16,898

(Source: Chandler, et al., *Big Business and the Wealth of Nations*, 1997, p 6.)

Wealthy nations maintained steady rates of growth for significant periods of time, a strong indication that their economies followed an evolutionary course. Maddison, calculated the rate at mostly over 1 percent from 1820 to 1992.³⁰⁶ The same evolutionary process was at work in the build up of labour productivity. Evidence indicates that “in the long run probably nothing is as important for economic welfare as the rate of productivity growth.”³⁰⁷ Most of today’s prosperous nations steadily accumulated higher levels of productivity at least since the 19th century. Modest annual rates of growth allowed sixteen leading industrialised countries to uplift their labour productivity by about 1,150 percent over eleven decades.³⁰⁸ Baumol called this the “tyranny of compounding”.

Gateway events, leading to the sudden appearance of unforeseen opportunities, were clearly evident at all stages. The Industrial Revolution was such an event. Engels coined the name in 1844, but the transformation started in Britain about a hundred years prior to that date. New possibilities for creating, and using, capital on a huge scale emerged

³⁰⁶ Chandler, et al., *Big Business and the Wealth of Nations*, 1997, p 7.

³⁰⁷ Baumol, et al., *Productivity and American Leadership*, 1989, p 1.

³⁰⁸ *Ibid.*, p 12.

and Britain was propelled into the limelight.³⁰⁹ But it was unplanned and unexpected. Individuals simply pursued what they took to be unremarkable everyday activities.³¹⁰ Basically, a complex system with a vast number of freely interacting individuals was scrolling through roughly similar *microstates*, when circumstances became right for it to fall into a different *macrostate*, or attractor. And it could have remained thus, but that is not the way of adaptive systems. Change came about at the close of the 19th century on the other side of the Atlantic. The latest gateway event, the Second Industrial Revolution, introduced new forms of production, distribution and marketing, bringing in their wake new high-volume capital-intensive technologies. America experienced high rates of growth for most of the period up to the 1960s, apart from the few years of the depression. Once again, the Second Industrial Revolution was unplanned.

The Marshall Plan period after World War II facilitated transfer of technology as well as finance to America's allies and previous enemies in Europe. Several factors, education and basic skills especially, enabled them to exploit the new discoveries fully. Nevertheless, the USA continued to occupy centre stage as the world's undisputed leader. From the first decade of the 20th century onwards its GDP has remained the highest in the world. Whilst the USA is by far the largest player in international trade, that sector accounted for only 8.2 percent of its GDP in 1993.³¹¹ In effect, a large home market afforded the USA a high degree of independence, a prized asset in competition and cooperation with others. Hence, trade sanctions against the USA could harm but not cripple its economy. Sanctions against Libya and Iraq, by contrast, were disastrous to these nations. American lead in technological innovation was safeguarded assiduously. Research and development expenditure, for instance, was kept at a high 2.2 percent to 2.9 percent of GDP from 1965 to 1992; public bodies readily met about half that cost.³¹² This exemplifies the concept of differential evolution described earlier in the context of Complex Adaptive Systems. Inevitably, the rich stand a better chance of increasing their wealth. The process is unintentional and does not connote unfairness.

³⁰⁹ Historians cited at least two earlier industrial revolutions in Europe; one straddling the 12th and 13th centuries, and possibly another in the 16th and 17th centuries. Baumol, et al., *Productivity and American Leadership*, 1989, p 11.

³¹⁰ For instance, Hargreaves (1720-1778) invented the spinning jenny, Arkwright (1732-1792) explored waterpower, Watt (1736-1819) perfected the steam engine, and Crompton (1753-1827) developed the spinning-mule. It is most unlikely that any of them thought they were taking part in an industrial revolution.

³¹¹ The Economist, *World in Figures*, 1996, p 30.

³¹² Chandler, et al., *Big Business and the Wealth of Nations*, 1997, p 39.

The rise of the Japanese economy also illustrates key facets germane to the principal theme under study. Japan has few natural resources and its local market is limited. Clearly, Morikawa wrote, the key to Japan's "building a solid economic foundation while maintaining its independence under the impact of the West was industrialisation."³¹³ Growth was well in evidence at the end of the 19th century. The *zaibatsu*, a diversified business group owned by one family, was in control at that time. Japanese exports were restricted to labour-intensive products such as silk, cotton, sugar, and papermaking. The picture changed during World War I. Capital-intensive industries began to appear in embryonic form. Limited domestic markets and poor quality did not encourage fast growth on that front, however. An attempt to compete against American and European products was, therefore, out of the question at that time.

Japan was intent on succeeding, and for that purpose attention was focused on education and training. Most significantly, Japan confined itself to dealing with nations in its region, and concentrated on products based on indigenous knowledge and skills. It widened its circle of trading partners only when it was ready to offer products that could compete without imperilling its freedom of action. These preferences survive to this day throughout East and South East Asia. In the early 1990s, over 40 percent of Japan's imports and about one third of its exports involved Asian countries. Japan's success lies in its appreciation of the need to be selective in choosing trading partner; an intuitive recognition of the fundamental principles of Game Theory.

The war ended in catastrophe for Japan. However, punishments by the occupying forces, such as the sacking of pre-war managers and company owners, helped to rejuvenate Japanese businesses; actions often lead to unexpected results. Nonetheless, it took Japan several decades of hard work to climb to second place behind the USA in percentage of total world trade represented by visible and invisible exports. The vital twist in Japan's fortunes was triggered accidentally by the war in Korea in 1950. The allies designated Japan as supply base for the war effort, and the Japanese took full advantage of that gateway event. Reinvestment was put in train on a massive scale, and an aggressive form of managerial capitalism, controlled by younger business leaders, replaced the defunct *zaibatsu* system. At the start, Japanese industry had to rely on borrowed technology, but gradually the situation was altered with almost obsessive deliberation. By 1993, the USA and Japan accounted for 14 percent and 10 percent of

³¹³ Chandler, et al., *Big Business and the Wealth of Nations*, 1997, p 307.

world trade respectively.³¹⁴ Japan was also the second largest economy measured by total GDP. Shared economic primacy with the USA and Europe eventually allowed Japan to claim its seat in the evolving tripolar power setup now slowly taking control of the global political economy.

As in the case of all the late-comers, France, Italy Spain and, later, South Korea being prime examples, the state played a critical role in Japan's early stages of recovery and its later ascendancy to the top of the world hierarchy. The Ministry of International Trade and Industry, MITI, orchestrated the transformation. Essentially it provided protection against foreign competition, especially in the fragile initial period, it discouraged inward investment apart from that needed to acquire the latest technological know-how, and it guided Japanese businesses painstakingly up the ladder of increasing added-value; from basic low-value exports to sophisticated high-technology high-value innovations. But crucially, MITI was not allowed to interfere in tactical business matters; an example of effective state intervention at the correct level.

This section argued that big government was a ubiquitous presence in the process of accumulation of exceptional wealth by nations. Capitalism and the free market were revealed as generic phenomena that were interpreted differently by each prosperous nation to suit circumstances. The historical review established a number of key features such as steady long-term incremental evolution, punctuated equilibrium, and gateway events. Above all else, in the countries mentioned as well as in other Elite Nations individuals were free to interact in business and social events without undue interference from the state. Trial and error over the centuries allowed successful nations to evolve systems of government and modes of behaviour that corresponded to the nonlinear nature of the political economy. Recent discoveries about Game Theory, evolution, and Complex Adaptive Systems, revealed the scientific bases of the processes involved. Theory merely explained and supported successful custom and practice.

Not by Dollars Alone

Efforts focused in recent decades on the need to improve the fortunes of 'underdeveloped' nations. Super-rich nations were held up as models of ultimate achievement, and economic growth was seen as the key to success. Classification of

³¹⁴ The Economist, *World in Figures*, 1996, p 30.

nations in the 'development league' was made easy through use of a yardstick based on Gross National Product divided by mid-year population.³¹⁵ Increase in that single parameter from year to year, it was thought, would measure overall progress. Life could not be more linear in that conception. Start and finish are known. If specific prescriptions of universal applicability were faithfully followed, then GNP/Head would grow steadily, leading eventually, and inevitably, to a state of development.

Per capita GNP, however, ignores all else in favour of one economic indicator. UNICEF now advocates the *under-five mortality rate*, U5MR, as a more appropriate yardstick. U5MR is defined as the probability of dying between birth and five years of age expressed as number of deaths per 1000 live births. UNICEF recommends that measure on three grounds. Firstly, it involves an output rather than an input to the development process. Secondly, it "is known to be the result of a wide variety of inputs", including health, education, nutrition, safe water and sanitation as well as the state of a nation's economy. Thirdly, it is less susceptible than per capita GNP to the fallacy of the average. UNICEF explains that "the natural scale does not allow the children of the rich to be one thousand times as likely to survive, even if the man-made scale permit them to have one thousand times as much income."³¹⁶

U5MR and GNP/Head combined might well be a sound basis for comparing nations, but they still do not convey a full picture of the varying circumstances that confront nations while they attempt to achieve progress. States, for instance, are not always free to exercise a choice in running their affairs. In practice, most governments nowadays are not allowed to protect or assist their fledgling businesses. Poorer nations are required to open their borders to unrestricted trade from all directions, but they confront sophisticated barriers when they try to export to more powerful nations. High technology itself is a massive barrier to cross for almost all nations apart from the few at the very top of the ladder. Additionally, nations' ability to act is coloured by powerful internal conditions. For instance, women might not be able to participate effectively in social and economic affairs. Just as fundamentally, style of government; liberal or dictatorial, clearly determines the nature and scale of interactions permitted. Although

³¹⁵ GNP is defined by UNICEF as the "sum of gross value added by all resident producers, plus any taxes that are not included in the valuation of output, plus net receipts of primary income from non-resident sources." GNP/Head for different nations is based on conversion to US dollars using the World Bank Atlas method. UNICEF, *The State of the World's Children*, 1998, p 97.

³¹⁶ *Ibid.*, p 123.

repressive regimes have not stopped a few nations from taking effective strides in economic matters, as was the case in South Korea till recently, those that maintained a consistent record of achievement tended to be politically and economically liberal. Absence of checks and balances in authoritarian states affords, moreover, ideal opportunities for corruption and cronyism internally, and patronage and undue influence by foreign clients externally.³¹⁷

The particular yardstick chosen to assess degree of development is important as it reflects a specific vision of development and the way to achieve it. The above remarks were intended, therefore, to broaden the selection to admit other factors. If the hypothesis posed by this study were substantiated then the aim for a nation, as a Complex Adaptive System, would involve action on two fronts; strategically, to enhance its room for manoeuvre vis-à-vis other nations, and tactically, to increase local interactions by tackling its most pressing needs. There is no end to that evolutionary journey. In fact there is no clear route. Twists and turns, accidents and opportunities, self-reliance and learning, are essential components in that unending excursion. In addition, the wider viewpoint brings into focus another important question: could significant progress be made on basic needs at low levels of economic growth? Essentially, the revised concept is radically different from present practices that perceive the process as a well-marked escalator to a precise terminus.

Within the provisos mentioned above, lists of countries falling within Elite and Emerging nations blocs, based on UNICEF figures, are included at the end of this chapter as Appendices 1 and 2, to provide a general guide. Current 'least developed countries' are also shown to highlight nations with the most pressing needs.

Economics is not Irrelevant

Economic considerations clearly impact on the ability of individuals within nations to interact, at home and abroad. Those at liberty to do so without much restraint give higher levels of energy to the nation as an economic unit. By contrast, those living in impoverished circumstances, sometimes at or near starvation, are hardly in a position to do likewise. It is suggested later that there is a minimal level of income below which the

³¹⁷ Suharto's years in Indonesia, until he was forced to relinquish power in May 1998, demonstrate that characteristic trait perfectly. One news report estimated his family's fortune to be in the region of \$40 billion. *Sunday Times*, 24 May 1998.

system could be in a state of deathly *order*. The word *order* is used here in the context of Complex Systems to mean a static pattern that is incapable of evolving. It is, therefore, necessary to consider briefly the wealth attributes of the two world blocs and their diverse members. One element is perfectly clear from Appendix 1: ranked in order of their GNP/Head, Elite and Emerging nations are vastly dissimilar, both within each bloc and between the two principal groupings. However, the main aim here is to quantify the scale of the wealth chasm separating the two primary blocs.

The present structure of wealthy Elite Nations and poorer Emerging Nations appeared in embryonic form during the 15th and 16th centuries. Explicitly or implicitly, interactions between the two blocs follow normal rules of Game Theory. Elite Nations are free to compete, but might choose to cooperate, while Emerging Nations are obliged to cooperate at all times. Rewards from interactions reflect that balance of power. Given the chance, any nation would operate in precisely the same manner, and historic parallels over the millennia support that assertion unambiguously. Good or bad intentions are to a large degree irrelevant in that pattern of behaviour. In precise technical terms, a nation does not behave in any particular manner. The sum total of interactions by millions of actors adds up to a pattern that suggests 'national' behaviour of one form or the other. Only in the most repressive autocracies, therefore, could one find something akin to a precise and predictable mode of behaviour.

In 1993, average GNP/Head was \$20,189 for the top 22 nations and \$184 for the bottom 22 nations in the world hierarchy.³¹⁸ By 1995, the figures had changed to \$25,885 and \$185 respectively. On that basis, the richest were 110 times more affluent than the poorest in 1993 and 140 times richer in 1995. Furthermore, to be wealthy is the exception rather than the rule. Out of the 193 countries included in Appendix 1, 141 had a GNP/Head less than \$4,000. Hence, in arithmetic terms if nothing else, the gap is bound to widen. An increase of one percentage point in GNP/Head would lead to an increase of \$406 for Switzerland, but only \$2.80 for Kenya. To make matters worse, sixty-one nations showed an average decline in their GNP/Head between 1985 and 1995, all but two were Emerging Nations and most were in Africa.³¹⁹ Causes for the

³¹⁸ In 1993, the total population of the poorest and richest 22 countries was about 500 million and 800 million respectively, and many of the poorest nations have a population of less than 10 million. Hence, the popular image of impoverished states teeming with people, although fairly accurate in a few cases, is incorrect.

³¹⁹ The exceptions were Finland and Sweden. They experienced a very small decrease in that period.

decrease vary, but in the main they reflect worsening terms of trade, drought, and instability and wars.

Mozambique occupied bottom position in Appendix 1 at a GNP/Head of \$80. Luxembourg, at \$41,210, was at the top. If Mozambique's figure were to grow at a steady compound rate of 10 percent every year for the next twenty-five years, its GNP/Head would increase to \$867. At that rate it would take Mozambique over fifty years to equal Malta's present day GNP/Head of \$7,910. Its actual average increase from 1985 to 1995 was 3.6 percent per year; in practice a respectable rate of growth. Comparing Mozambique with Luxembourg might be thought too ambitious, but the gap in wealth even at the lower levels is too large to bridge in a sensible period of time. In other words, economic growth is a very long-term process. Between 1820 and 1989 the super-rich maintained a steady "compound annual growth rate of 1.27 percent (United Kingdom) and 1.83 percent (Japan)" to occupy the current top slot.³²⁰

Inequality amongst Emerging Nations is spectacular. Luxembourg and Malta are at opposite ends of the Elite Nations group. The former is just over five times 'richer' than the latter. However, Singapore, at one end of the Emerging Nations group, is 334 times 'richer' than Mozambique, at the other end. Interestingly, Singapore, an Emerging Nation, is over three times 'richer' than Malta, an Elite Nation. Subjectively, it is possible to say that a nation at a GNP/Head of over \$6,500 is not doing too badly. Anything over \$12,000 is more than satisfactory. And, more to the point, anything under \$1,500, which applies to about one hundred UN member states, gives cause for serious concern. Forty-eight nations in that category have been classed as 'least developed countries' with special needs.

This section underlined a self-evident point: wealth is important, but not crucial. It also highlighted an equally important factor: the rich are more likely to become even richer. Moreover, the section revealed three key features. Firstly, it demonstrated the wide variability in wealth between nations. In essence, high levels of GNP/Head are exceptional. Conversely, many nations manage quite well on low levels of wealth. In other words, poverty is also exceptional. Secondly, the gap in wealth between rich and poor nations could not be closed, or even reduced, in a meaningful period of time. Thirdly, economic growth is achieved through small but steady accumulation that takes

³²⁰ Chandler, et al., *Big Business and the Wealth of Nations*, 1997, p 529.

long periods of time. Basically, preoccupation with the wealth gap between nations is irrelevant for practical purposes. This takes the discussion back to Complex Adaptive Systems and differential natural evolution. For nations, comparisons are relatively meaningless, as the real test is how well a nation performs within its environment. That environment is shaped by the nation's circumstances as well as by activities of other coevolving nations sharing, to a lesser or greater extent, the same environment.

Critical Thresholds

Clearly, prosperous nations could afford better nutrition, health and education. However, this study does not address inequality as a manifestation of unfairness. On the other hand, the thesis is concerned with influences that channel the international political economy in certain directions. Differences in fortunes between countries generate effects that are distinctly relevant in the context of interactions within Complex Adaptive Systems. The next few paragraphs will give a much-condensed picture of how these forces act through the system. At the heart of the matter lies the balance between *consumption* and *investment*. When income is low, people spend it all on food, clothing, primitive forms of energy, and shelter. At lower levels shelter or clothing, say, might have to be dispensed with. As income increases, people arrive at a point where they could afford healthcare, education and training, and possibly transport and recreation. Ultimately, higher incomes might permit some *savings* to be made.³²¹

The amount spent on each category increases with income but there are limits. Regardless of income a family could only consume a finite amount of food, for instance. Therefore, beyond a certain level of income, savings rise rapidly. By contrast, at low levels, people "tend to *dissave*".³²² In other words they are forced to consume their basic assets to stay alive, as often happens when firewood is burnt beyond a sustainable level. Capital depletion is observed as opposed to capital accumulation. The other element of major significance here is that "measured saving is exactly equal to measured investment".³²³ Investment could be in tangibles, such as structures and equipment, or in intangibles, such as education, health and research and development.

³²¹ These regular patterns of spending are known as Engel's Laws, after the 19th century Prussian statistician. Samuelson and Nordhaus, *Economics*, 1995, p 422.

³²² *Ibid.*, pp 424-427.

³²³ *Ibid.*, p 415.

It is now possible to trace the link between *income levels*, and *capability* of nations to explore fully their space of possibilities and to accumulate more complexity.

A few facts about consumption and savings in the USA will demonstrate how prosperity determines personal capability to interact in economic and social matters. Consumption embraces spending on: *nondurable goods*, food, clothing, energy for instance; *durable goods*, such as household equipment; and *services*, including housing, transport, education, and health. In 1993, Americans spent almost twice as much on services as they did on nondurable goods, 57 percent and 31 percent of total consumption respectively. At the end of World War I, they spent 41 percent of their income on food and drink alone. That figure has now shrunk to 19 percent.³²⁴ Americans in effect were able to broaden their consumption to include services, especially health, education and training, and to acquire the means for higher levels of mobility and communication. Under these circumstances, citizens were empowered to participate as much or as little as they wished in all aspects of life. In other words, interactions by elements of the Complex Adaptive System known as the USA were maximised, and ideal conditions were created for self-organised complexity to emerge from the apparent chaos of disparate actions by millions of individuals and groups. In more traditional terms, the *invisible hand* was unleashed to increase wealth in the USA. The contrast with the situation in an impoverished country could not be plainer. Consumption is restricted to food, energy and shelter. Little, and often nothing, is left for physical and mental self-empowerment. Capital assets are sometimes depleted in the effort simply to stay alive. In that way, both complexity and wealth are lost.

In macroeconomic terms, the picture is just as stark. Due to high incomes, the US government receives about \$7 billion every year in tax and other payments. Despite rhetoric about 'small government', that inflow of funds allows the state to assist its citizens to do better. Equally significant, high incomes generate substantial personal savings that help to fund investment. In 1993 personal savings, an important element in total savings, amounted to a colossal \$190 billion in the USA. That was considered a disappointing year when savings were only about 4 percent of disposable income.³²⁵ Labour productivity, dependent on *capital deepening*, is a critical factor for economic progress. Clearly, investment is needed to increase the capital to labour ratio, but that is

³²⁴ Samuelson and Nordhaus, *Economics*, 1995, p 423.

³²⁵ *Ibid.*, p 424.

not possible in the absence of savings, and these are not feasible when all income is swallowed up in consumption. The effects of this simple sequence on the evolution of nations could be devastating. Consumption is short-term; essentially today. Investment by contrast is long-term, tomorrow and for years to come. Without investment there is no tomorrow. And when people *dissave* it is worse still. Put starkly, while citizens of a nation are unable to save and invest, even modestly and in ways that make sense locally, they would remain at the starting gate.

Blessings of Big Government

As argued before, the climb up the ladder of wealth is evolutionary and differential. It takes time, it depends on many factors that might not be amenable to control, and the effort does not promise a reduction in inequality. The processes involved could not be short-circuited as they are driven by mainly voluntary interactions between egoist individuals. Some nations have to reverse direction from dissaving first, before they could move to savings and investment, to achieve *capital deepening*, an increase in the capital to labour ratio. And before they address that weighty aim they have to somehow find resources to tackle weightier issues such as basic health, nutrition and education. It is self-evident that diseased, malnourished, and illiterate individuals could not interact as effectively as others but for the moment the focus will continue to be on wealth.

Governments have a major, and unavoidable, role in creating the right conditions for optimal performance by providing stimulants to the economy, including a stable and reasonably safe environment within which people could interact freely. The government of the USA, as "the world's biggest enterprise" is a perfect illustration of this feature. It spends \$6,000 for each American annually. Although the two world wars were exceptional highs, taxes levied by the state as well as its expenditure grew consistently throughout the 20th century. The rate of increase merely abated a little during the Reagan years. Federal government alone consumed on average 23.8 percent of GDP during the Reagan-Bush era from 1981 to 1992. Federal taxes and spending accounted for over 39 percent of GDP in the same period.³²⁶ Poorer nations could not match that record. In the USA 20 percent of GDP was accounted for by Federal taxes from 1981 to 1992. In Colombia, Malawi, Mexico, Pakistan, and Thailand, by contrast,

³²⁶ Samuelson and Nordhaus, *Economics*, 1995, pp 299-304.

all direct and indirect taxes amounted to no more than 15 percent. For some Emerging Nations the proportion is markedly less.³²⁷

But there is a subtler role played by governments of prosperous nations. The US government, for instance, is by far the most important customer, especially within the heavy industry and high-technology sectors. Other governments of leading Elite Nations are similarly dominant in the market place. The state in this case does not have to overtly subsidise or regulate private businesses and industries. It exercises more effective control by being a major buyer of goods and services. Most industries, from electronics to biotechnology are regulated in this manner, but military spending is particularly significant in this context. Control-through-purchase allows the super-rich to warn others of the evils of Big Government while they intervene aggressively in their own domestic economy.

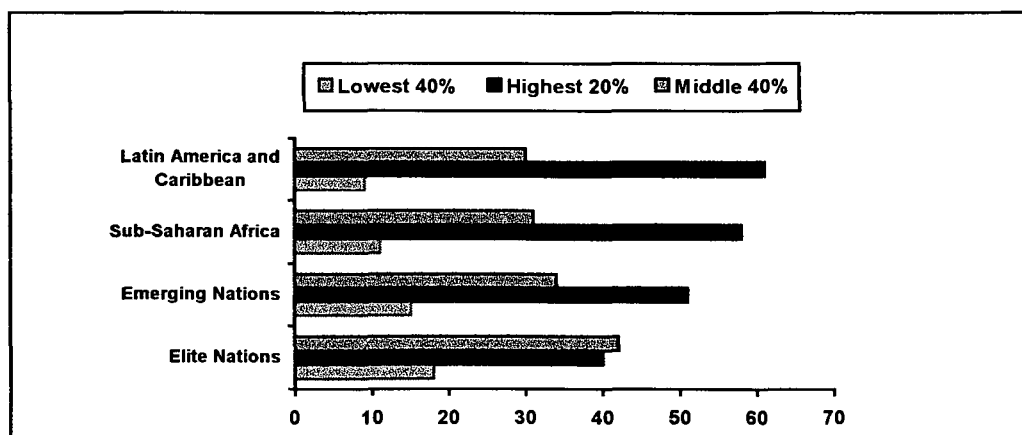
Slicing the Incomes Cake

There are inequities in incomes and wealth within and between nations.³²⁸ In the context of the present study income is more significant, as it measures the flow of money through society. Basically, sufficient income for people to cross the Rubicon from bare subsistence to achievement, no matter how modest, is of critical significance. At that point, the self-organising energy of unfettered interactions makes its presence felt. Disparity in incomes within populations of Elite Nations is relatively less severe, as shown in Figure 4. This reflects a conscious policy by governments to redistribute incomes between sectors of society on a large scale. By contrast, Emerging Nations present a highly skewed distribution of incomes. Figure 4 reveals, furthermore, that the share of household income received by the middle 40 percent of the population, in essence the 'middle classes', increases with reducing disparity. That group is thought by many to be vital to the performance of a nation. Uniquely, in Elite Nations the middle 40 percent receive more income than the top 20 percent.

³²⁷ Thomas, et al., *Restructuring Economies in Distress*, 1991, p 37.

³²⁸ Studies of inequality now form an important part of economics. *Lorenz curves* are commonly used to give a graphical illustration of inequality in income and wealth. A straight line at 45 degrees indicates perfect equality: In practice the actual curve veers from this theoretical line, greater departure signifying higher inequality. The *Gini coefficient*, on the other hand, measures these aspects quantitatively. Basically, it expresses deviation from absolute equality as a percentage of total inequality. Samuelson and Nordhaus, *Economics*, 1995, pp 359-369.

Figure 4: Percentage Share of Household Income 1990-1996.



(Source: UNICEF, *The State of the World's Children 1998*, p 97.)

Elites, by contrast, retain a tight hold on wealth. In 1989, one third of wealth in the USA was owned by 1 percent of households.³²⁹ The *vlasti*, the elite in Soviet Russia's so-called classless society, also enjoyed all the comforts of sumptuous living in the heart of Moscow, dachas in nearby forests and holiday retreats in the Crimea, and that system endures to the present. The Sunday Times publishes an annual survey of the richest persons or families in Britain, resembling the list of the 400 richest people in the USA compiled by Forbes Global Business and Finance. In addition to the concentration of wealth in a few hands, the British survey, first produced in 1989, highlighted over the years two indicative trends for the purposes of this thesis. Firstly, the rich are getting steadily richer. In 1995 the cut-off was £25 million. To keep the list to 500 names that threshold has had to be uplifted yearly by £5 million. The inevitable happened in 1997, the list was enlarged to 1,000. Secondly, the elite in Britain is becoming more eclectic. New comers, including women and persons from ethnic minorities, are joining the select few. In effect, there is a noticeable broadening of the top of the pyramid.

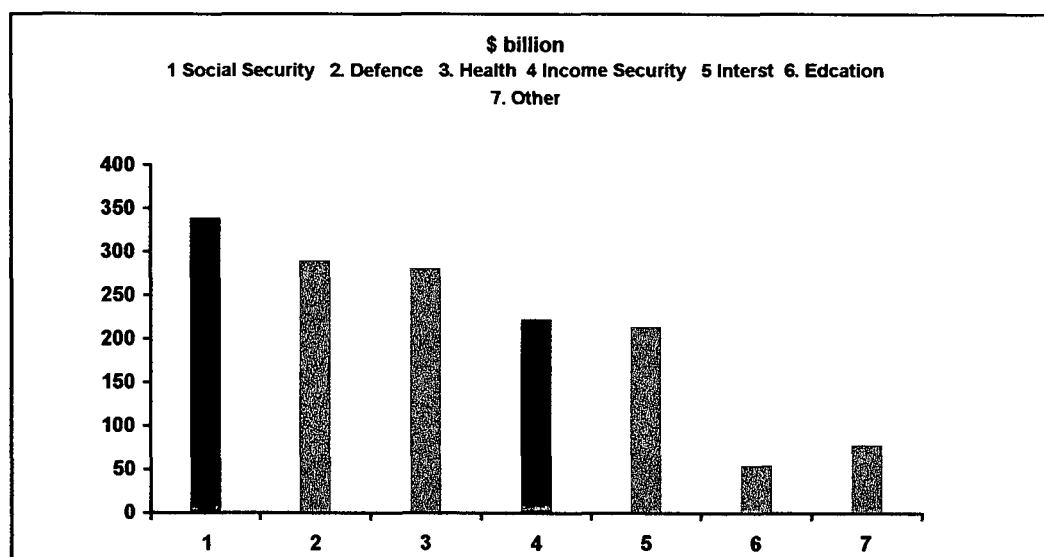
In terms of exceptional wealth Britons are almost impoverished when compared with those in the USA or Europe. The 1998 *Sunday Times Rich List* featured no one from Britain within the world's richest twenty. Americans dominated that group with ten names. Of equal interest, particularly in the context of national wealth distribution, the Sultan of Brunei, King Fahad of Saudi Arabia, and the Emir of Kuwait occupy

³²⁹ Samuelson and Nordhaus, *Economics*, 1995, p 204.

third, fourth and eighth position with oil-based fortunes of £24 billion, £19 billion and £9 billion respectively.

Whilst retaining their absolute hold on wealth, elites of prosperous nations chose to give the rest of the population a larger slice of incomes. On the basis of centuries of experience, they concluded that a more generous attitude created better economic returns, in the form of compliant, motivated, healthy, and skilled workers. Clearly, long-term survival of the elite was a major parameter in the decision to adopt enlightened policies on income sharing. Hence, about three quarters of national income in a thriving economy goes into wages, salaries and benefits. The US government for example, in addition to directly employing one fifth of the labour force, is a major source of transfer payments, such as social and income security, as shown in Figure 5.

Figure 5: US Federal Government Expenditure in 1995.



(Source: Samuelson and Nordhaus, *Economics*, 1995, pp 301.)

If expenditure on health, Medicaid and Medicare were also to be taken into account then transfer payments increase from 38 percent to 57 percent of the federal budget. That function of the US government is not affected by party politics despite the rhetoric. The picture is almost identical for other nations in the super-rich bloc. Of an annual budget of about \$400 billion, \$133 billion or 33 percent was distributed in 1992 by the British government in social security payments alone. If health expenditure were included then the figure would increase to \$188 billion, or 47 percent of total cost of

public services.³³⁰ Income redistribution on roughly that scale is a traditional role of the state in all Elite Nations. Governments elsewhere would have been branded as being distinctly 'socialist' had they been in a position to adopt the same policies. In short, Liberal economic tenets are interpreted pragmatically by those at the top of the global hierarchy. More to the point, the state in these countries considers it prudent and necessary to redistribute incomes.

It is outside the scope of the present study to consider why and how that pattern emerged in this group of countries. The issue of relevance here, however, is the role played by redistribution of income in allowing citizens to go beyond mere struggle for daily survival and onto plateaux that permit more active contribution to the nation's social and economic welfare. Self-organising energy in the system is optimised releasing substantial rewards. The contrast with the situation of individuals living under the rule of a state that is unable or unwilling to redistribute income on that scale does not require much elaboration. Regardless of ideology, transfer payments by the state, as money, food, or services such as free or heavily subsidised schooling or healthcare go a long way in lifting a population from mere survival to active participation.

The above line of discussion must naturally end at the topic of poverty. Economists define poverty "as a level of income that was necessary to maintain a subsistence level of consumption."³³¹ That definition poses conceptual problems in relation to what is understood by 'subsistence level of consumption'. Hence, the 1992 poverty line set at an income of over \$14,000 in the USA means little or nothing when it is applied to Emerging Nations. Expressing the line in terms of income in itself is problematic, as own production would not be included. Crow suggested on the other hand that poverty could be defined "in terms of capabilities rather than command over goods...capability to get enough food, adequate health care, access to clean water and sanitation, and to be a functioning member of society." The last item on the list draws attention, albeit unintentionally, to the need to view nations as Complex Adaptive Systems in which interactions between all members of the community are of pivotal importance for sustainable progress.³³²

³³⁰ Pears *Cyclopaedia*, 1995, p G 34.

³³¹ Samuelson and Nordhaus, *Economics*, 1995, p 362.

³³² Allen and Thomas, *Poverty and Development in the 1990s*, 1995, p 28.

Economic Growth or Basic Needs?

UNICEF suggested that U5MR is a good indicator of the performance of nations as it is influenced by a number of social and economic inputs. Appendices 1 and 2 classify nations by GNP/Head and U5MR respectively. Predictably perhaps, countries that appear at the top and bottom of the two lists are practically the same. The middle range comprising most nations is a mishmash of statistics that do not reveal much. Even so, there are subtle features that are worthy of note. For instance, certain so-called oil-rich countries, predominately from the Gulf, are amongst the leaders on the basis of GNP/Head, but they fall right back when U5MR rate is used as the yardstick. Saudi Arabia, ranked twenty-sixth at 30 deaths per 1,000 live births, and Iran, ranked thirty-first with 37 deaths, illustrate this feature. Saudi Arabia lags behind no less than 78 nations. Both are bettered by relatively impoverished countries such as Cuba and Jordan, underlining the point that having a high average GNP/Head might not be the answer when it comes to dealing with basic needs. This weaker than expected link between economics and U5MR is also revealed by evidence from nations that historically belonged to the socialist camp. Most have relatively low levels of GNP/Head, but they come to the fore on the basis of U5MR rates. Slovenia, Czech Republic, Cuba, Croatia, and Slovakia, for example, depict this trait unmistakably.

Appendices 1 and 2 show that excellent under-five mortality rates could be achieved at relatively lower levels of GNP/Head. While the latter parameter tends to fall off rapidly down the table of nations, U5MR by contrast builds up noticeably more slowly. The *median* from Appendix 1 is GNP/Head of \$1390, a relatively low level. In other words, exactly half the UN member nations have a lower GNP/Head than \$1390. The median is a more useful indicator in this instance as the *mean*, \$5108, is distorted by the few nations with very high GNP/Head. In a *normal* distribution the median and mean have the same value. That form of distribution has zero *skewness*. But the distribution of GNP/Head between nations as given in Appendix 1 has a skewness of 2.35. In everyday words, wealth is distributed between nations in a highly lopsided manner. The median for the list in Appendix 2, is an U5MR of 38 deaths per thousand of live births, a comparatively good figure. Therefore, half the nations have a lower U5MR than 38. The mean is 66, and skewness is only 1.37. The median and mean are closer together than in the case of GNP per head; the spread of U5MR is not as lopsided. These features are illustrated graphically in Figures 6 and 7.

Figure 6: Graphical Representation of Appendix 1.

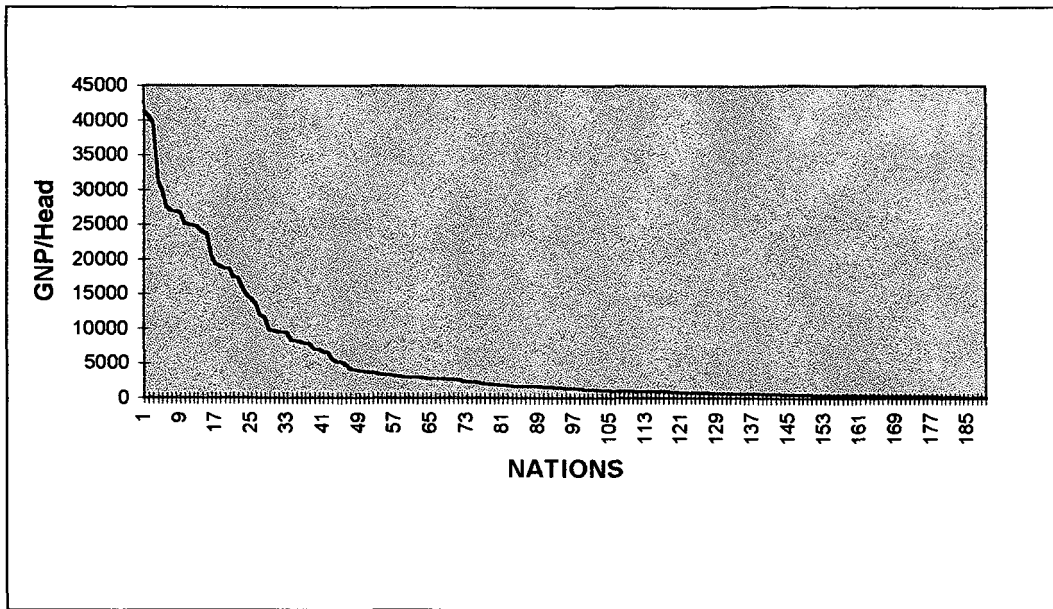
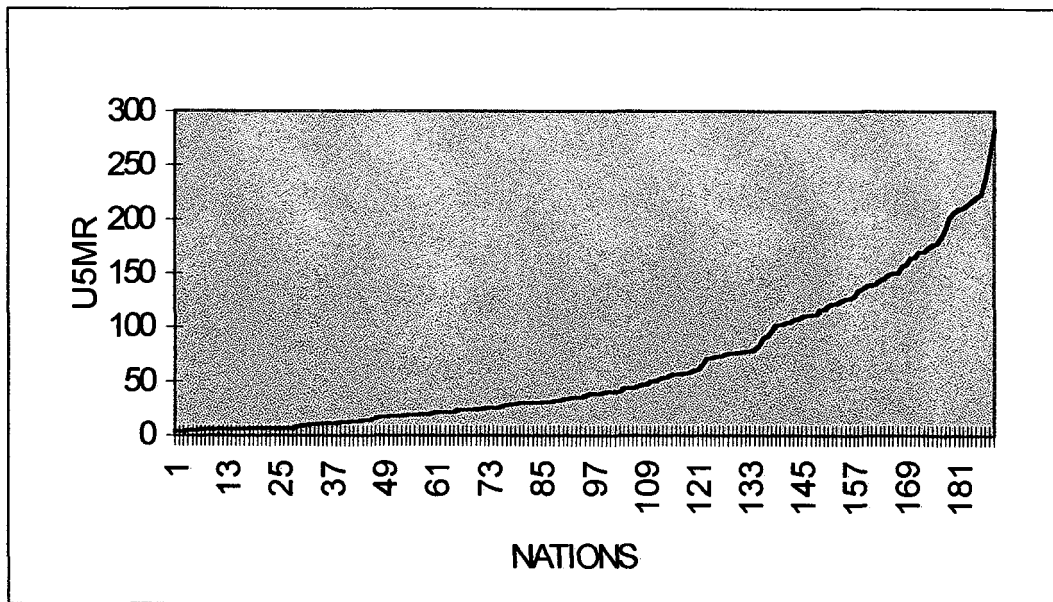


Figure 7: Graphical Representation of Appendix 2.



Three conclusions could be drawn from the above observations. Firstly, and as argued before, abundant wealth as measured by GNP/Head is exclusive. Secondly, at the same time extreme hardship, as measured by U5MR, is also relatively exceptional. Thirdly and most fundamentally, it is less difficult to alleviate hardships associated with basic needs than to acquire wealth.

Conclusion

The subject of wealth and poverty is illusory, and distribution of wealth and incomes in society compounds the confusion. So-called oil-rich nations in the Gulf offer a good illustration. Revenues from oil regularly find their way back to Elite Nations either to meet costs of purchases or merely as bank deposits by the fortunate few that appropriate most of the income. The countries and their people are far from wealthy. The scale of the bonanza seemed impressive in the aftermath of the oil price hikes. "In 1970 the United Arab Emirates was earning US\$230 million a year; by 1980 it was \$19 billion. Algeria went from \$272 million to \$10.5 billion...Iraq from \$1230 million to \$25 billion...Saudi Arabia from \$1.2 billion to \$102 billion." But "the combined oil income of all Arab countries reached \$220 billion a year by the end of the 1980s, roughly equivalent to the gross national product of Spain."³³³

The chapter challenged a few other myths. It was argued that there are many routes to economic progress and that each of today's leading economies selected its own path. It was also posited that, contrary to popular assertions, high social spending and income redistribution by governments are common practices in advanced economies. Evidence was presented to establish a number of key points:

- Wealth is exceptional, most people on earth are relatively poor. Wealth, it was shown, is accumulated through a differential evolutionary process that creates elites and hierarchies, an indication of Game Theory in action.
- Successful nations amassed their wealth by making modest improvements over long periods of time. There are no shortcuts to that process of evolution.
- The wealth gap separating richer from poorer nations is large, and it has a tendency to widen, an unmistakable sign of complexity.
- Attaining levels of income that liberate citizens from the struggle to survive is necessary to unleash the *invisible hand* of self-organising interactions between individuals. The definition of income in this context is of vital importance, as it should include food and own production, say, in addition to the traditional monetary criterion.

³³³ Heikal, *Illusions of Triumph*, 1992, p 40.

APPENDIX 1: Nations ranked in order of GNP/Head, 1995

EL N: Elite Nations (31 countries), EM N: Emerging Nations (162 countries), and *: Least Developed Countries (48 countries).

Country	Group	GNP/Head	Rank	U5MR	Rank
Luxembourg	EL N	41210	1	7	4
Switzerland	EL N	40630	2	5	2
Japan	EL N	39640	3	6	3
Norway	EL N	31250	4	6	3
Denmark	EL N	29890	5	6	3
Germany	EL N	27510	6	6	3
United States	EL N	26980	7	8	5
Austria	EL N	26890	8	6	3
Singapore	EM N	26730	9	4	1
Brunei Darussalam	EM N	25160	10	11	8
France	EL N	24990	11	6	3
Iceland	EL N	24950	12	5	2
Belgium	EL N	24710	13	7	4
Netherlands	EL N	24000	14	6	3
Sweden	EL N	23750	15	4	1
Finland	EL N	20580	16	4	1
Canada	EL N	19380	17	7	4
Italy	EL N	19020	18	7	4
Australia	EL N	18720	19	6	3
United Kingdom	EL N	18700	20	7	4
United Arab Emirates	EM N	17400	21	18	15
Kuwait	EM N	17390	22	14	11
Israel	EL N	15920	23	9	6
Ireland	EL N	14710	24	7	4
New Zealand	EL N	14340	25	7	4
Spain	EL N	13580	26	5	2
Bahamas	EM N	11940	27	23	20
Qatar	EM N	11600	28	21	18
Portugal	EL N	9740	29	7	4
Korea, Republic of	EM N	9700	30	7	4
Andora	EL N	9386 (or more)	31	6	3
Liechtenstein	EL N	9386 (or more)	31	7	4
Monaco	EL N	9386 (or more)	31	6	3
Greece	EL N	8210	32	9	6
Slovenia	EL N	8200	33	6	3
Argentina	EM N	8030	34	25	22
Malta	EL N	7910 (approx.)	35	11	8
Bahrain	EM N	7840	36	22	19
Saudi Arabia	EM N	7040	37	30	26
Antigua and Barbuda	EM N	6980 (approx.)	38	22	19
Seychelles	EM N	6620	39	19	16
Barbados	EM N	6560	40	12	9
Libya	EM N	5540 (approx.)	41	61	45
Saint Kitts and Nevis	EM N	5170	42	38	32
Uruguay	EM N	5170	42	22	19
Oman	EM N	4820	43	18	15
Chile	EM N	4160	44	13	10
Hungary	EM N	4120	45	12	9
Malaysia	EM N	3890	46	13	10
Czech Republic	EM N	3870	47	7	4
Trinidad and Tobago	EM N	3770	48	17	14
Brazil	EM N	3640	49	52	39
Gabon	EM N	3490	50	145	77
Mauritius	EM N	3380	51	23	20
Saint Lucia	EM N	3370	52	22	19
Mexico	EM N	3320	53	32	28
Croatia	EM N	3250	54	11	8
South Africa	EM N	3160	55	66	46
Botswana	EM N	3020	56	50	38
Venezuela	EM N	3020	56	28	24

Dominica	EM N	2990	57	20	17
Grenada	EM N	2980	58	31	27
Slovakia	EM N	2950	59	11	8
Estonia	EM N	2860	60	16	13
Poland	EM N	2790	61	14	11
Turkey	EM N	2780	62	47	37
Panama	EM N	2750	63	20	17
Thailand	EM N	2740	64	38	32
Lebanon	EM N	2660	65	40	34
Belize	EM N	2630	66	44	35
Costa Rica	EM N	2610	67	15	12
Fiji	EM N	2440	68	24	21
Peru	EM N	2310	69	58	43
Saint Vincent/Grenadines	EM N	2280	70	23	20
Latvia	EM N	2270	71	20	17
Russian Federation	EM N	2240	72	25	22
Belarus	EM N	2070	73	18	15
Micronesia, Fed. States of	EM N	2010	74	27	23
Namibia	EM N	2000	75	77	51
Lithuania	EM N	1990	76	18	15
Colombia	EM N	1910	77	31	27
Yugoslavia, Fed. Rep. of	EM N	1900 (approx.)	78	22	19
Tunisia	EM N	1820	79	35	30
Paraguay	EM N	1690	80	34	29
Marshall Islands	EM N	1680 (approx.)	81	92	56
Tonga	EM N	1630	82	23	20
Ukraine	EM N	1630	82	24	21
El Salvador	EM N	1610	83	40	34
Algeria	EM N	1600	84	39	33
Cook Islands	EM N	1550 (approx.)	85	30	26
Jamaica	EM N	1510	86	11	8
Jordan	EM N	1510	86	25	22
Romania	EM N	1480	87	25	22
Dominican Republic	EM N	1460	88	56	41
Ecuador	EM N	1390	89	40	34
Guatemala	EM N	1340	90	56	41
Bulgaria	EM N	1330	91	19	16
Kazakstan	EM N	1330	91	45	36
Vanatu*	EM N	1200	92	53	40
Cuba	EM N	1170 (approx.)	93	10	7
Swaziland	EM N	1170	93	97	57
Papua New Guinea	EM N	1160	94	112	64
Samoa*	EM N	1120	95	53	40
Syria	EM N	1120	95	34	29
Morocco	EM N	1110	96	74	49
Philippines	EM N	1050	97	38	32
Iraq	EM N	1036 (approx.)	98	122	67
Iran	EM N	1033 (approx.)	99	37	31
Cyprus	EM N	1026 (approx.)	100	10	7
Maldives*	EM N	990	101	76	50
Indonesia	EM N	980	102	71	47
Korea, Dem. Peoples Rep.	EM N	970 (approx.)	103	30	26
Uzbekistan	EM N	970	103	60	44
Cape Verde*	EM N	960	104	73	48
Kiribati*	EM N	920	105	76	50
Moldova, Republic of	EM N	920	105	32	28
Turkmenistan	EM N	920	105	78	52
Solomon Islands*	EM N	910	106	29	25
Suriname	EM N	880	107	31	27
TFYR Macedonia	EM N	860	108	30	26
Bolivia	EM N	800	109	102	58
Egypt	EM N	790	110	78	52
Palau	EM N	790 (approx.)	110	35	30
Djibouti*	EM N	780 (approx.)	111	157	80
Lesotho*	EM N	770	112	139	73
Bosnia and Herzegovina	EM N	765 (or less)	113	17	14
Armenia	EM N	730	114	30	26
Kyrgyzstan	EM N	700	115	50	38
Sri Lanka	EM N	700	115	19	16
Congo*	EM N	680	116	108	61
Albania	EM N	670	117	40	34
Côte d'Ivoire	EM N	660	118	150	79

Cameroon	EM N	650	119	102	58
Tuvalu*	EM N	650(approx.)	119	56	41
China	EM N	620	120	47	37
Honduras	EM N	600	121	35	30
Senegal	EM N	600	121	127	69
Guyana	EM N	590	122	83	54
Guinea*	EM N	550	123	210	91
Zimbabwe	EM N	540	124	73	48
Liberia*	EM N	490 (approx.)	125	235	97
Azerbaijan	EM N	480	126	44	35
Comoros*	EM N	470	127	122	67
Mauritania	EM N	460	128	183	87
Pakistan	EM N	460	128	136	72
Georgia	EM N	440	129	29	25
Bhutan*	EM N	420	130	127	69
Angola*	EM N	410	131	292	100
Zambia*	EM N	400	132	202	89
Ghana	EM N	390	133	110	62
Equatorial Guinea*	EM N	380	134	173	84
Nicaragua	EM N	380	134	57	42
Benin*	EM N	370	135	140	74
Lao People's Dem. Rep. *	EM N	350	136	128	70
Sao Tome and Principe*	EM N	350	136	80	53
Central African Rep.*	EM N	340	137	164	82
India	EM N	340	137	111	63
Tajikistan	EM N	340	137	76	50
Gambia*	EM N	320	138	107	60
Mongolia	EM N	310	139	71	47
Sudan*	EM N	310 (approx.)	139	116	65
Togo*	EM N	310	139	125	68
Kenya	EM N	280	140	90	55
Cambodia*	EM N	270	141	170	83
Nigeria	EM N	260	142	191	88
Yemen*	EM N	260	142	105	59
Afghanistan*	EM N	250x	143	257	98
Guinea-Bissau*	EM N	250	143	223	96
Haiti*	EM N	250	143	134	71
Mali*	EM N	250	143	220	95
Bangladesh*	EM N	240	144	112	64
Uganda*	EM N	240	144	141	75
Vietnam	EM N	240	144	44	35
Burkina Faso*	EM N	230	145	158	81
Madagascar*	EM N	230	145	164	82
Myanmar*	EM N	220 (approx.)	146	150	79
Niger*	EM N	220	146	320	101
Nepal*	EM N	200	147	116	65
Chad*	EM N	180	148	149	78
Rwanda*	EM N	180	148	170	83
Sierra Leone*	EM N	180	148	284	99
Malawi*	EM N	170	149	217	94
Burundi*	EM N	160	150	176	85
Congo Dem. Republic*	EM N	120	151	207	90
Tanzania*	EM N	120	151	144	76
Somalia*	EM N	110 (approx.)	152	211	92
Eritrea*	EM N	100(approx.)	153	120	66
Ethiopia*	EM N	100	153	177	86
Mozambique*	EM N	80	154	214	93
Holy See	EL N	-	-	-	-
Nauru	EM N	-	-	104	74
Niue	EM N	-	-	-	-
San Marino	EL N	-	-	13	10

APPENDIX 2: Nations ranked in order of U5MR, 1996

Groups: EL N: Elite Nations (31 countries), EM N: Emerging Nations (162 countries), and *: Least Developed Countries (48 countries).

Country	Group	GNP/Head	Rank	U5MR	Rank
Singapore	EM N	26730	9	4	1
Sweden	EL N	23750	15	4	1
Finland	EL N	20580	16	4	1
Switzerland	EL N	40630	2	5	2
Iceland	EL N	24950	12	5	2
Spain	EL N	13580	26	5	2
Japan	EL N	39640	3	6	3
Norway	EL N	31250	4	6	3
Denmark	EL N	29890	5	6	3
Germany	EL N	27510	6	6	3
Austria	EL N	26890	8	6	3
France	EL N	24990	11	6	3
Netherlands	EL N	24000	14	6	3
Australia	EL N	18720	19	6	3
Andora	EL N	9386 (or more)	31	6	3
Monaco	EL N	9386 (or more)	31	6	3
Slovenia	EL N	8200	33	6	3
Luxembourg	EL N	41210	1	7	4
Belgium	EL N	24710	13	7	4
Canada	EL N	19380	17	7	4
Italy	EL N	19020	18	7	4
United Kingdom	EL N	18700	20	7	4
Ireland	EL N	14710	24	7	4
New Zealand	EL N	14340	25	7	4
Portugal	EL N	9740	29	7	4
Korea, Republic of	EM N	9700	30	7	4
Liechtenstein	EL N	9386 (or more)	31	7	4
Czech Republic	EM N	3870	47	7	4
United States	EL N	26980	7	8	5
Israel	EL N	15920	23	9	6
Greece	EL N	8210	32	9	6
Cuba	EM N	1170 (approx.)	93	10	7
Cyprus	EM N	1026 (approx.)	100	10	7
Brunei Darussalam	EM N	25160	10	11	8
Malta	EL N	7910 (approx.)	35	11	8
Croatia	EM N	3250	54	11	8
Slovakia	EM N	2950	59	11	8
Jamaica	EM N	1510	86	11	8
Barbados	EM N	6560	40	12	9
Hungary	EM N	4120	45	12	9
Chile	EM N	4160	44	13	10
Malaysia	EM N	3890	46	13	10
San Marino	EL N	-	-	13	10
Kuwait	EM N	17390	22	14	11
Poland	EM N	2790	61	14	11
Costa Rica	EM N	2610	67	15	12
Estonia	EM N	2860	60	16	13
Trinidad and Tobago	EM N	3770	48	17	14
Bosnia and Herzegovina	EM N	765 (or less)	113	17	14
United Arab Emirates	EM N	17400	21	18	15
Oman	EM N	4820	43	18	15
Belarus	EM N	2070	73	18	15
Lithuania	EM N	1990	76	18	15
Seychelles	EM N	6620	39	19	16
Bulgaria	EM N	1330	91	19	16
Sri Lanka	EM N	700	115	19	16
Dominica	EM N	2990	57	20	17
Panama	EM N	2750	63	20	17
Latvia	EM N	2270	71	20	17
Qatar	EM N	11600	28	21	18
Bahrain	EM N	7840	36	22	19

Antigua and Barbuda	EM N	6980 (approx.)	38	22	19
Uruguay	EM N	5170	42	22	19
Saint Lucia	EM N	3370	52	22	19
Yugoslavia, Fed. Rep. of	EM N	1900 (approx.)	78	22	19
Bahamas	EM N	11940	27	23	20
Mauritius	EM N	3380	51	23	20
Saint Vincent/Grenadines	EM N	2280	70	23	20
Tonga	EM N	1630	82	23	20
Fiji	EM N	2440	68	24	21
Ukraine	EM N	1630	82	24	21
Argentina	EM N	8030	34	25	22
Russian Federation	EM N	2240	72	25	22
Jordan	EM N	1510	86	25	22
Romania	EM N	1480	87	25	22
Micronesia, Fed. States of	EM N	2010	74	27	23
Venezuela	EM N	3020	56	28	24
Solomon Islands*	EM N	910	106	29	25
Georgia	EM N	440	129	29	25
Saudi Arabia	EM N	7040	37	30	26
Cook Islands	EM N	1550 (approx.)	85	30	26
Korea, Dem. Peoples Rep.	EM N	970 (approx.)	103	30	26
TFYR Macedonia	EM N	860	108	30	26
Armenia	EM N	730	114	30	26
Grenada	EM N	2980	58	31	27
Colombia	EM N	1910	77	31	27
Suriname	EM N	880	107	31	27
Mexico	EM N	3320	53	32	28
Moldova, Republic of	EM N	920	105	32	28
Paraguay	EM N	1690	80	34	29
Syria	EM N	1120	95	34	29
Tunisia	EM N	1820	79	35	30
Palau	EM N	790 (approx.)	110	35	30
Honduras	EM N	600	121	35	30
Iran	EM N	1033 (approx.)	99	37	31
Saint Kitts and Nevis	EM N	5170	42	38	32
Thailand	EM N	2740	64	38	32
Philippines	EM N	1050	97	38	32
Algeria	EM N	1600	84	39	33
Lebanon	EM N	2660	65	40	34
El Salvador	EM N	1610	83	40	34
Ecuador	EM N	1390	89	40	34
Albania	EM N	670	117	40	34
Belize	EM N	2630	66	44	35
Azerbaijan	EM N	480	126	44	35
Vietnam	EM N	240	144	44	35
Kazakstan	EM N	1330	91	45	36
Turkey	EM N	2780	62	47	37
China	EM N	620	120	47	37
Botswana	EM N	3020	56	50	38
Kyrgyzstan	EM N	700	115	50	38
Brazil	EM N	3640	49	52	39
Vanatu*	EM N	1200	92	53	40
Samoa*	EM N	1120	95	53	40
Dominican Republic	EM N	1460	88	56	41
Guatemala	EM N	1340	90	56	41
Tuvalu*	EM N	650(approx.)	119	56	41
Nicaragua	EM N	380	134	57	42
Peru	EM N	2310	69	58	43
Uzbekistan	EM N	970	103	60	44
Libya	EM N	5540 (approx.)	41	61	45
South Africa	EM N	3160	55	66	46
Indonesia	EM N	980	102	71	47
Mongolia	EM N	310	139	71	47
Cape Verde*	EM N	960	104	73	48
Zimbabwe	EM N	540	124	73	48
Morocco	EM N	1110	96	74	49
Maldives*	EM N	990	101	76	50
Kiribati*	EM N	920	105	76	50
Tajikistan	EM N	340	137	76	50
Namibia	EM N	2000	75	77	51
Turkmenistan	EM N	920	105	78	52
Egypt	EM N	790	110	78	52

53	Sao Tome and Principe*	EM N	350	136	80
54	Guyana	EM N	590	122	83
55	Kenya	EM N	280	140	90
56	Marshall Islands	EM N	1680 (approx)	81	92
57	Swaziland	EM N	1170	93	97
58	Botswana	EM N	800	109	102
58	Cameroon	EM N	650	119	102
74	Nauru	EM N	260	104	104
59	Yemen*	EM N	260	142	105
60	Gambia*	EM N	320	138	107
61	Congo*	EM N	680	116	108
62	Ghana	EM N	390	133	110
63	India	EM N	340	137	111
64	Papua New Guinea	EM N	1160	94	112
64	Bangladesh*	EM N	240	144	112
65	Sudan*	EM N	310 (approx)	139	116
65	Nepal*	EM N	200	147	116
66	Entrea*	EM N	100 (approx)	153	120
67	Iraq	EM N	1036 (approx)	98	122
67	Comoros*	EM N	470	127	122
68	Togo*	EM N	310	139	125
69	Senegal	EM N	600	121	127
69	Bhutan*	EM N	420	130	127
70	Lao People's Dem. Rep.*	EM N	350	136	128
71	Haiti*	EM N	250	143	134
72	Pakistan	EM N	460	128	136
73	Lesotho*	EM N	770	112	139
74	Benin*	EM N	370	135	140
75	Uganda*	EM N	240	144	141
76	Tanzania*	EM N	120	151	144
77	Gabon	EM N	3490	50	145
78	Chad*	EM N	180	148	149
79	Cote d'Ivoire	EM N	660	118	150
79	Myanmar*	EM N	220 (approx)	146	150
80	Djibouti*	EM N	780 (approx)	111	157
81	Burkina Faso*	EM N	230	145	158
82	Central African Rep.*	EM N	140	137	164
82	Madagascar*	EM N	230	145	164
83	Camodia*	EM N	270	141	170
83	Rwanda*	EM N	180	148	170
84	Ecuatorial Guinea*	EM N	380	134	173
85	Burundi*	EM N	160	150	176
86	Ethiopia*	EM N	100	153	177
87	Mauritania	EM N	460	128	183
88	Nigeria	EM N	260	142	191
89	Zambia*	EM N	400	132	202
90	Congo Dem. Republic*	EM N	120	151	207
91	Guinea*	EM N	550	123	210
92	Somalia*	EM N	110 (approx)	152	211
93	Mozambique*	EM N	80	154	214
94	Malawi*	EM N	170	149	217
95	Mali*	EM N	250	143	220
96	Guinea-Bissau*	EM N	250	143	223
97	Liberia*	EM N	490 (approx)	125	235
98	Algerian*	EM N	250x	143	257
99	Sierra Leone*	EM N	180	148	284
100	Angola*	EM N	410	131	292
101	Niger*	EM N	220	146	320
	Holy Sec	ET N			
	Ninec	EM N			

PART FOUR

**FREEDOM AND CAPABILITY
TO
INTERACT**

FREEDOM TO INTERACT

In the initial stages of this study emphasis was placed on testing the hypothesis that political economic processes, including development, behave as Complex Adaptive Systems. That contention was substantiated in the preceding chapters. The internal elements were shown to be egoist human beings. Governed by a few simple rules, they interact to supply the energy required by the system to self-organise itself into stable patterns without the need for extensive regulation. Too few interactions result in a state of lifeless order, while too many could lead to chaos. Complexity, it was argued, lies between the two. It was posited in the previous chapter that it is less difficult to tackle basic needs than to acquire wealth. Discussion narrowed down to a *capability divide* that delineates a situation of mere survival from that in which individuals are able to take an active part in social and economic interactions that help to energise their communities.

Chapters 11 to 13 shift the discussion to consideration of foreign and domestic factors that inhibit the freedom or capability of individuals to interact with others to enable a nation to attain a state of complexity in which sustainable evolutionary progress could be made. The present chapter highlights a number of primary attributes, such as basic liberties and equal rights for women, without which nations would find it difficult to cross the capability divide, regardless of success on economic and other fronts. Clearly, it is futile to pore over hindrances to interactions, such as illiteracy, if individuals were not permitted to exercise their right to interact peaceably with others in the first instance. The chapter, however, draws a distinction between idealised democratic aspirations, and practical improvements that would allow individuals to interact freely without challenging the elite and its privileges.

Democracy: A Moveable Feast

Liberty for individuals to exercise a measure of choice is a natural launch pad when viewed from the nonlinear perspective of Complex Adaptive Systems. Liberalism is itself founded on the belief that one of the aims of the state should be “to preserve

individual rights and to maximise freedom of choice.”³³⁴ A clarification of the meaning of democracy is helpful at this point to focus on a concept referred to in the Oxford Dictionary of Politics as *space*. It is evident from previous discussion that the space available for individuals to “pursue their own lives, or their own conception of good” is of fundamental significance for healthy functioning of a Complex Adaptive System. Politics, religion, and social conventions often invade and restrict that space. Moreover, and as discussed in later chapters, nutrition, health, education and security are further influences that determine limits to a person’s space. In combination, these factors set the ‘height’ of the capability divide, low in Elite Nations affording most people easy access to capability, and higher in the case of Emerging Nations.

Politicians from left and right have abused concepts such as democracy, human rights, and freedom. For instance, international relations seem to fall outside the scope of common liberal conventions. In that field the world is still a jungle where might is right. Hence, the British Secretary of Defence, in announcing wide-ranging reforms to the armed forces in July 1998, based the case for Britain to be a major military power partly on the premise that “people like Saddam” should not be allowed to dominate regions of interest to Britain. The other side of that coin, the domination of the Gulf by Western powers, was implicitly taken as being sacrosanct without the need for tedious explanations. In addition, a state of ‘democracy’, or lack of it, as judged by Western powers is now regularly cited as justification for assisting or penalising nations. Hence it is permissible to strangle Cuba, for instance, on the grounds that it is a dictatorship, but the same yardstick is not applied as vigorously to Indonesia. In its heyday the USSR was just as active in that form of ideological abuse.

There is a natural assumption that nations taking their first steps towards democratic reforms would be helped, or at least left to manage their affairs without impediments. But many countries have been stopped from treading that path because local elites, with tacit or active support from abroad, decided they did not wish to ease their grip on power. Examples abound on this topic. Pakistan, for instance, was ruled by the military for 25 of its 50 years as an independent nation. Though governed by elected civilians since 1988, the generals still exert their influence behind the scenes.³³⁵ Senior officers in Pakistan fulfil an active role in regional conflicts on behalf of other powers, as was and

³³⁴ Mclean, *Oxford Concise Dictionary of Politics*, 1996, p 286.

³³⁵ *Asiaweek*, Hong Kong, 20 January 1995, p 29.

is the case in the civil war in Afghanistan. Algeria is another example. Army officers supported by France seized power when the 1992 elections indicated that the Islamic Salvation Front might gain control of parliament. French action was based on good precedents. Chile attracted the attention of the American CIA for a time in the 1960s and 1970s because of Allende's (1908-1973) supposed socialist leanings. He was repeatedly elected to Chile's Senate from 1945 onwards. He then won the vote to become president in 1970 but subsequently lost his life in a 1973 coup. The CIA secured success on that occasion at a cost of \$8 million.³³⁶

Iran under the Shah also illustrates the ambivalence of leading powers towards democracy. During the latter days of his reign it became clear that he and his regime were on their way out. After decades of dotting admiration the message from the West changed overnight to one of criticism of his autocratic rule. When his Nationalist Party came to power in the 1951 elections, Mossadegh tried to introduce reforms in response to similar concerns. However, that was perceived as a threat to Western oil interests. The CIA set operation Ajax in motion in 1953 and it took only two months, and \$200,000 to topple Mossadegh. He spent the rest of his days under house arrest. It was said that after that success, US politicians "fell in love with covert operations."³³⁷

Attitudes to democratisation of Emerging Nations have not changed. Nigeria was racked by problems since independence in 1960. Ethnic and religious rivalries were rife and the military 'had to step in to restore order'. In 1993, however, the Armed Forces Ruling Council was disbanded in preparation for elections. Abiola, a businessman with liberal attitudes, was duly elected president in June of that year. After decades of corrupt rule by the military that event was not welcome by senior officers. Major foreign corporations, who supported and benefited from previous regimes, liked the new setup even less. The elections were declared null and void, Abiola was imprisoned, and that was followed in November by an inevitable coup that brought Abacha to power. The most populous country in Africa, with over 125 million people, endowed with good agricultural lands and massive petroleum and natural gas deposits was led in short order into bankruptcy. Abacha died in June 1998 and his successor, Abubakar

³³⁶ Secretary of State Kissinger, while chairing the anti-Allende campaign committee was reported to have said, "I don't see why we need to stand by and watch a country go communist due to the irresponsibility of its own people." Ranelagh, *CLA: A History*, 1992, pp 176-179.

³³⁷ *Ibid.*, p 78.

promised reforms. But Abiola had to renounce his claim to the presidency first.³³⁸ Fortuitously, he died suddenly on 7th July 1998, during a meeting with a 'democracy team' led by Pickering, US Under Secretary of State.

Whatever the cause of Abiola's death might have been, historic precedents suggest that lingering doubts will not be dispelled in a hurry. Britain occupied Iraq in 1917, and from that date till 1958 it was virtually a British colony. King Faisal I, installed at the throne in 1921, was a realist; British interests took precedence over all else. His son, Ghazi, was not as astute. He harboured idealistic beliefs that Iraqis should be free to manage their own affairs. The Nazi threat was at its zenith and Ghazi was dully declared a friend of Germany. As mentioned before, in accord with Game Theory, labels are crucial in all encounters. He was eventually killed in a car accident in April 1939. Two companions, who were sitting in the back, disappeared and were never found again. The official report cited 'death in a traffic accident', but sixty years later the general view is that his cousin and a notorious Anglophile politician were behind the king's death, with British active support.³³⁹ Ghazi's biographer, in commenting on the aftermath of his death made two remarks that are of relevance. Firstly, following the king's funeral, several British newspapers published articles in concert deriding Ghazi.³⁴⁰ Clearly, orchestration of the media is not a modern phenomenon. Secondly, a number of important British documents relating to his death were mysteriously lost from the Public Records Office in London.³⁴¹

This introductory section sought to underline two points. Firstly, the definition of democracy in international circles is highly ambiguous. And secondly, it is not safe to assume that democratic reforms would be welcomed necessarily by domestic and foreign interest groups. However, actions that frustrate moves toward political liberalisation intentionally or otherwise reduce the ability of a nation to build up complexity through more intensive interactions by individuals and, therefore, to make sustainable progress on all fronts, including basic needs and economics.

³³⁸ When UN Secretary General Annan visited him on 1st July 1998, he found him "very realistic." His wife Kudirat was assassinated in June 1996 and "he did not want to die as well". *Sunday Times*, 5 July 1998.

³³⁹ Faraj, *King Ghazi*, (Arabic), 1987, p 268.

³⁴⁰ Including the Daily Express, Daily Mirror, The Manchester Guardian, on the 5th of April, and the News of the World, on 9th April. *Ibid.*, p 250.

³⁴¹ *Ibid.*, p 275.

State Repression

The most important requirement for dictatorship is power over civilian populations, as observed in many Emerging Nations courtesy of the arms industry. No less than 138 successful military coups were staged between 1960 and 1985. In 1960, under one third of people in Emerging Nations were ruled by military-lead dictatorships. Fifteen years later the proportion had grown to a half.³⁴² Basically, something had to be done to retain previous colonial privileges when outright colonialism became unfashionable. Local rulers installed and controlled by external powers were the answer. There is much evidence to show that help, in the form of arms for example, was given to ruthless dictators by supposedly democratic states to keep them in power against their peoples wishes.³⁴³ Grooming future tyrants might well be formally organised in some cases, as the 'School of the Americas' at Fort Benning, Georgia, would suggest.³⁴⁴

Repression attracts little comment because it is so widespread. Every now and then, however, it hits the headlines. Over 200,000 people, a third of the population, have been killed since Indonesia invaded East Timor in 1975.³⁴⁵ The invasion of Tibet by China had roughly similar effects, but in this case a systematic effort was made to wipe out the culture of a whole nation. Complexity built over centuries was dismantled rapidly by the Chinese to be replaced by the deathly stasis of implanted foreign beliefs. Turkey has waged a vicious war against the Kurds for many decades that included forced mass movement of populations and severe penalties for using the Kurdish language. More recently, Bosnia and Kosovo in Yugoslavia brought repressive practices, this time against Muslims, to higher prominence because they happened in Europe.

But state repression is usually directed at the population at large. Dictatorship imposes a set of conditions that are the exact opposite to those needed by Complex

³⁴² Ohlson, *Arms Transfer Limitations and Third World Security*, 1988, p 18.

³⁴³ The case of Mobutu in Zaire provides a classic illustration. He came to power in 1961 after a coup backed by America and Belgium, and went on to become a ruthless tyrant. When Kabila, "inspired by a Chinese version of communism", managed to occupy Stanleyville, now Kisangani, in 1964 Belgian paratroopers were transported in American aircraft to restore Mobutu's grip on the town. *Sunday Times*, 11 May 1997. Zaire was thus made to suffer Mobutu and his clan up to 1997 when Kabila took over, this time with help from Rwanda and Uganda, and encouragement from the USA. In August 1998 his allies turned against him to support a new rival. Kabila, they belatedly discovered, was corrupt and unreliable. *Sunday Times*, 16 August 1998.

³⁴⁴ It "counts among its alumni some of the most notorious Latin American soldiers...[including] D'Aubuisson, leader of the El Salvador death squads; Manuel Noriega, the jailed Panamanian dictator; Leopoldo Galtieri, the former Argentinean president who lost the Falklands war; and countless others held responsible by human rights groups for repression and atrocity." *Sunday Times*, 30 November 1998.

³⁴⁵ *New Internationalist*, November 1994, p 14. Reference is also made to one million people being killed in Indonesia since Suharto seized power in 1965.

Adaptive Systems to function optimally. Dictators are interested first and foremost in control. Involvement of the state in the minutia of daily life is difficult to imagine unless experienced at first hand. Diversity in actions and behaviour, and free exploration of possibilities are disallowed. The effects are debilitating as they reduce the ability or even willingness of individuals to participate in social and economic affairs. The state might be 'generous' in providing food, shelter and healthcare, but the structure could not be an evolutionarily stable strategy, ESS, without voluntary input of energy by individuals through day to day interactions with others. Sooner or later, largess has to stop due to 'economic difficulties', as seen in the USSR and as experienced by many Emerging Nations. Repressive states hardly ever realise that they create their own problems by curtailing interactions that would not have challenged the privileges of the ruling elite.

"Apartheid of Gender"³⁴⁶

Repression directed at sectors of the community selected on the bases of gender, ethnic origin, or belief, is more insidious than political tyranny. In this instance there is a measure of consensus that lends a veneer of legitimacy to the practice, as well as helping to camouflage its scale. A few examples were given above of notable cases of state repression against ethnic and religious factions. However, in numbers women are the most significant group subjected to systematic tyranny. Comprising half the population, their participation in a nation's life has a pivotal impact on the functioning of the political economy as a Complex Adaptive System. Flow of energy through the system is materially curtailed if their interactions were eliminated or restricted.

Force is the most obvious, and hence popular, means of control. In the words of Bunch, "violence against women and girls is the most pervasive violation of human rights in the world today. Its forms are both subtle and blatant and its impact on development profound. But it is so deeply embedded in cultures around the world that it is almost invisible."³⁴⁷ The practice is not unknown in Elite Nations, but it is on an altogether higher scale in certain Emerging Nations. The essential difference lies in the absence of legal and administrative safeguards that might help to alleviate the problem. Quite the reverse in fact, as cultural and religious traditions in some regions condone practices such as 'honour' killing, female genital mutilation and dowry deaths.

³⁴⁶ The late UNICEF Executive Director James P Grant coined the expression.

³⁴⁷ UNICEF, *The Progress of Nations* 1997, p 41.

State and society complicity is a major hurdle. Certain religious traditions lend support to the view that women should be hidden away and watched over to a degree that in effect stops them from being active members of the community. That is possibly the hardest barrier to cross. In some cases zealous focus on women does not extend to taking care of their health and other needs. In Afghanistan, Guinea, Sierra Leone and Somalia, for instance, a woman faces a 1-in-7-lifetime risk of dying due to pregnancy or childbirth. In Spain, by contrast, the risk is 1-in-9200. UNICEF suggests, "no public health shows greater disparity between rich and poor countries than maternal mortality."³⁴⁸ Prejudice against females is doubly costly. Firstly, it nullifies the contribution that women could make to the social and economic wellbeing of society. Secondly, young children receive their first helpings of learning and healthcare from the females around them, normally mothers. Ill informed, oppressed, and illiterate women are of little value on that score.

Women are accorded a valued place in the Islamic religion. A whole *Sura*, or chapter, in the Koran is devoted to that issue. However, the *Shari'a*, Islamic law, continued previous practices in some respects. A number of Islamic sects, particularly *Shiism*, took the matter even further. Hence, while it is perfectly clear that the Koran did not require women to cover themselves from head to foot, that stipulation is followed strictly in a number of Islamic communities. Al-Wardi suggested that the veil came into use when the Islamic elite acquired concubines. Free women in these households chose to wear the veil to set themselves apart from courtesans, and the fashion then spread to other women.³⁴⁹ In the early days women played a decisive role in the life of the community that went well beyond domestic chores. Muhammad himself married Khadija, a widow engaged in trade within and beyond Arabia. There were also famous poetesses whose works are admired and studied to the present. That is still true of many Islamic societies. In Syria, Iraq and Egypt, for example, feminists are not unknown; such as 'Anbara Salam in the Lebanon and Huda Sha'rawi (1878-1947) in Egypt.³⁵⁰

But there are glaring exceptions. Women in Afghanistan were ordered by the Taliban to work only in certain occupations such as nursing. Although it would be unwise to generalise, it is noticeable that Islamic countries are slower at ratifying

³⁴⁸ UNICEF, *The Progress of Nations* 1997, p 48.

³⁴⁹ Al-Wardi, *On Human Nature* (Arabic), 1996, p 56.

³⁵⁰ Hourani, *A History of the Arab People*, 1991, p 344.

international agreements relating to women's rights.³⁵¹ A word of caution is necessary though. Islamic nations observe the liberation of women in Western societies with disapproval, on bases that are not easy for more liberal societies to comprehend. For example, they are baffled by the need for women participants in sporting events to take part wearing the briefest of outfits.³⁵² They perceive a dilemma that is not treated with sympathy in the West: once the process of liberation starts it could not be trimmed.³⁵³ However, there is a considerable difference between these understandable concerns and efforts to oppress women. Discounting the input of half the population comes at a high price in energy-giving interactions and progress.

Ethnic Strife

Oppression that has ethnic roots is another form of domestic trait that does nothing to improve prospects for progress by any community, as discussed above in relation to state oppression. The same mechanisms apply as in the case of women. Interactions are curtailed thereby reducing the input of self-organising energy to the system. But in this instance oppression often leads to strife and, in some cases, all-out civil war. Waste in material assets is added to loss in human resources. Collier wrote that ethnic divisions have "various detrimental microeconomic effects, tending to reduce public sector performance, increase patronage, and lower the level of trust among individuals."³⁵⁴ However, he challenged the assumption that diversity would lead to conflict in all circumstances. Collier showed that societies most at risk are ones in the middle of the range of ethnic diversity. Homogeneous societies do not have a problem *per se*. But more to the point those with high levels of diversity are just as stable. Conflict arises when there are a few ethnic groupings, especially when one monopolises most of the rewards. Put simply, it costs less to initiate and co-ordinate conflict when there are a few large groupings.

³⁵¹ UNICEF, *The Progress of Nations 1997*, p 48.

³⁵² See for instance *Sunday Times*, Lifestyles 6 June 1999, on insistence by the International Volleyball Federation that female competitors must wear the briefest bikinis when they play. Emphasis on sex and minimal dress is evident in other sports, particularly in track and field events.

³⁵³ See Al-Wardi, *On Human Nature*, (Arabic), 1996, pp 49-64. Also Al-Ghazali, *Woman's Affairs*, 1994, which deals with the subject in depth and from differing viewpoints.

³⁵⁴ Collier, *The Political Economy of Ethnicity*, 1998, p 5. See also Horowitz, *Structure and Strategy in Ethnic Conflict*, 1998, for scholarly analysis of this issue area. This reference is useful as well for the extensive bibliography it provides for readers wishing to probe the topic in further detail.

More to the point, democracy and personal incomes play a major part in whether conflict could be successfully initiated. Democracy helps in resolution of disputes before they could be exploited. Incomes are important as they determine the opportunity cost as perceived by individuals when they consider an invitation to fight under the banner of an aspiring leader. Once civil war commences though, the picture changes. In that situation, resolution of conflict hinges more on ethnic composition and less on income and political rights. Hence, "some peace settlements may need to change borders so as to increase (or reduce) the ethnic diversity of the state."³⁵⁵ Africa suffers particularly badly from these problems. Here, ethnic oppression and civil war correlate with low income and lack of democratic institutions. Collier makes the point that resolution of tensions "might be sufficiently easy in homogenous societies that it does not depend upon democratic institutions, whereas in diverse societies these institutions make the difference between zero sum and cooperative solutions."³⁵⁶

The previous three sections outlined two contradictory elements in the political economy. Firstly, for it to work efficiently as a Complex Adaptive System, individuals should be free to interact. Secondly, there are powerful foreign and domestic forces that inhibit acquisition of basic freedoms by individuals, specific groups, or whole nations. Game theory suggests that it is always more profitable for one partner to compete while forcing the other to cooperate. Domestic elites and foreign interests would wish to apply that to their dealings with individuals, groups, and weaker nations. This is an integral part of the political economic environment. It is neither good nor evil. Modest progress in tackling these thorny issues is infinitely more effective than importing highfalutin ideals about democracy and human rights from abroad.

No Quick-fixes to Democracy

Al-Gosaibi, Saudi Arabia's Ambassador in London, does not harbour any ill will towards the West. But in a 1998 lecture organised by the Arab-British Chamber of Commerce, he had some forthright words to say about the importation of business and political ideas from abroad. Democracy as defined today, AlGosaibi said, "is a Western product, part of a long-evolving Western history...Yet the attempt to impose democracy on all and sundry is relentless." He felt that there were prerequisites for that

³⁵⁵ Horowitz, *Structure and Strategy in Ethnic Conflict*, 1998, p 11.

³⁵⁶ Collier, *The Political Economy of Ethnicity*, 1998, p 13.

particular brand of democracy that might not necessarily be on tap in other societies. Interestingly, Al-Gosaibi expressed similar reservations about trends in international trade when he added, "the slogan is globalisation. In short, it means that the rest of the world must do business à la America."³⁵⁷ The thrust of his comments was not directed against the generalised concept of democracy. Difficulties arise, however, when attempts are made to transplant an intricate system that evolved over many centuries to other cultures. When the effort is prompted by factors that have little to do in reality with personal or human rights the results become inevitable. In recent decades, calls for liberal political attitudes were mainly intended to convince target states of the need to adopt liberal economic policies, especially in relation to international trade. Incessant pressure on China to 'reform' might well fall in that category.

Liberal systems of state do not necessarily lead to perfect societies. It took social upheavals caused by two world wars for Britain to finally embrace the welfare state. As befits a Complex Adaptive System, the move was a long time coming, but when it finally did the transition was swift. Britain was in the grip of a new *attractor*, and it all happened in the life of one Parliament following the 1945 elections. It should be noted that social reforms were adopted over fifty years after Britain had passed the zenith of its power. In Game Theory parlance, competition between the elite and the rest of society gave way to cooperation. It took just as long for injustices to be rectified in other societies. A constitution dating back to 1874, and amended regularly after that date, allowed women in Switzerland to have a voice in choosing their government only as recently as 1971. Equally, the American Declaration of Independence might intone that "all men are created equal" is a self-evident truth, but somewhere on the way black people missed out on that lofty pronouncement. Finally, the ability of an American president or a British Prime Minister to take his or her country to war without a democratic vote by the people's representatives might be considered undemocratic under other systems of government. But that does not make the arrangements in the USA and Britain wrong or unacceptable. They are simply different.³⁵⁸

Additionally, Western style democracy has not stopped states or their agents from committing atrocities against foreign nations and citizens. Purely for business reasons,

³⁵⁷ *Journal of the Arab-British Chamber of Commerce*, Volume 5 Issues 7 & 8, March/April 1998.

³⁵⁸ The prudence of the system might be questioned, as the recent release of taped telephone conversations during Johnson's years in the White House would suggest. It seems that Johnson might not have been in perfect mental health when he decided to intensify the war in Vietnam. *Channel 4*, British television, 10 and 17 April 1999.

200 of Switzerland's elite convinced the government that secret cooperation with Nazi Germany was desirable. Switzerland not only discouraged persecuted Jews from finding a haven within its borders, but it also turned against Swiss Jews.³⁵⁹ Possibly the most disturbing accounts of that period relate to the purchase of assets held by German Jews at knock down prices in exchange for safety. And it would seem Swiss diplomats acted in some cases as scouts to identify potential targets in Europe.³⁶⁰ It was reported, for example, that the owner of a well-established shoe factory in Berlin sold his business to Bally shoes for one mark in return for a visa to enter Switzerland. Moreover, democracy did not save some citizens from barbarian practices by their own governments, as was the case when Australia decided to 'civilise' the Aborigines. That project turned into a huge experiment in social engineering that lasted from 1910 to 1970. During that time, about 100,000 Aboriginal children were taken away from their families and put in the care of white people. Many were abused or simply died from neglect. Britain adopted complementary practices. Orphans were exported to Australia to populate the continent, and that scheme lasted up to the 1960s.³⁶¹

In short, Western style liberal democracy might be superior in many ways, but it does not come with guarantees. As in all matters relating to Complex Adaptive Systems, an ultimate model does not exist; evolutionary change in democratic norms is continuous and requires a long time to unfold. Learning from others is useful, but imitation is not a substitute for exploration of local constraints and possibilities. Experience in Africa illustrates this point. During the 1990s, Africa's one-party states gave way to multi-party regimes and the 'free-world' applauded the move. Sadly, it transpired that elections were "seldom tests of popular opinion." A pattern has emerged whereby government "fixes the election; the opposition boycotts it or rejects the result; the government ignores the opposition."³⁶² Cynics, the Economist reported, call that sham 'donor democracy'; it offers "just enough to keep aid-givers happy."

As always the aim in this section was not to criticise. Personal freedoms are vital to progress, but it is just as vital to set realistic targets even if that were to lead to what

³⁵⁹ The story of the lost millions deposited by Jews in Swiss Banks during World War II is all too familiar to recount here. For details see Bower, *Nazi Gold*, 1998.

³⁶⁰ *Sunday Times*, 9 March 1997. See also *Sunday Times* of 16 March 1997 in relation to similar activities by other 'neutral' countries.

³⁶¹ *Sunday Times*, 31 August 1997.

³⁶² *Economist*, 23 November 1996.

seems to be modest progress only. For Complex Adaptive Systems, blind imitation and short cuts are dead-ends. Nonetheless, the systems' internal elements should be able to interact freely within a sensible framework. Progress could be made on that front without necessarily adopting all the trappings of Western liberal democracy.

Conclusion

The link between basic freedoms and good overall performance is hard to miss. Admittedly, debate continues about which comes first, liberties or progress in economic and other issue areas. However, if it were accepted that political economic phenomena are Complex Adaptive Systems in which members' interactions determine overall performance, then debate is essentially irrelevant. The two are inseparable. Individuals have to be capable of interacting, but they must also be allowed to do so. In essence, prosperous nations perform well on both counts. Citizens are reasonably well fed, well educated, healthy, and enjoy a relatively secure environment. Furthermore, they are free to do as they please within defined limits. On the other hand, certain poverty stricken nations perform exceedingly badly on almost every front, particularly in relation to personal and property rights.

It was argued in this chapter that certain freedoms are essential preconditions for progress that should be acquired as a matter of some urgency. Conversely, it was asserted that importation of democratic models from abroad is not the answer. Furthermore, it was acknowledged that genuine political liberalisation might be resisted by powerful domestic and foreign interests. Reforms, therefore, have to be approached with that distinct possibility firmly in mind. The position of women and ethnic and religious groups was discussed to underline associated difficulties in defining solutions as well as the high price paid when whole sectors of the community are prevented from contributing to the wellbeing of a nation through their interactions.

Allowing time for change and recognising linkage between all action areas, it was posited, are paramount factors in achieving sustainable progress. There is an ever-present temptation to jump to the conclusion that if only this or that parameter is improved a nation would be able to take giant steps that could short-circuit the tedious process of natural evolution. In that sense, Chapter 12 is a continuation of the present chapter. As emphasised in Chapter 14, viewing the development process as an integrative task involving forward movement on several fronts is critical to success.

CAPABILITY TO INTERACT

Numerous international gatherings have concluded after much deliberation that the top social imperatives are still the same as those revealed by St. John the Divine two millennia ago. He identified Four Horsemen of the Apocalypse as agents of the world's destruction on Judgement Day, famine, disease, war and civil disorder. The present chapter features two of the original Horsemen, famine, or more generally *malnutrition*, and *disease*. It also presents illiteracy, or more generally *ignorance*, as a newcomer to the field of battle.³⁶³ The chapter considers whether any form of development is possible within badly fed, diseased and illiterate nations. But it also explores the penalties of failure to address these basic needs, and impediments for such efforts. The subject is approached within a nonlinear frame of reference. The biblical vision of destruction is modified, therefore, to assess the impact of malnutrition, disease, and ignorance on the capability of people to interact effectively in social and economic activities. The Horsemen of the Apocalypse are discussed separately in the following sections and in the next chapter although it is recognised that they hunt as a pack. Links between the individual factors will be underlined, therefore, throughout the text.

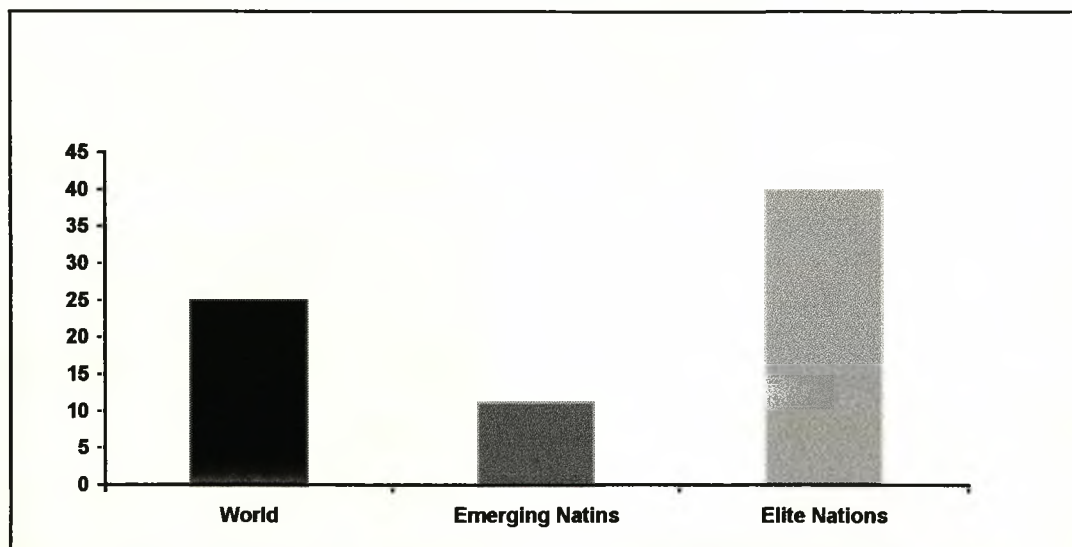
Hunger in the Lands of Plenty

Contrary to popular misconceptions, most Emerging Nations are not barren or unable to produce food to satisfy their needs. Africa, for instance, was self-sufficient in food up to the end of the 1960s. However, globally "fewer than 20 nation states can now provide for a stable domestic food supply within their own borders compared with 100 at the turn of the century."³⁶⁴ Significantly, food production increased throughout the 1980s, as shown in Figure 8. That increase was maintained in the 1990s. Essentially, as argued below, food is plentiful globally.

³⁶³ Chapter 13 is set aside for the other two 'Horsemen', the agents of war and civil strife.

³⁶⁴ Stephens, *The Indigenous Earth*, 1995, p 46.

Figure 8: Percentage Increase in Food Production from 1980 to 1990.



(Source: FAO quarterly bulletins.)

Curiously, the 1970s and 80s were characterised by widespread famines especially in Africa, while the world enjoyed an upsurge in production of major cereals. According to FAO, levels of wheat, maize and rice production increased by 40 percent, 50 percent and 30 percent respectively from 1970 to 1980, the leading growers being the USA, Canada and Australia. In addition, food production has been at an all time high in recent years, and prices in Elite Nations have tumbled as a result. Global availability of food is, therefore, not a major issue. The key feature of the present situation, hence, relates to the long-term trend for more nations to be reliant on imported food. In Game Theory terms they have no option but to cooperate. Producers, by contrast, are able to compete and thereby to derive higher rewards.

“The Silent and Invisible Emergency”

Malnutrition generates little public concern, hence UNICEF’s reference to the “silent emergency”. Conversely, dealing with exceptional famines attracts all the headlines. There is a “temptation on the part of politicians, and indeed almost everyone else, to separate the problems and processes of ‘normal’ times, from the problems and processes of ‘disaster’.”³⁶⁵ Nearly one billion people, or one in six of the earth’s population, suffer from chronic malnutrition, and that is a matter of obvious concern.

³⁶⁵ Timberlake, *Africa in Crisis*, 1991, p 9.

However, that blanket statement obscures a deeper cause for alarm; namely the impact on infants, children, and women. UNICEF, highlighted this aspect on two counts.³⁶⁶

- Malnutrition is “implicated in more than half of all child deaths worldwide, a proportion unmatched by any infectious disease since the Black Death.”
- Malnutrition leaves millions of survivors “crippled, chronically vulnerable to illness, and intellectually disabled.”

Poor feeding practices are just as important as shortage of food itself. Therefore safe water and sanitation are significant components of nutrition and hygiene. Furthermore, malnutrition involves more than just an inadequate intake of protein and carbohydrates. An equally critical element relates to deficiency in the diet of vital *micronutrients*, minerals and vitamins needed in tiny quantities. Vitamin A and iodine are especially significant with respect to capability of people to take an active part in the social and economic life of their communities. In 1994, there were 652 million children under five in Emerging Nations of which some 231 million received an inadequate intake of vitamin A. As a result they stood a 23 percent higher risk of death from common diseases. Furthermore, the deficiency resulted in 0.5 million cases of severe eye damage or blindness, 3.1 million cases of Xerophthalmia and 13.5 million cases of night blindness. Half the children who go blind die within a few months.³⁶⁷ The solution to Vitamin A deficiency has been known for decades: “daily diet can be changed, usually at little cost, to include small amounts of green leafy vegetables; or 2-cent vitamin A capsules can be given three times a year to children over six months of age, or vitamin A can be added to sugar or cooking oil.”³⁶⁸

Lack of iodine is even more efficient in inhibiting capability. In 1993 WHO estimated that 1.6 billion people, or 30 percent of the world’s population, were at risk. The deficiency caused 5.7 million cases of cretinism, 26 million cases of brain damage, and “increasing risk of mental impairment” to 655 million people. Again, UNICEF points out that an inexpensive remedy to iodine deficiency disorders “has been known

³⁶⁶ UNICEF, *The State of the World's Children*, 1998, p 9.

³⁶⁷ UNICEF, *The State of the World's Children*, 1995, p 18.

³⁶⁸ *Ibid.*, p 19.

for most of this century: iodine can be added to the one commodity that is consumed by all; common salt.³⁶⁹ The cost in this instance is 5 cents per person per year.

Deficiency of vitamin A and iodine was highlighted above to underline the severity of the consequences of malnutrition and to illustrate three cardinal points. Firstly, infants, children and women are the primary groups at risk. Secondly, malnutrition has specific effects on capability of people to contribute effectively to their communities' social and economic wellbeing. And thirdly, remedial costs are often insignificant. In other words, it should not be assumed that shortage of finance might be the obstacle to progress in all cases.

Global Agricultural Maze

States in Elite Nations provide substantial subsidies to their farmers and buy enormous amounts of food for storage, destruction or export. Surplus food is used as a strategic asset in furthering national interests. For instance, in 1972, a year of widespread starvation associated with the Sahelian drought in Africa, the American government paid farmers \$3 billion to take 50 million hectares out of production. The government also encouraged huge sales of produce to the Soviet Union to feed cattle. Decision-makers in Washington perceived some advantages in cooperating with the USSR at that point.³⁷⁰ The European Union's notorious Common Agricultural Policy, CAP, was instituted to create stable markets and give those involved in agriculture a fair standard of living. It soon grew into one of the most expensive systems of agricultural protectionism in human history. In the mid-1990s, CAP provided export subsidies, local price support and paid for the collection and storage of tens of millions of tons of excess food, at an overall cost of \$45 billion every year; about 60 percent of the European Union's budget.³⁷¹ The EU destroyed two and a half million tonnes of fresh fruit and vegetables of perfect quality in 1995 alone.³⁷²

Protection measures and subsidies in Europe and the USA distort the world's food markets, making it difficult for farmers in poorer nations to compete, even in local markets saturated by cheap exports from abroad. To make matters worse, industrialised

³⁶⁹ UNICEF, *The State of the World's Children*, 1995, pp 14-15.

³⁷⁰ Johnston and Taylor, *A World in Crisis?*, 1986, p 233.

³⁷¹ Malcolm, *The Case Against Europe*, Foreign Affairs, Volume 74, Number 2, March/April 1995, p 52.

³⁷² *Sunday Times*, 17 March 1996.

nations have set up effective barriers to discourage imports of crops. As mentioned in Chapter 9, the Uruguay Round of GATT, completed in 1993, left agricultural protection virtually untouched. The Emerging Nations were hit twice: once by cutbacks in barriers to industrial goods, a sector favouring Elite Nations, and then again by retention of barriers on agricultural products, a sector which could have helped weaker economies.³⁷³ Sub-Saharan Africa was expected to show an overall loss as a direct result of that Round. In other words, proliferation of free-trade principles globally might not help the most needy region on earth to feed its people.³⁷⁴ Aid in this issue area is sometimes just as damaging. For instance, "of well over \$1.2 billion in food aid shipped to the Third World every year, about 70 percent is sold at subsidised rates to Third World governments, which usually resell it [locally] to help balance their budgets."³⁷⁵ The impact on the viability of domestic agricultural production is obvious.

Farmers in Emerging Nations require cash to pay rent to landowners and to meet other expenses, for transport of crops, medicines, and household goods say. They could only do so by selling or bartering produce. Crops have to be transported to larger towns and cities, and in some instances this is done successfully through farming cooperatives. However, the same urban areas are targeted by foreign and larger local agribusinesses offering better quality at lower prices. Inevitably, a point is reached whereby small-scale farmers are priced out of the market. They leave their farms and move to urban slums. Larger agricultural units, owned by governments or domestic and foreign companies, survive and in fact do quite well in many Emerging Nations, but then they mainly specialise in cash crops with a ready market overseas. Not unexpectedly, governments in need of foreign exchange encourage farmers to move from staple foods to cash crops, such as tea and coffee. Hence, Ethiopia, for example, suffers regular bouts of famine but still manages to be one of the top ten world exporters of coffee; producing no less than 180,000 tonnes annually. The same applies to Bangladesh and its tea industry. Timberlake provided a well-documented technical analysis of the stimuli that drive resource-poor farmers away from their lands and impose a bias to cultivation of cash crops in preference to staple foods.³⁷⁶

³⁷³ World Bank, *Policy Research Bulletin*, Volume 6, Number 1, January/February 1995.

³⁷⁴ World Bank, *Policy Research Bulletin*, Volume 6, Number 5, November/December 1995.

³⁷⁵ Timberlake, *Africa in Crisis*, 1991, p 32.

³⁷⁶ Ibid. See also Lapierre, *City of Joy*, 1992.

Transport difficulties become significant only at times of major dislocations when large quantities of food have to be moved quickly, while factors such as inefficient irrigation and drainage, and scarcity of water are amenable to elementary management techniques. The Negev desert in Israel, with an annual rainfall of less than 10 inches, is a good example of what could be achieved in that field. The Food Availability Deficit theory is nowadays discounted, therefore, as an explanation for famines and malnutrition. It has been recognised for some time that in the main hunger arises when sectors of the community lose their ability to cultivate, buy, or barter for food due to a number of well-rehearsed domestic and international reasons.

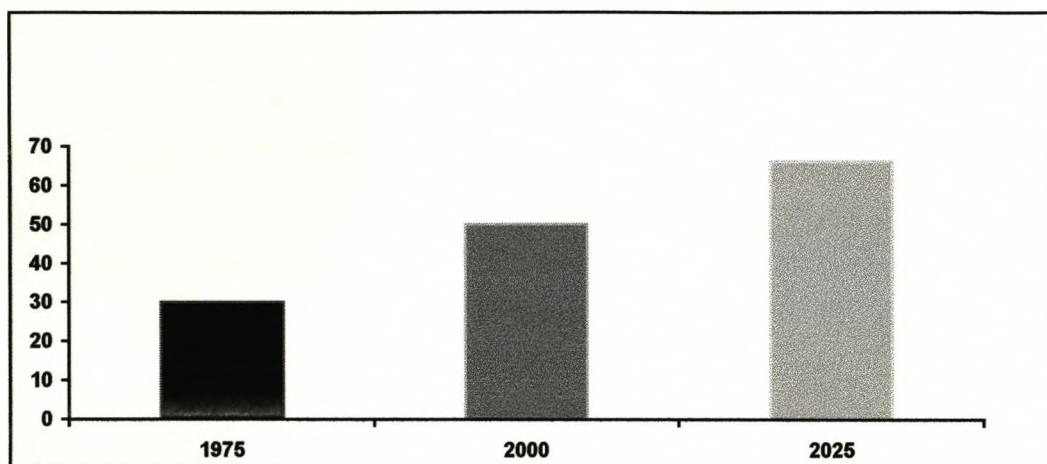
The section outlined the principal factors that hinder the ability of people in poorer countries to grow their own food. There is no conspiracy to starve Emerging Nations. Solutions defined within a linear frame of reference are ineffective, as failures of efforts to rectify the situation have proved over the years. Emerging Nations have to *cooperate* in all encounters, in accordance with Game Theory, regardless of whether the other side chooses to *cooperate* or *compete*. Individually each encounter appears to be innocuous or even potentially beneficial, as in the case of food aid. But the net effect of decisions emanating from millions of encounters between egoist individuals and groups inevitably lead to stable patterns that include chronic malnutrition and occasional famines.

Drift to the Cities

The transition to city life in Elite Nations was prompted by increased productivity on the farm and growth of new jobs in town. Economic gains offset the social costs. By contrast, urbanisation now taking place in Emerging Nations has few positive features; migration is from economically dying rural areas to cities unable to provide food and shelter for the newcomers let alone offer them employment. The topic was considered at the 1996 UN Second Conference on Human Settlements held in Istanbul. World leaders, it would seem, are resigned to escalating urbanisation, with consequential emphasis on tackling the worst problems at the receiving end in the cities. Hence, actions adopted by governments and by bodies such as the World Bank are aimed mainly at solving urban problems rather than tackling the forces that drive the rural populations to urban slums. To make matters worse, major projects frequently cause dislocations of rural populations, thereby accentuating the drift to the cities. The Sadar Sarovar dam in India, for instance, described as an environmental catastrophe

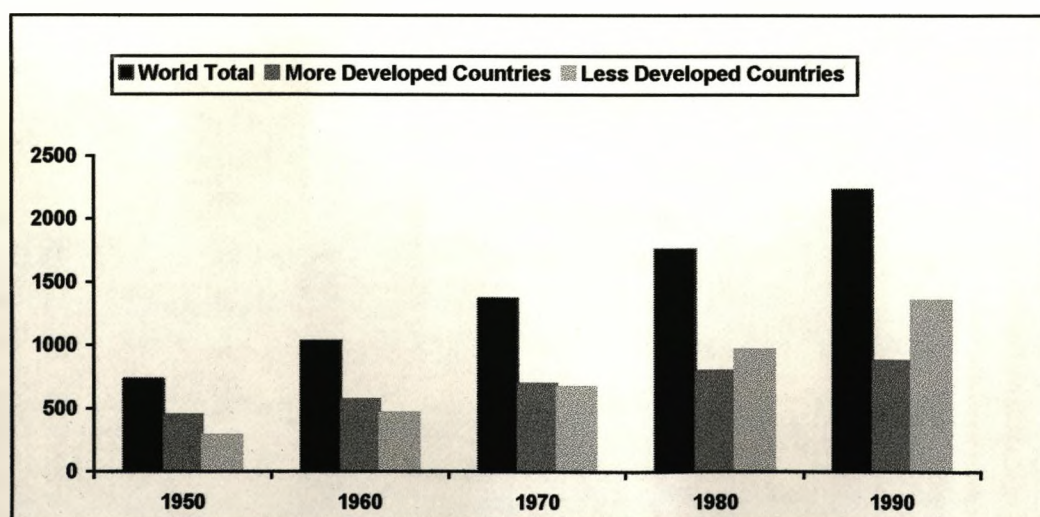
and an example of flagrant social injustice, “will displace 200,000 people, submerge 2,000 sq. km. of fertile land and 1,500 sq. km. of prime teak and sal forest.”³⁷⁷ The drift to urban areas has now turned into a flood, as illustrated by Figure 9. Consequently, urban populations in the Emerging Nations are growing at over 3 percent annually, as compared with about 0.5 percent in Elite Nations, as illustrated in Figure 10.

Figure 9: Percentage of World Population in Urban Areas 1975 to 2025.



(Source: An article by Pearman, *Sunday Times*, 2 June 1996.)

Figure 10: Urban Populations (Millions) 1950-1990.



(Source: Elliott, *An Introduction to Sustainable Development*, 1996, p 83.)

³⁷⁷ Elliott, *An Introduction to Sustainable Development*, 1996, p 47

The aim here was to stress the fact that the process of urbanisation in Emerging Nations is different from the one experienced by leading economies in the last two centuries. It has no redeeming features especially within the poorest communities. Admittedly, slowing the tide would require radical reorientation of spending within national budgets to allocate the lion's share to rural areas, and to food production in particular. Such actions would have to be matched by equally robust political interventions. In countries ruled by undemocratic and corrupt urban elites this verges on asking the impossible. Security fears associated with unrest in overcrowded urban areas alone might well be an insurmountable obstacle. Nonetheless, allowing the drift to urban slums to continue unchecked is not an evolutionary stable strategy either. Capability to participate in social and economic activities is severely limited when people are badly malnourished and living in unhealthy slums at a level of existence that is not conducive to even minimal forms of learning and self-improvement.

Malnutrition and Disease Join Forces

Before death occurs due to lack of food the young, especially, succumb to infections such as measles and diarrhoea. As mentioned, WHO estimates that the 231 million children under five with inadequate intake of vitamin A stand a 23 percent higher risk of death from common diseases. Hence according to UNICEF, the often-repeated statistic that 8 million of the 13 million annual deaths of children under five could be attributed to diarrhoea, pneumonia, malaria and vaccine preventable infections, does not give the full picture. Over half of the 13 million deaths strike children suffering from mild to severe malnutrition.³⁷⁸ Incidence of anaemia, particularly among children and women, caused by low absorption of iron from food, underlines the link between nutrition and health. In the context of capability, the effects of anaemia are crippling. WHO and UNICEF reported that the condition "lowers the productivity of entire populations". About a quarter of a billion children in Emerging Nations are anaemic. Tragically, it is estimated that over 50 percent of pregnant women in that part of the world also suffer from this easily treated condition. In the words of UNICEF, "mental growth can be retarded by neurological damage, and there is strong evidence to show a measurable loss of IQ points in anaemic children."³⁷⁹ Similar to iodine and vitamin A,

³⁷⁸ UNICEF, *The Progress of Nations 1995*, p 14.

³⁷⁹ *Ibid.*, p 17.

cheap iron supplements are commonly available, but a more sustainable remedy could be effected by a change in diet and cooking methods.

The toll of disease, aided by malnutrition, is substantial. Life expectancy in many African and Asian countries is about fifty years. In Sierra Leone and Afghanistan it was only 37 and 45 years respectively, in 1996. And it should not be assumed that progress is being made in all cases. Life expectancy in Sierra Leone, for instance, decreased by six years between 1993 and 1996. By contrast, people in Elite Nations could expect to live well over seventy years. Death rates, expressed as annual deaths per 1000 population, of about 20 in certain Emerging Nations; with Sierra Leone and Rwanda leading the field at 27 in 1996, are more than twice the rates common in other nations. High death rates and short life expectancy are known to lead to high birth and fertility rates.³⁸⁰ In the absence of provision for unemployment, sickness and old age outside the family, the offspring are relied on to provide all these social benefits in future years.

Population growth within Emerging Nations is frequently cited, with a fair measure of justification, as the biggest hurdle to sustainable progress. *Doubling time* for Elite Nations is in the range of 80 to 100 years. By contrast, the equivalent figure for Emerging Nations hardly ever exceeds 30 years. The population of Zaire, say, doubles every 22 years. The burden on economies is clear. Standards of living would deteriorate unless the economy was to grow at the same fast rate as the population, a tall order indeed. Linkage between population growth and development was considered at the 1974 World Population Conference in Bucharest. It was revisited in Mexico City in 1984 and debated even more fully at the 1994 Cairo Population Conference and the 1995 Beijing Conference on Women. In every case the need to alter the basic economic indicators was clearly recognised but specific actions concentrated on medical services, female education, and birth control. The fundamental forces that encourage people to opt for large families were, in essence, ignored.

UNICEF applies the term malnutrition to "refer to the consequences of the combination of an inadequate intake of protein energy, micronutrients and frequent infections."³⁸¹ The groups worst affected by disease and malnutrition are infants,

³⁸⁰ Birth rates, similar to death rates, relate to annual events per 1000 population. Total fertility rate, TFR, is the average number of children that a woman may be expected to have in her lifetime. Iran in 1997 had one of the highest TFRs at 4.7, while Italy had one of the lowest at 1.2. The population *replacement level* is about 2.1.

³⁸¹ UNICEF, *The State of the World's Children*, 1998, p 14.

children, and women, in that order. Beyond feelings of pain and grief, national economies pay a high price. Keeping the majority of the population below the capability divide means in effect that their Complex Adaptive System would operate at well below its optimum energy level. Self-organised patterns are not achievable and the system oscillates between wasteful chaos and deathly stasis. Four cardinal points could be made in conclusion. Firstly, there is a strong link between malnutrition and disease. Secondly, solutions do not have to be costly. Thirdly, enough attention is not being focussed on alleviating basic needs. And fourthly, the penalties of inaction are colossal.

Water: The Foundation of Development

Akhtar Hameed Khan described access to safe water and adequate sanitation as “the foundation of development.”³⁸² The position regarding safe water is bad enough but adequacy of sanitation is worse. According to WHO, over 1.1 billion people in 1994 were without safe water, a substantial improvement on previous records. In the same year, 2.9 billion people did not have access to adequate sanitation. Unsafe water and bad sanitation cause diarrhoea. On the face of it that does not seem too alarming, but diarrhoea within Emerging Nations kills 2.2 million children annually. Just as tragically, it “leaves millions more children underweight, mentally and physically stunted, easy prey for deadly diseases and so drained of energy that they are ill equipped for the primary task of childhood: learning.”³⁸³ The partnership between malnutrition, disease and ignorance in impeding capability is illustrated to perfection.

Demand for water doubled between 1940 and 1980 and is expected to double again by the turn of the century. And it could double yet again in the next decade.³⁸⁴ Naturally, where availability is in doubt, quality becomes a secondary issue. There are wide variations between nations, and within nations between rural and urban populations. From 1990 to 1996, only 34 percent of the population in Sierra Leone, for example, had access to safe water, and the percentages for urban and rural areas were 58 percent and 21 percent respectively. In the period from 1988 to 1993, the equivalent figures were 37 percent, 33 percent and 37 percent.³⁸⁵ Unlike the situation in many

³⁸² Akhtar Hameed Khan is the Director of the Orangi Pilot Project in Karachi, Pakistan and before that he was Director of the Pakistan Academy of Rural Development. UNICEF, *The Progress of Nations 1997*, p 5.

³⁸³ Ibid., p 5.

³⁸⁴ Tickell, *The Earth Summit*, 1993, p 38.

³⁸⁵ UNICEF, *The State of the World's Children*, 1995 and 1998.

other countries where some progress has been made, in Sierra Leone the national average has worsened slightly, access to clean water in urban areas has improved, but rural areas lost out rather badly.

It might be thought that dealing with the problem of shortage of safe water and inadequate sanitation is prohibitively expensive, but that is not the case. The most expensive source, *desalination* of seawater, used in areas of extreme shortage is a good illustration. The cost is higher than for conventional methods, but it is far from being unacceptable. For instance, the cost in Buckeye, Arizona, is about 60 cents per 3800 litre.³⁸⁶ At the present, water from conventional sources costs about 30 cents per 3800 litres. However, all too often the real problem is water conservation. Up to 60 percent of treated and pumped water in Emerging Nations never reaches its intended customers because of illegal tapping and leakage. Such losses "cost Latin Americans between \$1 billion and \$1.5 billion each year- the amount needed annually to provide water and sanitation services to all the region's currently unserved citizens by the year 2000." With a very small customer base, "most sanitation utilities remain largely unaccountable to the community at large, and often they make little effort to go after customers who fail to pay their bills."³⁸⁷

Basically, there is no glamour in maintenance, and even less personal profit, legitimate or otherwise. Emphasis is placed on costly capital projects instead; they serve the middle classes in the cities and attract foreign investments and grants in the bargain. They also offer better opportunities for kickbacks. Using "the right technology for the job is another affordable way to provide modern sanitation" and, no doubt safe water as well. "Designers and engineers, wedded to traditional construction methods and often caught in a tangle of questionable bidding practices, insist on using large-width piping and installing it deep in the ground. These costly procedures are appropriate for intensively developed areas and heavy vehicular traffic."³⁸⁸ Essentially, the projects chosen rely on products and techniques developed for highly dissimilar conditions.

Providing safe water and good sanitation might be perceived as costly undertakings, but absence of these basic necessities is decidedly costlier. Loss in productive capability

³⁸⁶ *Microsoft Encarta Encyclopedia* 98.

³⁸⁷ UNICEF, *The Progress of Nations 1997*, pp 7-8.

³⁸⁸ *Ibid.*, p 8.

and cost of remedial services such as additional healthcare, are quantifiable and known. Interestingly, India and Pakistan, proud owners of new atomic weapons, are typical offenders in this respect. In New Delhi, for example, less than 40 percent of households are connected to sewers. In the country as a whole, less than one third of the population enjoy adequate sanitation, and one in five do not have access to safe water. Pakistan is not much better.³⁸⁹

This section emphasised again the close links between basic needs. Clean water and sanitation were shown to be indivisible factors in both malnutrition and disease. Evidence was presented to underline the direct and substantial impact they have on performance. Capability for individuals to contribute to the wellbeing of their community could be enhanced, and hence complexity increased, through improvements in these issue areas. Yet again it was argued that cost was not the principal impediment; good progress could be made at reasonable expense provided remedies were selected to reflect local needs and possibilities.

Illiteracy Joins the Fray

UNESCO defined illiteracy as the inability of people to read and write a simple statement relating to their everyday life. By that definition, one in six of the world's population is illiterate. The global distribution of illiteracy follows a familiar pattern, with sub-Saharan Africa, as in Chad and Sierra Leone, and Southern Asia, as in Afghanistan and Nepal, leading the field. In 1995, adult literacy rates in Chad, Sierra Leone, Afghanistan and Nepal were 62, 45, 47, and 41 percent for males, and 35, 18, 15, and 14 percent for females, respectively.³⁹⁰ Yet again the same pattern of inequality is observed, between poorer and richer nations and between males and females.

Chapter 7 highlighted the importance of accumulation of knowledge to the proper functioning of Complex Adaptive Systems. An adaptive system, as an individual or a community, perceives its environment, evaluates the inputs, identifies regularities, and determines responses that help it to survive. If that process were impaired, through illiteracy say, the whole system would be affected negatively. This sums up the case for identifying ignorance as a major barrier in inhibiting capability for nations to help

³⁸⁹ See UNICEF, *The Progress of Nations 1997*, p 7, and *The State of the World's Children 1998*, p 104.

³⁹⁰ UNICEF, *The State of the World's Children 1998*, p 106.

themselves. Ignorance has three key components: illiteracy, disregard for indigenous knowledge, and lack of information. Illiteracy in poorer countries exacerbates other hardships, such as illness and malnutrition. To accentuate the problem, traditional life-skills, including tried and tested *coping strategies* that served many generations well are often discarded in favour of the promise of modern ways from abroad. There is, or should be, no conflict between science and indigenous knowledge. Elliot pronounced the two as being “complementary and mutually reinforcing.” Problems crop up when so-called experts convince the local population haphazardly to substitute ‘modern methods’ for all the knowledge accumulated over the centuries.³⁹¹

In addition to illiteracy and loss of indigenous knowledge, poorer nations suffer badly from lack of reliable and relevant information, and inaccessibility to what little information is available. Timberlake highlighted this point as making planning and monitoring “extremely difficult” in *Emerging Nations*.³⁹² Badly informed and hence readily misled, people are easy prey for demagogues and dictators. Predictably therefore, radio and television stations are designated in military coups as targets to be captured early in the day. Similarly, bombing of Iraq and Serbia by Western powers in 1998 and 1999 defined the same targets as priorities. Monopoly of knowledge by priests in ancient times is another illustration of that same feature. Denying women the right to become better informed is yet another example. Al-Ghazali described women in some Islamic societies as being “hostages in two prisons: ignorance and poverty.”³⁹³

Apart from the high percentage of illiterate mothers, in some countries 80 percent or more of women might be handicapped in this way, between one third and one half of children never reach grade 5 of primary education. Lack of teachers and the need for young children to work makes education a luxury. Not unexpectedly, illiterate people are excluded from participation in even the most mundane activities that could be classed as input into the political economy of their communities. They are also, in part as a result of their illiteracy, malnourished and unhealthy. Therefore, they are not only disadvantaged, but they lack the means to break out of that vicious circle. Hence, according to the World Bank’s latest thoughts on the subject, knowledge is becoming a

³⁹¹ Elliott, *An Introduction to Sustainable Development*, 1994, p 72.

³⁹² Timberlake, *Africa in Crisis*, 1991, p 30.

³⁹³ Al-Ghazali, *Woman’s Circumstances Between Stagnant and Imported Traditions*, 1994, p 17.

critical factor in development as “the ability to acquire, adopt, and adapt new knowledge will be an important determinant of economic growth.”³⁹⁴

Conclusion

“Close to 100 million die from hunger and hunger related diseases annually.”³⁹⁵ That scale of destruction is shocking, but the range from total destruction to full capability was the area of primary concern in this chapter. Malnutrition, disease, and ignorance were revealed as powerful factors in limiting the capability of people to interact effectively. It was argued that the three combine to cause massive harm to the ability of nations to achieve sustainable progress. By the same token, the returns from modest improvements in all three factors could be spectacular. For instance, “China, Sri Lanka and the state of Kerala in India have all attained ‘northern’ life expectancies without the northern level of health investment. Their achievements have been explained in part by the high public priority given to food, health and literacy.”³⁹⁶ Much could be done to satisfy basic needs at low cost. On the other hand, international political economic practices often make it difficult to achieve progress in that way.

But the enormity of the transformation needed to effect a shift in present practices must not be underestimated. Leaving powerful external influences aside, there would be considerable, and on past evidence very effective, resistance to reforms from well entrenched domestic interests. The individuals involved make up the governing cliques in most cases. And yet they have to be the architects and instruments of change. More ominously, such policies might well be perceived, by powerful countries and global institutions, as regression to socialist tendencies that must be snuffed out promptly. In this context, it is appropriate to end this chapter on an optimistic note. The World Bank listed ‘knowledge’, ‘the limits to markets’, and usefulness in some cases of ‘government intervention’, as the three important features that distinguish new directions in development economics from older theories.³⁹⁷ Presumably, that enlightened conception would give other basic needs, such as malnutrition and disease, an equally high level of priority.

³⁹⁴ World Bank, *Policy Research Bulletin*, Volume 8, Number 4, October/December 1997.

³⁹⁵ Stephens, *The Indigenous Earth*, 1995, pp 46-47.

³⁹⁶ Timberlake, *Africa in Crisis*, 1991, p 41.

³⁹⁷ World Bank, *Policy Research Bulletin*, Volume 8, Number 4, October/December 1997.

CONFLICT AND INCAPABILITY

Major conflicts such as the two world wars in the 20th century monopolise the attention of historians and analysts. But the wider picture is infinitely worse: from 1914 to 1991 “over 180 million people were killed or allowed to die by human decision.”³⁹⁸ Focus is switched in this chapter, therefore, to exploration of the impact of perennial conflict, in all its manifestations, on the capability of people to engage in interactions that would supply the energy for their communities to assume stable but evolving patterns of steady progress. Biased distribution of strife that gives Emerging Nations more than their fair share of conflict is highlighted, but the chapter also discusses the intimate link between that debilitating activity and chronic basic needs. Pointers to Game Theory and complexity are assessed through actions of elites and egoist individuals and their role in arms trading and in turning disputes into lengthy hostilities.

The Heavy Burden of Conflict

St. John’s Revelations allocated two ‘Horsemen’ to conflict, possibly in recognition of its devastating power. Collapse of the Soviet Union and undisputed supremacy of the USA helped to diminish global conflicts, but only to a modest extent as shown in Table 2 below. Hence, in a world badly in need of nutrition, basic healthcare, and primary education there are still six soldiers for every doctor and teacher.

Table 2: Major Regional Conflicts, 1989-1996.

Location	1989	1990	1991	1992	1993	1994	1995	1996
Africa	10	11	11	7	7	6	6	5
Asia	14	15	11	14	11	11	12	11
Central and South America	5	5	4	3	3	3	3	3
Middle East	5	5	7	5	6	6	6	6
Europe	2	1	2	4	6	5	3	2
Total	36	37	35	33	33	31	30	27

(Source: SIPRI, *Yearbook 1997*, pp 21-22.)

³⁹⁸ Stephens, *The Indigenous Earth*, 1995, pp 46-47.

As expected, armed clashes turn civilians into refugees. UNHCR put the number of refugees in 1993 at 17 million. Two years later they had increased to 23 million. Significantly, UNHCR estimated that over half the refugees are children.³⁹⁹ The Hutu massacre of one million Tutsis in 1994, forced another two million to flee Rwanda, mostly to Zaire. As expected, refugee problems take long to resolve. Hundreds of thousands of Palestinians are still living in camps, half a century after the end of events that led to the creation of Israel. And refugees, by definition, are unable to contribute much to the wellbeing of society. Nutrition, healthcare, and learning become secondary issues, and interactions that supply the energy required for society, as a Complex Adaptive System, to self-organise itself are reduced or suspended for long periods. Additionally, war diverts resources away from basic needs. Humanitarian assistance, “most of it due to war rather than natural disasters”, is a good example. Allocations for this purpose increased from about \$2 billion in 1985 to nearly \$10 billion in 1994, “reflecting the upsurge in conflicts that have had a devastating impact on civilians, especially children.” During that period financing for humanitarian aid went up from 5 percent of total development assistance to 16 percent.⁴⁰⁰

Civil wars are particularly damaging, as events in Afghanistan demonstrated all too well. In 1973, Daoud, Prime Minister and the king’s cousin, installed himself as ruler; an egoist thus set a process in motion that left countless victims but no victors. He was killed in April 1978 and other leaders came and went, mostly meeting a violent end, as in the case of Amin, Kamal, Najibullah, and Hekmatyar. Foreign egoist individuals were involved, such as the Shah of Iran, who wanted to become a regional leader, and Pakistani politicians and army officers, who harboured similar hopes but also perceived enticing possibilities for personal gains as well. It is not clear why Russia became involved in 1979, but after mounting losses troops withdrew ten years later. Nonetheless, the civil war continued as before. Between 1992 and 1995 alone, 13,500 people died and over 80,000 were wounded.⁴⁰¹ Needless to say the USA was embroiled in the conflict at all stages. After over a quarter of a century of civil war, Afghanistan now comes near bottom on all basic indicators. U5MR is 257 deaths per 1,000 live births, life expectancy is 45 years, and adult literacy is 47 percent for males and 15

³⁹⁹ *UN Blues*, 1995, p 15.

⁴⁰⁰ UNICEF, *The Progress of Nations 1997*, p 57.

⁴⁰¹ *Microsoft Encyclopedia '98*.

percent for females. Between 1990 and 1996, only 12 percent of the population had access to safe water and 8 percent benefited from adequate sanitation.⁴⁰²

The Lebanon provides another illustration of the futility of civil war. Britain and France shared the spoils after the collapse of the Ottoman Empire. The Lebanon, which went to France, comprised three distinct groups, Christians and Druse, a splinter sect of Islam, in Mount Lebanon, and Muslims, in the coastal towns.⁴⁰³ In 1920, the Christians prevailed upon the French to create a state in which the proportions of Christians and Muslims were roughly equal. A *National Pact* allowed for power sharing between Christians and Muslims, but gave the former a majority in parliament. By the 1970s Muslims were in a large majority and their leaders demanded constitutional reforms. In response, the Christians formed militias under rich warlords: the Phalanges under Gemayel, and the Tigers under Chamoun. The Muslims followed suit. Christians and Muslims sought help from the West and Israel, and from Syria respectively, and the ensuing civil war lasted from 1975 to 1992.

As Friedman recounted, "this was not a battle over dogma or sacred texts. It was about whose militia would control the illegal ports and patronage and insurance rackets."⁴⁰⁴ The fight was between Christians as well as between Christians and Muslims. Israel invaded Lebanon in June 1982 at the request of the Christians. Gemayel was appointed president, but was assassinated soon after, and Israel withdrew southwards to a zone controlled on its behalf by the South Lebanon Army. Israeli losses continue in that area to the present. America sent in the Marines and France dispatched troops to help the 'Lebanese authorities' to restore order. However, in October 1983 suicide bombers killed 241 Marines and 50 French soldiers and both countries pulled out in early 1984. Israeli and American involvement was a decisive factor in the emergence of Shiite groups such as Amal and Hezbollah that became a thorn in the flesh for both countries. Evidently, whenever nonlinear phenomena are involved plans often yield unexpected results. Some 150,000 Lebanese were killed in the civil war. Many more left the country taking their talents and money with them. A once prosperous nation was left in shambles with nothing to show for the agonies endured during the conflict. As usual in these cases, a few leaders of the warring factions still live

⁴⁰² UNICEF, *The State of the World's Children 1998*, pp 94-102.

⁴⁰³ Hourani, *A History of the Arab Peoples*, 1991, pp 429-432.

⁴⁰⁴ Friedman, *From Beirut to Jerusalem*, 1989.

in luxury but most were killed or had to flee the country. Although the civil war ended in 1992, it is expected that the process of restoring Lebanon's standards of living to their 1975 levels would take many decades.

Domestic and foreign interests routinely use ethnic and religious grievances to initiate civil and interstate wars. The Kurds in Turkey, Iraq, Iran and Syria illustrate this feature well. They have legitimate historic grievances that have been exploited in that way for the larger part of the 20th century. Whenever necessary their leaders are prevailed upon to start uprisings to order. This happened immediately after the Gulf War when the allies encouraged the Kurds to revolt in northern Iraq. As expected, government forces subdued the rebellion easily. The only response from the allies was to declare a symbolic no-fly zone in the area. For strategic reasons, independence for the Kurds is not on offer. On the contrary, in 1999 Turkey mounted yet another campaign against the Kurds with tacit approval from the USA. The Shiites in southern Iraq were exploited in an identical manner to the Kurds in the north.

It was argued in this section that conflict acts as a most effective restraint on people's ability to make sustainable progress. Naturally, conflict has close affinity to other inhibitors such as malnutrition, disease, and illiteracy. Harmful effects are felt before, during, and for a long time after hostilities had ceased. Basically, complexity accumulated through a slow process of evolution is rapidly lost to the detriment of nations concerned. It was shown that a few egoist individuals regularly play a major role in initiating conflict, and this is not restricted to undemocratic regimes, as lingering doubts about Clinton's motivations when he ordered American forces to bomb a pharmaceutical factory in Sudan in 1998 amply demonstrate. Foreign powers are often involved in initiating and, more effectively, funding and maintaining long-running conflicts. However, it was shown in this section that the main players, individuals or states, domestic or foreign, often gain little or nothing from conflict.

Global Distribution of Conflict

Certain regions have become natural hunting grounds for the 'Horsemen' of war. States created after World War II without much regard for religious or ethnic backgrounds presented a fertile medium for strife. Moreover, America's efforts to replace an older generation of rulers in Emerging Nations by others loyal to the USA were an added impetus for turmoil. And then cold war rivalries and efforts to protect

sources of raw materials and markets heightened tensions further still. Brezezinski, President Carter's National Security Advisor, called the swathe from Pakistan to Kenya; including Afghanistan, Pakistan, Iran, Iraq, Israel, Palestine, Jordan, the Gulf states, Yemen, and the Horn of Africa, comprising Somalia, Ethiopia, and Kenya "the Arc of Crisis". Between 1975 and 1982, the USSR supplied more than 7,000 tanks and self-propelled guns, 2,330 supersonic combat aircraft, and some 15,000 surface to air missiles to its clients in the 'Arc'. The USA equipped its own clients with 4,933 tanks and self-propelled guns, 785 aircraft and 6,311 surface-to-air missiles.⁴⁰⁵ The 'Arc' has endured over the decades many wars and famines as a result. Hence, despite plentiful resources, it is home to some of the world's most deprived and backward nations.

The super powers played out their diverse rivalries in that troubled part of the world. Impoverished Somalia accepted a Soviet offer to equip and train its army immediately after independence. By 1969, the Somali armed forces were among the largest on that continent. Ethiopia followed a similar path, but in this case the USA was the source of weapons up to the 1974 revolution. After that, the Soviets stepped in to give Ethiopia massive military help. This enabled it, in 1978, to attack Somalia and to establish control over Eritrea, which prompted the USA in turn to assist Somalia. As argued before, individuals play a decisive role in fermenting conflict. Menelik convinced the colonial powers to extend Ethiopia from its original highlands region to twice that area by incorporating Eritrea and Tegre in the north and the Ogaden to the east. Religious as well as tribal tensions did not take long to materialise. A 1969 military coup in neighbouring Somalia brought Barre to power. He was determined to advance Somalia's claim to the Ogaden. The two super-powers of the day helped both sides. There were no winners amongst the players, domestic and foreign, but the ordinary people had to suffer deprivations for many decades.⁴⁰⁶

That pattern continues unabated. The border between Ethiopia and Eritrea has been the scene of punishing battles since 1976. At that time, the Eritrean People's Liberation Front, EPLF, a Marxist guerrilla movement, was fighting for Eritrea's independence from Ethiopia's Marxist regime of Mengistu. Eritrea fought reputedly the longest running war of the 20th century to finally secure its independence from Ethiopia in 1993, when it allied itself with the Ethiopian forces that toppled Mengistu. But in

⁴⁰⁵ Johnston and Taylor, *A World in Crisis?*, 1986, p 248.

⁴⁰⁶ *Ibid.*, p 248.

1998, the previous allies went to war against each other, ostensibly “over a remote and rocky strip of land, the Yirga triangle, along their common border.”⁴⁰⁷

Other parts of the world present similar traits. The events of the Vietnamese conflict were described in Chapter 3, but in essence the process was the same as elsewhere. Ideology was not a major factor but vested interests were. In the final analysis, there were many losers and only a few winners. Clearly, the conflict was costly to the occupying powers; the defeat of the French in 1954 at Dien Bien Phu and the hasty withdrawal of the Americans in 1976 were traumatic events that left their mark on both nations. As usual, however, private interests benefited handsomely from, and were to a large extent the driving force behind, French and American intervention. A state, it seems, does not assess costs and benefits as a monolithic unit. Interest groups, such as major corporations and arms suppliers, exert major influence on events, overtly or covertly, as was the case with oil companies in Nigeria in recent decades. Specialist firms are sometimes used in lieu of official forces. For example, Sandline International helped in restoring Kabbah to power in Sierra Leone following a coup in 1998. Reportedly, it “was being bankrolled by a businessman with millions of pounds at stake in the rich diamond mines of Sierra Leone.”⁴⁰⁸ On the other hand, it is not readily clear what British national interests were served by that action.

The purpose in this section was to establish that most wars, and the associated mayhem, occur amongst poorer nations, but with notable involvement by foreign interests. Hence, of 170 major clashes in the forty years after World War II, 160 were in Emerging Nations, and leading powers were involved in about two thirds of these conflicts.⁴⁰⁹ Disputes, however, could only turn into costly wars with active consent by the combatants. This certainly applies to long running conflicts such as that between India and Pakistan over Kashmir, which started in the late 1940s and is still going strong over half a century later. Sadly, “the longer a war or the more intense a war, the more difficult is its peace process (for example, the Israeli-Palestinian and Sri Lankan

⁴⁰⁷ *Sunday Times*, 7 June 1998.

⁴⁰⁸ *Sunday Times*, 10 May 1998.

⁴⁰⁹ Ohlson, *Arms Transfer Limitations and Third World Security*, 1988, p 18.

conflicts).⁴¹⁰ The effects on development, as seen in the case of the Arc of Crisis, and more specifically in sub-Saharan Africa and Afghanistan, are all too obvious.

Arms Sales in the Name of Peace

Exports by the top 30 arms supplying countries were valued at about \$22 billion in the mid-1990s, as shown in Table 3, almost one half of the 1987 peak of \$46 billion.

Table 3: Major Arms Trading Countries (\$ billions, 1990 prices).

	1992	1993	1994	1995	1996
USA	14.2	14.3	12.0	11.0	10.2
Russia	2.9	3.8	0.8	3.5	4.5
Germany	1.5	1.7	2.4	1.5	1.5
United Kingdom	1.3	1.3	1.3	1.6	1.8
France	1.3	1.3	1.0	0.8	2.1
China	0.9	1.2	0.7	0.9	0.6
Other	2.7	2.8	3.6	3.9	2.3
Total	24.8	26.4	21.8	23.2	23.0

(Source: SIPRI, *Yearbook 1997*, p 268.)

Significantly, the five permanent members of the UN Security Council, with supposedly a keen interest in peacekeeping, are also the main suppliers of arms, accounting for more than four-fifths of weapons sold. Likewise, Sweden and Israel, renowned for their avowed interest in peace, are also eager participants in the trade. Limiting the transfer of military hardware and technology is a popular stance, as evidenced by declarations at the Hague Conference in 1899, the League of Nations, and at the UN up to the present. Such sentiments are rarely translated into action. Recent shrinkage in global sales reflects in the main reductions in procurements by leading powers due to the changed political climate in Europe. Competition is intensifying, as a result, to sell arms to Emerging Nations as discussed later.⁴¹¹

There is no conspiracy to incapacitate Emerging Nations. Basically, certain egoist individuals in trying to do the best for themselves, and hence their employers, seek to sell arms to potential buyers. When hardships caused by war become evident, other egoist individuals spring into action to offer help. And then when a country shows signs of economic distress as a result, yet another set of individuals come forward to

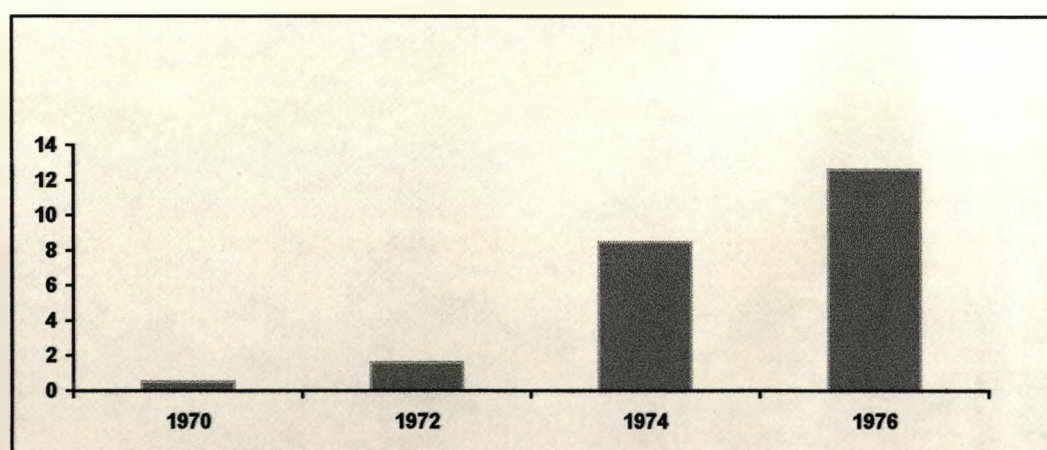
⁴¹⁰ SIPRI, *Yearbook 1997*, p 22.

⁴¹¹ Wulf, *Arms Industry Limited*, 1993, pp 6, 67 and 4.

give advice. Evidently, the diverse interests are not meant to cross paths. This comment is not made lightly. Clare Short, British Secretary of State at the Department for International Development suggested in June 1998, that “money was not the problem” in Sudan. She considered that the problem of famine during the civil war “was one of access, not resources...” Both sides “should agree a ceasefire so that food could be moved in.” She was roundly criticised for her comments by aid organisations and the media, and by the International Development Select Committee of the British Houses of Parliament whose members declared themselves “baffled” by her views.⁴¹² Clearly, states as well as international organisations are collections of individuals and interest groups with differing perceptions, concerns, and aims.

The USA has unwaveringly supplied weapons to Emerging Nations on a prodigious scale. At the same time, it has been vociferous in its condemnation of state oppression and international aggression. Nevertheless, linkage of arms sales to foreign policy, at the heart of the *Kissinger doctrine*, remains unchallenged. As illustrated in Figure 11, American sales to Emerging Nations soared during the 1970s, and despite the rhetoric Carter’s years in the White House continued previous practice. Significantly, US arms exports to the Persian Gulf rocketed by 2500 percent from 1970 to 1976: the outflow of money from industrialised countries for the purchase of oil following the oil price shock did not take long to become a flood in the opposite direction.⁴¹³

Figure 11: US Arms Sales to Emerging Nations (\$ billions), 1970-1976.



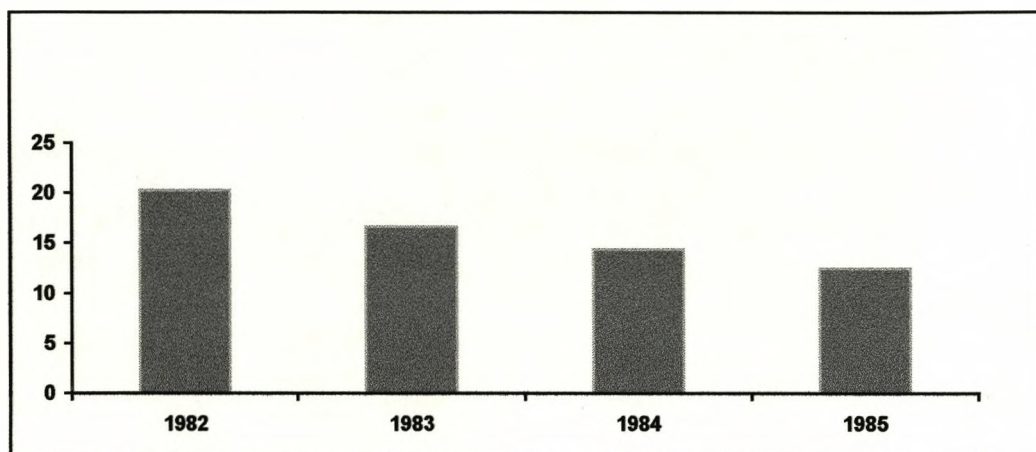
(Source: Ohlson, *Arms Transfer Limitations*, 1988.)

⁴¹² Information provided by the Public Enquiry Point at DFID.

⁴¹³ Ohlson, *Arms Transfer Limitations*, 1988.

When Reagan became president in 1981 niceties were dispensed with but little could be done about the ability of potential buyers to afford the escalating costs of weapons. As shown in Figure 12 America's arms exports declined during his years in office.

Figure 12: US Foreign Arms Sales (\$ billions), 1982-1985.



(Source: Ohlson, *Arms Transfer Limitations*, 1988.)

In 1989 the USA sold \$1.5 billion of arms to the Middle East, out of total sales to the area of \$12.1 billion. But in 1992, largely as an outcome of the Gulf War, the USA contracted to meet half the region's need for weapons. The Middle East is a lucrative market as "seven of the top weapons buyers in the world are in that region, including the single largest buyer, Saudi Arabia."⁴¹⁴ Nonetheless, US sales in East Asia at \$4.2 billion in 1992 exceeded those to the Middle East, at \$3.0 billion.⁴¹⁵ Being the biggest source of weaponry underlines America's dominance and its focus on its own interests. To underline the point, Powell, the then Chairman of the Joint Chief of Staff, advised the Foreign Relations Committee of Congress in March 1990 that "America cannot choose between military security and economic security. The two are inextricably entwined." Additionally, reducing domestic sales mean, "virtually all the major contractors are paying more attention to the possibility of increased foreign sales."⁴¹⁶ In the same vein, Anthony wrote, "it seems unlikely that the United States will voluntarily reduce the level of its arms exports. It is more probable, he added, that it will seek the

⁴¹⁴ Kapstein, *America's Arms-Trade Monopoly*, 1994, p 16.

⁴¹⁵ Ibid., p 16.

⁴¹⁶ Wulf, *Arms Industry Limited*, 1993, p 56.

maximum economic and political benefits from this aspect of foreign policy.”⁴¹⁷ Significantly, New Labour’s promise to follow an ethical policy with regard to sales of British weapons abroad was forgotten soon after it won the elections in 1997.⁴¹⁸

The USSR in its heyday was an equally enthusiastic purveyor of arms and promoter of conflict. The rivalry between the USA and USSR worked best when it became a ‘joint venture’ in the course of which they equipped hostile neighbours, as happened in Somalia and Ethiopia. Nowadays Russia and other members of the CIS are in a quandary. They plan to convert some military factories to peaceful production. But conversion is costly and slow, and in the meantime the economy is in tatters. Pressure on managers to search for overseas markets for their military products is intense, and they face competition from other countries that are dumping surplus weapons.⁴¹⁹ The same factors influence the policies of other states. In effect, Emerging Nations are expected to remain a major target for weapons sales by all the leading producers irrespective of protestations to the contrary, and despite the obvious negative effects on global peace and prosperity.

A Multiplicity of Objectives

Purchase of potentially deadly weapons diverts badly needed funds away from social and economic programmes. Angola illustrates this feature perfectly. With an impressive list of pressing needs, it considered it necessary to devote \$1.14 billion to military expenditure in 1995. Admittedly, that was a major improvement on 1993 when it spent \$7.2 billion.⁴²⁰ Similarly, Pakistan ordered military planes from France at a cost that could have provided safe water for two years to 55 million people, essential medicines to 13 million people without access to healthcare, and basic education to 12 million children not in primary school.⁴²¹ Moreover, widespread transfer of powerful weapons to Emerging Nations is a major component in the growth of terrorism and drug trafficking; activities that harm the interests of exporting countries more than most.

⁴¹⁷ Wulf, *Arms Industry Limited*, 1993, p 83.

⁴¹⁸ *Sunday Times*, 14 March 1999.

⁴¹⁹ Wulf, *Arms Industry Limited*, 1993, p 119.

⁴²⁰ SIPRI, *Yearbook 1997*, p 192.

⁴²¹ UNDP, *Human Development Report 1994*. See also the *New Internationalist*, November 1994, p 6.

On first inspection, civilised nations would not be expected to participate in such a harmful and self-defeating trade. Nonetheless, they sell and give arms and then spend some more on war relief and in looking after refugees. Why do they do it? The stock answer suggests that conflict is inevitable, that the availability of weapons is as likely to deter as to encourage conflict, and that countries seeking military hardware would always find eager suppliers. Hence, it would not make much difference if one or two 'responsible' states were to withdraw from this business. This powerful scenario would be more convincing had it not been for the fact that producing countries market their wares most assiduously, and they offer in addition loans, credit guarantees, and deferred payments to help ease the burden on purchasers. For example, Britain spends about \$600 million of taxpayers' money annually to subsidise foreign buyers of British military products.⁴²² Clearly, exporters are not responding exclusively to simple market demands for a desirable commodity. What's more, although there are many sources of weapons, the market is dominated by only a handful of suppliers, led by the USA. There are in fact strong indications that the USA, by design, might well be on its way of becoming a monopolistic provider of advanced conventional weapons by the early 21st century.⁴²³

Interestingly, trade in arms is not pivotal as an export item. For instance, a 1992 study by the US Congressional Budget Office concluded that limits on that activity "would not significantly affect the vast majority of exporting industries in the country."⁴²⁴ In addition, the market is important but not crucial when viewed in the context of total exports from leading industrial nations. Therefore, although Saudi Arabia is now the largest importer of weapons in the world and the USA is the biggest supplier of arms, Saudi Arabia and the rest of the Middle East do not feature as major export destinations for the USA.

It is claimed that the industry is a vital generator of jobs. However, only 14 million jobs worldwide depended on the defence industry in 1994 and the number was expected to reduce to 10 million by 1998.⁴²⁵ Clearly, employment in that sector does not seem to be an overriding factor, as evidenced by the decision of the British Government, for example, to buy high-technology artillery shells from Israel and

⁴²² *The Guardian*, 6 January 1996.

⁴²³ Kapstein, *America's Arms-Trade Monopoly*, 1994, p 13.

⁴²⁴ Wulf, *Arms Industry Limited*, 1993, p 73.

⁴²⁵ UNDP, *Human Development Report 1994*.

bullets from India, following competitive tendering.⁴²⁶ One report stated uncompromisingly that the "arms trade actually creates unemployment...arms trade does not make economic sense- it is not and never has been genuinely profitable."⁴²⁷ On the other hand, lobbyists from the industry naturally try their best to give a different slant on this issue.

Financial considerations might not be critical, but they are important at a tactical level. For instance, it is useful to cascade surplus or obsolete arms to 'friendly' nations and if that resulted in some revenue then so much the better. Recently, NATO and Warsaw Pact countries released onto the world market gigantic amounts of arms that became available as a direct result of scaling-down of their military machine. Additionally, reductions in defence spending by Elite Nations exert pressure on states to sell abroad to safeguard their military industrial base. Ultimately, however, weapon sales would not be so dominant if they were looked at purely as a commercial activity.

For vendor states, the associated fringe benefits in arms transfer might be at least as important as other considerations. One such benefit relates to the acquisition of influence abroad. Kapstein points out, for instance, that American arms monopoly "will provide the possibility of exercising leverage in other issue areas through diplomatic linkage."⁴²⁸ Purchase of sophisticated military systems imposes a lengthy programme of maintenance and renewal for many years to come. Long-term reliance of importing nations on the goodwill of exporting countries is, hence, of paramount importance. In accord with Game Theory, clients have to cooperate, while the suppliers retain the option to compete and acquire higher rewards. But there are other factors that play a decisive role in making arms transfer such a popular activity. Axiomatically, those working in the production and marketing of weapons do their best to manufacture and sell arms. Their personal fortunes are linked to the performance of the company that employs them. Directors and employees of Matrix Churchill, the British company that sold military equipment to Iraq in the late 1980s, were not involved in anything more sinister than that. The civil servants and ministers that helped them to circumvent the 'administrative obstacles' were also pursuing their diverse best interests.

⁴²⁶ *Sunday Times*, 29 October 1995.

⁴²⁷ *The New Internationalist*, November 1994, p 7.

⁴²⁸ Kapstein, *America's Arms-Trade Monopoly*, 1994, p 18.

Egoist individuals are driven by powerful motivations to achieve best results up to the limits of any situation, or even beyond. And the temptations to do so in the weapons business are overwhelming. It is an efficient conduit for siphoning moneys from public purses into private pockets, legally or otherwise. Inherent secrecy provides the perfect cover for this process. An arms manufacturer mounts a marketing campaign and, quite naturally, seeks the support of well-connected agents and politicians at home and abroad. 'Big hitters', middlemen who persuade governments to place large orders, could earn up to 10 percent in fees. Naturally, part of the commission they receive might be handed over to influential persons involved in securing the deal on both sides of the table. The Stockholm International Peace Research Institute, SIPRI, highlighted the opportunities presented by the arms trade for corruption on a grand scale.⁴²⁹ The tradition appears to be yet another *frozen accident* inherited from the distant past. For example, when the Sultan Baibars attacked Acre, in the 13th century, the Venetians sold him military supplies, "under licence from the High Court at Acre."⁴³⁰ Dictators whose hold on power is transitory are especially eager to participate in this system of wealth creation, and the middlemen, both honest and corrupt, also accumulate impressive fortunes. The commission paid to one group involved in Al Yamamah project by which Britain undertook to supply jet fighters, naval mine-hunters and ammunition to Saudi Arabia, at a cost of about \$31 billion, was said to be \$380 million.⁴³¹

This section explored the broader motivations behind arms sales. Clearly, it is more than a business opportunity, and it is riddled with contradictions. For instance, the arms sold often end up being used against their country of origin, as was the case in 1994 when American troops risked their lives to recapture US weapons supplies to the Somalis during the 1980s. Similarly, America bombed, on 20th July 1998, 'terrorist bases' in Afghanistan in reprisal for the bombing of the US embassies in Kenya and Tanzania. The CIA to help Muslim 'freedom fighters' in their war against Russian forces and other foes originally built the bases. These instances reaffirm the unpredictable nonlinear nature of the activities involved in arms trading, in line with other activities in the wider political economic field. Basically, arms transfer offers a number of strategic advantages coupled with reasonable financial returns and enticing fringe benefits.

⁴²⁹ SIPRI, Stockholm International Peace Research Institute, *Yearbook 1997*, p 184.

⁴³⁰ Jones and Ereira, *Crusades*, 1994.

⁴³¹ *Sunday Times*, 9 October 1994.

Clients in Distress

Prospects are changing in the market for weapons however. For a start, military dictatorships are becoming unfashionable. *Asiaweek* devoted an entire issue in 1995 to discussion of the proposition that military coups and militarism might be on the wane. In answering its question as to whether coups and dictatorships have had their day, *Asiaweek* said "never say never, but the trend is good".⁴³² Avaricious leaders in Emerging Nations and their counterparts in arms producing countries are not unaware of the declining trends. Furthermore, better information is now available about the trade-offs that are constantly made between tackling pressing social and economic needs and spending on arms and various forms of conflict. For instance, Emerging Nations allocated about \$125 billion annually for military purposes in the early 1990s. Just 4 percent of that sum would have been enough to achieve universal primary education, cut adult illiteracy by 50 percent, and educate women to the level of men. And 12 percent would have given healthcare and safe water for all.⁴³³

More importantly, declining resources of even the richest oil producing countries are another restraint on high spenders. And when belts have to be tightened, governments risk serious unrest if they were to continue to 'waste' money on weapons. The belief that money is being wasted surfaced during the Gulf crisis. Kuwait and Saudi Arabia's weakness in the face of the advancing Iraqi forces was laid bare. Kuwait was overrun in three hours. Crushing defeat at the hands of the USA and its allies also shattered the inflated image of Iraq's military power. It was said that Serbian forces presented a more challenging prospect at the beginning of the Kosovo conflict in March 1999. However, yet again NATO forces were free to bomb at will without much resistance.

Additionally, the costs of sophisticated weapons are escalating rapidly, making it almost impossible for many buyers to stay the course. For instance, "American firms sold 3,500 military aircraft for \$4 billion in 1970. In 1975, 1,700 planes were shipped with a value of \$4 billion. In 1980, 1,000 aircraft cost \$6 billion. And in 1985 the number sold dropped to 919, but the value had trebled to \$18 billion."⁴³⁴ In effect, several factors are coming together to make it more difficult for arms producers to

⁴³² *Asiaweek*, Hong Kong, 20 January 1995, p 29.

⁴³³ UNDP, *Human Development Report 1994*.

⁴³⁴ Kapstein, *America's Arms-Trade Monopoly*, 1994, p 14.

entice leaders of impoverished nations to maintain past spending patterns. Clearly, the omens are not promising for conflict-makers and arms producers and dealers.

Marketing Conflict

Nevertheless, commentators, including SIPRI, expect that efforts might well intensify to prop up sales of weapons. That would involve attempts to promote potential hostilities, particularly in trouble spots such as the 'Arc of Crises', as it would be difficult to justify substantial acquisitions of arms in the absence of conflict. Understandably, therefore, marketing in this field is revving up to fever pitch. The Gulf War, referred to by one commentator as "the greatest arms sale show on earth", is of course the ultimate example. During six weeks of war, the USA with the help of CNN exhibited its advanced weapons superiority over all, including its allies.⁴³⁵ Needless to say, that war and continuing skirmishes since then were a godsend to the arms industry. The USA and its allies were able to replenish stocks, and the Gulf States were cajoled into buying even more weapons than before. Hostilities in Kosovo in 1999 seem to have been motivated at least in part by similar considerations. Admittedly, a strong message was sent to all nations that the power of NATO, in effect the USA, is beyond challenge. This is significant in the creation of image and reputation as discussed before in the context of Game Theory. But of equal importance, military effort at a cost of \$80 million per day to the US government alone must be welcome to those involved in the arms industry irrespective of the moral issues on both sides of the conflict.

Marketing effort does not have to be blatant. In November 1994 the High Court in London delivered its judgement against the British Government over the Pergau dam affair. Court action was initiated by the World Development Movement, which had maintained that there was evidence of a link between aid given to Malaysia to build the dam and British arms sales to that country.⁴³⁶ That example of aid-for-arms diplomacy was not an isolated incident. In April 1993, when the British Foreign Secretary was on a visit to Indonesia, he announced a \$100 million concessional loan for a new power station at Samarinda. It was by far the largest single aid donation to Indonesia for 20 years. It coincided with intense negotiations of an arms deal worth about \$3.2 billion.

⁴³⁵ Kapstein, *America's Arms-Trade Monopoly*, 1994, p 15.

⁴³⁶ *The Observer*, 13 November 1994.

Basically, it is a forgone conclusion that attempts would be made to initiate and maintain conflicts to retain a healthy trade in weapons against all the odds and to promote personal, corporate, and national interests. Ruthless sales drives could be expected to generate new eruptions, especially in target hot spots such as the 'Arc of Crisis'. This would entail adoption of aggressive marketing techniques involving inducements and threats, as well as exploitation of ethnic and other sources of friction. Seen in that light, the recent crop of active and developing hostilities is not unexpected.

Stranger Than Fiction

In part, the aim of this chapter was to underline the near-chaotic nature of conflict and the associated trading in weapons. A number of instances were quoted to show that the processes involved do not present clear cause and effect relationships. Furthermore, it was argued that egoist individuals and interest groups play at least as significant a role in these activities as supposedly rational governments concerned with the public good. In short, events hardly ever proceed in a predictable and orderly linear manner, although they might appear to do so at the time. Nonlinear contradictions and ambiguities are revealed only when the full facts become known many years later. This section presents a few historic anecdotes to substantiate these observations. To keep the list to a reasonable length, the events selected were restricted to the USA, as the reigning hegemon, and to the Middle East.

The first illustration brings oil money and the CIA together. Leading powers occasionally ferment unrest abroad for various purposes. But it is more convenient to induce someone else to shoulder the cost. This unlikely state of affairs was achieved in the 1970s when the CIA set up the *Safari Club* with funds from some of the Gulf states. The Club's resources were used to destabilise Mengistu in Ethiopia, fund Iran-Contra activities, generate unrest in Costa Rica, and in bankrolling Savimbi's UNITA operations in Angola.⁴³⁷ It is evident that the arrangement, by design, was not amenable to independent scrutiny of how and where the money was spent, thereby providing ideal conditions for abuse.

One of the oddest episodes originating from the Gulf concerns Saudi Arabia's efforts to purchase missiles from the USA in the 1980s. Israel objected to the sale of

⁴³⁷ Heikal, *Illusions of Triumph*, 1992, p 66.

Lance missiles with a range of 130 kilometres. But the Saudis “turned not just to Israel but also to China for help.” They were as a result able to acquire 50 Chinese CSS-2 missiles with a range of 2700 kilometres “thus enabling the Saudis to hit any target in Israel.” The missiles “had been specifically modified by the Chinese so that they can only be used with conventional warheads and these modifications were made with the help of Israeli technicians.” Israeli lobbyists in Washington and their counterparts working in China both thought they were serving the best interests of Israel.⁴³⁸ It is of course possible that all the participants knew that the Saudis did not intend to use the missiles for any purpose.

For years Israel passed on sensitive technology to other nations, some being hostile to the USA, with knowledge if not approval of officials in Washington. For example, cluster bombs of American origin were given to Ethiopia’s Marxist government and US technology was made available to China to enable it to modify its ballistic missiles to avoid interception by American Patriot missiles.⁴³⁹ On several occasions the arms produced as a result of that joint work were exported by China to Iraq and Syria, supposedly deadly enemies of Israel and the USA. In essence, certain interests in the USA consistently used Israel as a third party when they wished to avoid the unwelcome attention of Congress or the media.

Another perplexing phenomenon relates to the arbitrary yardsticks deployed by leading powers to designate a state as being one that helped terrorism. The USA placed Iraq on the list of countries that supported terrorism when it nationalised its oil industry in 1972. That lasted up to the start of the war with Iran in 1980.⁴⁴⁰ But then the USA became closer to the Iraqi regime, and eventually removed Iraq from the list in 1982.⁴⁴¹ That was followed by resumption of full diplomatic relations two years later. Evidently, the opportunities presented by the Iraq-Iran war were simply too appealing to be clouded by inconvenient side issues. The same contradictions were obvious in the more recent conflicts in former Yugoslavia. Oppression by the Serbs of minorities in Bosnia and Kosovo caused considerable agitation to the West. In the case of Kosovo, NATO launched a deadly, and highly expensive, war ostensibly to stop ethnic and

⁴³⁸ Adams, *Trading in Death*, 1990, p 124.

⁴³⁹ Clarke, *Israel’s Unauthorised Arms Transfers*, 1995, p 89.

⁴⁴⁰ Clark, *Challenge to Genocide*, 1998, p 4.

⁴⁴¹ *Ibid.*, p 5.

religious abuses. Unaccountably, when the Croats were hunting the Serbs a few years earlier, neither NATO nor the UN were all that interested.

The above illustrations were included to underline the point that conflict and the arms trade are governed by a multiplicity of factors that go well beyond simple national interests. The web of objectives, often contradictory and hardly ever understood even by people directly involved renders any attempt at comprehension futile. The examples demonstrate beyond doubt the nonlinear nature of the process. Numerous elements interact and as a result unpredictable but stable patterns emerge in which causes and effects are difficult to match. The next section continues this theme through fuller exploration of events in Iraq in the last twenty years.

Iraq: A Case Study

Within the 'Arc of Crises', the Gulf has experienced debilitating conflicts throughout the 20th century, oil being the main catalyst. Iraq provides a useful, albeit extreme, illustration. In the span of twenty years it suffered two major wars that left in their wake a horde of problems. The first event was the Iran-Iraq war. It started in September 1980 and ended in July 1988 when Khomainsi drank what he called "the poison cup" of defeat. Over 400,000 people died, 210,000 were taken prisoner, and \$390 billion was spent in the course of that conflict. There were no discernible gains for either side.

In the months before the war, concerted efforts were made by clandestine agencies to entice the Iraqis to commence hostilities. It was hoped that the fledgling regime in Iran would crumble leading to the release of the 58 Americans taken hostage in 1979. In the event the war strengthened popular support for the Khomainsi government and the hostages were held for 444 days and release only after Reagan became president in 1981. However, once the conflict started every effort was made to keep it going: "whenever one side seemed in sight of victory Washington would begin secretly helping its opponent."⁴⁴² The war coincided with a slack period in arms sales. Hence, no less than fifty countries participated in meeting the demand for weapons. Twenty-eight, led by the permanent members of the UN Security Council, supplied both sides.⁴⁴³

⁴⁴² Heikal, *Illusions of Triumph*, 1992, p 65.

⁴⁴³ Adams, *Trading in Death*, 1990, p 128.

Conclusion of the Iran-Iraq war left unfinished business. Saddam emerged as the undisputed regional leader, and something had to be done to tie that loose end. Counterfeit Dinars soon flooded into Iraq, mainly through Kuwait, which promptly devalued the Iraqi currency. At the same time, Kuwait began to press for repayment of loans given to Iraq during the war. Oil prices were at a low ebb and Iraq was in no position to meet that expense. The ground was being prepared for another costly war. The final move into Kuwait followed lengthy political squabbles. In his outstandingly unbiased account of the Gulf war, Heikal apportioned the blame for creating and then escalating the crisis equally between Iraq, Kuwait, and the USA.

Early on 2nd August 1990 Iraqi army units moved into Kuwait with little resistance. The ruling family had already decamped to Saudi Arabia. Eight days prior to that, a late-night meeting between the Iraqi leaders and Glaspie, the US ambassador to Baghdad, helped to muddy the waters admirably.⁴⁴⁴ She claimed later that she had formed the impression that Iraq intended a limited move into Kuwait. There were also suggestions that the regime in Iraq had been given permission by America to reoccupy oil fields taken by Kuwait during the Iran-Iraq war. Be that as it may, signals from Washington were confusing, possibly quite intentionally although that is hard to prove either way.

Occupation of Kuwait was followed by months of negotiations. During that period, the biggest fear as seen by the allies was the 'nightmare scenario' of a peaceful withdrawal from Kuwait. Battles commenced with an air attack early on 17th January 1991 and went on for forty-three days. In the process, the allies dropped some 88,000 tons of bombs. Baghdad was naturally singled out for special treatment; most bridges and public utilities in the capital were destroyed within hours. A new innovation was incorporated in the way weaker states were punished when they defied a hegemon: infrastructure became the main target. There were two thousand air strikes in the first twenty-four hours alone, and "more than 90 percent of Iraq's electrical capacity was bombed out of service in the first few hours."⁴⁴⁵ The same formula was used in the war against Serbia in 1999 and in the bombing of Beirut by Israel in June 1999.

Within days, and as promised by the then US Secretary of State, Iraq was reduced to a level of deprivation that is unusual even for an Emerging Nation. Eight years after the

⁴⁴⁴ Heikal, *Illusions of Triumph*, 1992, pp 183-188, and Clark, *Challenge to Genocide*, 1998, p 8.

⁴⁴⁵ Clark, *Challenge to Genocide*, 1998, p 10.

war, sanctions against Iraq were still in operation and the people there were suffering appalling hardships. It was estimated that about 50,000 Iraqi soldiers and some 22,000 civilians had been killed by the end of hostilities on 28th February 1991. Deaths since that time, now caused by malnutrition, polluted water, and shortage of medicines, are on a much higher scale, especially in relation to infants and children. As a result of the Gulf War and the ensuing United Nations' sanctions, for example, infant mortality rates doubled and there was a five-fold increase in under-5 child mortality. In the five years after August 1990, over 567,000 children died as a direct outcome of the war and of sanctions imposed by the UN. Legacy of radiation contamination caused by armour piercing shells reinforced with 'spent' Uranium will take longer to assess.⁴⁴⁶

The Gulf War had its share of bizarre episodes. At the height of the conflict the Iraqi Republican Guard managed to withdraw from Kuwait undetected and unharmed by the allies. Possibly it was not the intention of the allies to disturb the balance of power in the region. Curiously, the biggest clash of the ground campaign took place on 2nd March, two days after the ceasefire was agreed, but that was not made public at the time.⁴⁴⁷ Another far from amusing event came to light a few months after the war. At one stage, the coalition forces were experiencing difficulty in dislodging Iraqi troops from their trenches, but in one operation they combined liquidation and internment by deploying earth-moving equipment to bury thousands of soldiers alive.⁴⁴⁸

For some, the Gulf War was a boon. The Arab world is now dominated by America more than at any time in the past. The war, above all else, was a financial godsend to Russia and Israel. They received grants and soft loans simply to look the other way. Turkey was given \$3.5 billion for allowing NATO bases there to be used by allied forces. Egypt had \$6 billion of its debts written off for agreeing to become a member of the coalition. But, as anticipated, the lion's share went to America. Its net direct profit was over \$20 billion: about \$200 million per hour of actual combat.⁴⁴⁹ Kuwait, Saudi Arabia, Japan, and Germany met most of the cost.

⁴⁴⁶ *Lancet*, Volume 346, 8988, 2 December 1995, pp 1439 & 1485. See also Clark, et al., *Metal of Dishonor*, 1997.

⁴⁴⁷ *New York Newsday*, 31 March 1991.

⁴⁴⁸ Heikal, *Illusions of Triumph*, 1992, p 314, and *New York Newsday*, 12 September 1991.

⁴⁴⁹ Details of weapons used, casualties, and 'costs and benefits' are given in Heikal, *Illusions of Triumph*, 1992.

By contrast, the Gulf War was a disaster of historic proportions for Iraq. Qualified younger persons and those with money left the country in droves, the middle classes all but disappeared, and the nation now exists on rations doled out by the government. Those remaining are ill fed and diseased, basic services having regressed to levels unknown in Iraq in modern times. Halliday, head of the UN humanitarian programme in Iraq until he resigned in autumn 1998, wrote, "after eight years in Iraq we've got to classify sanctions as a form of warfare, given that they're producing 5000-6000 Iraqi deaths per month."⁴⁵⁰ The Iraqi political economy has practically come to a standstill. The nation has been in virtual stasis for almost two decades. Return to normal as argued throughout this study could not be swift. A long time would be required for Iraq to recoup lost complexity before further progress could be contemplated.

This section was included to illustrate a number of technical points germane to this thesis rather than to rail against what happened in Iraq. One feature stands out above all else: egoist individuals initiated and orchestrated both wars and their aftermath. Certainly developments since 1990 reveal the divergent actions of competing interest groups and individuals within the US government. Hence while the CIA was attempting to organise a coup in Iraq, for instance, president Bush was making remarks that started civilian uprisings in the north and south of Iraq that kept the military occupied for months on end.⁴⁵¹ The US government was not entirely happy with either of the two uprisings. In the north the Kurdish revolt was not to Turkey's liking; a close ally of the USA that has fought viciously against Kurdish autonomy for decades. In the south a successful Shiite revolt would have helped Iran, an enemy of the USA. But it is clear that no one planned the events to follow the course they ultimately took, and certainly no one predicted in advance the end-results.⁴⁵² The section demonstrated the futility of conflict as a means of resolving problems or achieving set aims in the political economic arena. After almost a decade, the allies have not succeeded in accomplishing their declared objectives despite all the expense they incurred and the suffering endured by ordinary Iraqis. More to the point, it is not readily possible to understand what these objectives are. Nonetheless, it is obvious that certain interest groups, especially those in

⁴⁵⁰ *The Guardian*, 27 January 1999.

⁴⁵¹ Cockburn, *Out of the Ashes: the Resurrection of Saddam Hussein*, 1999.

⁴⁵² Although some informed commentators assert that "Iraq's invasion of Kuwait had actually been the scenario for intense US planning" and that American preparations for war against Iraq were "begun two years earlier", in the form of research by the Center for Strategic and International Studies for example. Clark, *Challenge to Genocide*, 1998, p 7. Ramsey Clark is a former US Attorney General.

the arms business, have gained some benefits. By contrast, the facts presented underline the hefty price paid by weaker nations when they compete against an overwhelmingly stronger opponent.⁴⁵³ Game Theory shows beyond doubt that the distribution of penalties and rewards is never in doubt in these circumstances.⁴⁵⁴ As intended, the section provided a useful glimpse of a Complex Adaptive System under severe operating conditions.

Conclusion

First and foremost the aim in devoting a chapter to conflict and arms trading was to underscore their impact in preventing nations from crossing the capability divide. It was demonstrated that they have a detrimental impact even without a shot being fired. The close links between wars and basic needs were shown to be highly significant. Evidence was also presented to argue that wars, the interstate and civil varieties, are not uniformly distributed over all regions. They predominate in areas characterised by poverty and backwardness, and the impact is self-reinforcing. Conflict is concentrated in such areas because they are weak and deprived, and as a result they become weaker and more deprived. Furthermore, it was shown that external powers were strongly implicated in most instances of conflict. It was also asserted that while conflict and arms transfer are reducing globally, efforts are expected to intensify to keep both activities at a high level in Emerging Nations. In this context, it was stressed that conflict, and the associated neglect of basic needs, and lack of liberties are closely correlated.

Finally, the chapter drew attention to the fact that interest groups comprised of self-motivated individuals are the driving forces behind actions in the field of conflict, as in most other issue areas considered in this study. The sum total of their interactions produces an overall pattern that is recognised as national or international 'policy'. It is not a question of conspiracy or being good or evil. Plainly, no one specific individual or group is in charge. Each unit acts rationally but, as discussed, the ultimate overall results could be anything but rational. Finally, it was argued that corruption is a powerful incentive in the promotion of conflict as well as in arms trading.

⁴⁵³ "The sanctions have led to suffering of biblical magnitude in Iraq." *Boston Globe*, 11 April 1999.

⁴⁵⁴ For further reading on the effects of wars and UN sanctions on the Iraqi population, see Simons, *The Scourging of Iraq*, 1998, Clark, *The Children are Dying*, compilation of FAO reports and other documents, 1998, and Ritter, *Endgame: Solving the Iraq Problem- Once and for All*, 1999.

CONCLUDING REMARKS

Study Objectives

This research project was undertaken to inquire into the two-pronged paradox of consistent failure of past development efforts and the apparent inability of actors in that field to adopt more effective measures. Initial research had suggested that current development work might be founded on an assumption that the processes involved are linear phenomena with clear cause and effect relationships. Consequently, elaborate plans, major infrastructure projects, one-model-for-all, and command and control styles of management were deemed appropriate for that situation. The primary task of the study was to assess the validity of that assumption and to test an alternative hypothesis that development might be a nonlinear phenomenon for which other tools would be more productive. In order to investigate the topic comprehensively, analysis included the study of nonlinearity in the wider political economic arena.

Overview of Previous Chapters

Part One assessed the relevance of key political economic ideologies and theories as adequate models that could yield prescriptions of universal applicability. Following an introductory chapter, a fundamental theme was presented in Chapter 2: the mix between regularity and randomness in all political economic activities. That theme recurred throughout the thesis, sometimes as an association between uniformity and variety, predictability and unpredictability, and order and chaos. As was explained in Chapter 7, a state of complexity is an amalgam of regularity and randomness. Chapters 2 and 3 demonstrated that Liberalism, Mercantilism, and Marxism exhibited regular attributes, and some common features, as well as wide variety in the way they were interpreted under different conditions. In practice, global and national political economies, it was argued, are a blend of all three ideologies that varies in composition to suit circumstances. Chapter 3 established another key point. It asserted that political economic events are in continual, and largely uncertain, change in which causes and effects are not clearly linked. The chapter drew a distinction between ideologies, as

broad sets of beliefs, and theories, as precise formulations that would be expected to converge into laws of universal applicability in accordance with scientific conventions.

It was postulated in Chapter 4 that as they were challenged by events all the core political economic theories were amended extensively to rectify their perceived defects. It was concluded that none of the theories could be accepted without reservation as scientific models that "separate out rules from special or accidental circumstances" and apply to "a whole class of situations." The chapter highlighted in particular the current state of debate in the field of political economic theory between scholars favouring integrative and reductionist methods. Although not seen by them as such, the contention reflects doubts on whether to view the topic in linear or nonlinear terms.

Chapter 5 delved further into history to underline the pattern of regularity and randomness that has characterised political economic processes at all times and places. It was posited that the essential elements of Liberalism, Marxism, and Mercantilism are neither new nor Western. The same could be said of other aspects such as trade and the presence of elites and hierarchies within social and political structures. Apart from highlighting the longevity of the processes under consideration, it was argued that change followed an uncertain evolutionary path. Furthermore, it was shown that the pattern at any point is affected by frozen accidents inherited from the past.

In summary, Part One described the basic characteristics of political economic processes. It underscored a number of key features, such as the mix of regularity and randomness, continual evolutionary change, the presence of inequality in the form of elites and hierarchies, and the lack of clear linkage between causes and effects.

Part Two focussed on nonlinear phenomena that exhibited similar traits. Chapter 6 outlined a lengthy transformation that propelled the natural sciences beyond the confines of linear certainty to embrace probabilistic nonlinear phenomena. It was maintained that many aspects of life, including development, are presently perceived within a linear perspective even when such a viewpoint might be invalid. Chapter 7 then identified three regimes: order, or complete regularity, chaos, or total randomness, and complexity, an amalgam of the two. Systems in the orderly regime display unvarying, and therefore predictable, patterns that typify linear conditions. Chaos and complexity on the other hand exist in the domain of nonlinearity. Systems in chaos do not reveal stable patterns, while those in the complexity regime present observable, but

sometimes changing, patterns. It was concluded that there are parallels between political economic processes and a class of nonlinear phenomena known as Complex Adaptive Systems that merited further investigation.

Further evidence to support the hypothesis that political economic processes behave as Complex Adaptive Systems was put forward in Chapter 8. In addition, the chapter explored the role played by Cybernetics and, in more detail, Game Theory in relation to cooperation and competition and the emergence of elites and hierarchies. Mainly, however, the chapter described the fundamental characteristics of Complex Adaptive Systems to aid detailed evaluation of parallels with political economic processes. Two conclusions were underlined. Firstly, there are no shortcuts to sustainable evolution. And secondly, inequality is a common characteristic of Complex Adaptive Systems and social, political, and economic structures. This latter point was significant to the arguments advanced in the thesis as it is closely linked to the tendency for entities with the highest complexity, or wealth and power, to acquire more of the same. That, and the workings of Game Theory, explained the propensity for elites and hierarchies to appear in all systems involving egoist human beings.

Part One concentrated on political economic ideologies and theories while Part Two identified general parallels between political economic processes and Complex Adaptive Systems. Part Three took the discussion forward by probing two facets more closely. Firstly, it was submitted that development agencies base their policies and actions on linear assumptions. Secondly, further proof was advanced to support the assertion made in previous chapters that political economic processes behave as nonlinear Complex Adaptive Systems. Activities of the World Bank were analysed in some detail in Chapter 9 to illustrate the first point. The Bank's advocacy of liberal practices was not at issue. On the other hand, its emphasis on detailed prescriptions that could be applied to all nations to achieve quick results was cited as a clear indication of linear thinking. Chapter 9 went on to highlight the nonlinear nature of the activities involved in development, including debt, aid, and trade. It was demonstrated that change in the field of development follows an uncertain evolutionary path in which adaptability, diversity, and learning played a major part in long-term survival.

Chapter 10 considered nonlinearity and steady evolution in relation to the wealth and poverty of nations. It was argued that today's leading economies followed different

paths to progress. In each case, however, sustainable growth was achieved through steady accumulation of relatively modest increments over long periods. It was posited that exceptional wealth is rare, elites and hierarchies being a ubiquitous presence at all levels in the global system. Additionally, it was evinced that the wealth gap separating richer and poorer nations is vast and has a tendency to increase in accord with the mode of operation of Complex Adaptive Systems. Nonetheless, it was stressed that reduction of poverty, defined broadly to include own production and other non-monetary inputs, is an essential factor in releasing the power of self-organising interactions amongst individuals.

The first three parts of the thesis verified the hypothesis that political economic processes perform as nonlinear Complex Adaptive Systems, and corroborated the assertion that current development actions are founded on unjustified linear assumptions. Two major deductions flowed from these conclusions. Firstly, it could be predicted with near certainty that measures formulated within a linear frame of reference would not deliver positive results. This explains the paradox of failed actions in that issue area. Secondly, it was inevitable for development agencies to give the impression that they were unable or unwilling to adopt more effective policies and remedies. Basically, when one set of measures failed, they advanced a new set selected within the same linear framework.

Part Four carried the study onto the next logical step. It explored factors that encourage or inhibit the ability of individuals to take part in interactions that provide the energy needed for political economies, as Complex Adaptive Systems, to acquire self-organised evolving patterns. Two strategic requirements were identified for optimal performance: individuals must be both free and capable to interact with others. Chapter 11 tackled the former aspect by arguing that certain liberties are essential preconditions for sustainable progress. It was concluded that basic freedoms to take part in social and economic activities coupled with protection for personal and property rights are vital components for success. In that respect, the rights of women and minorities were highlighted as priority issues that required urgent attention.

Capability for individuals to participate in interactions was addressed in Chapter 12. Malnutrition, disease, and ignorance were identified as powerful influences in this context. It was argued that they often combine to hamper nations' performance as

Complex Adaptive Systems. But it was also pointed out that integrated measures to gain modest improvements in these fields could yield considerable rewards. Significantly, it was shown that such improvements could be achieved at low costs. However, it was recognised that reforms might be resisted or misinterpreted by powerful domestic and foreign interests. Continuing the theme of capability, Chapter 13 was given over to discussion of the impact of conflict on the ability of individuals to contribute to the wellbeing of their community. It was shown that conflict, including interstate and civil war and arms transfer, is significantly more prevalent within Emerging Nations. Furthermore, it was reported that efforts to ferment conflict and sell weapons in that part of the world might intensify. Finally, corruption, lack of liberties, and low incomes were highlighted as potent factors that contribute to the success of such endeavours.

The Nonlinear Framework in Practice

The study fulfilled its primary task by advancing rational explanations for past shortcomings. But it yielded two vital pointers for the future. Firstly, it pinpointed a need to treat nations as Complex Adaptive Systems to make it possible to select effective development strategies that would not rely on intuition or dogma. Secondly, the study stressed the importance of giving priority to desirable practices and management styles rather than universal solutions to specific local problems.

The thesis could have ended at that point. However, the recommended shift in frame of reference is a major departure from present norms and it was considered more helpful, therefore, to dwell briefly on the practical implications of adopting the new approach. The aim is to define a number of strategic measures that would enhance the performance of nations in search of progress, without straying into detailed prescriptions that should be left for local determination. Hence, practical proposals for dealing with the development process as a Complex Adaptive System are outlined later in this chapter. Three fundamental aspects are re-emphasised at this point, however, to anchor that discussion into the arguments advanced in previous chapters:

- For nations to perform optimally as Complex Adaptive Systems, their elements, i.e. egoist individuals, have to be free and able to interact locally.
- Local interactions sustain self-organised patterns that evolve steadily into higher levels of complexity. That is the only means by which nations could progress.

- Encounters that lead to cooperation or competition between nations, as well as the distribution of rewards, proceed along lines defined by Game Theory.

The above features dictate the nature of effective actions and styles of management that would enhance the performance of nations as Complex Adaptive Systems. In effect, nations have to:

- Follow an integrative approach in their effort to achieve sustainable progress.
- Maintain a high level of diversity and pragmatism to optimise adaptability.
- Avoid futile comparisons with and blind imitation of other nations.
- Accept that progress is a slow and uncertain process.
- Adopt policies that encourage the emergence of spontaneous cooperation.

Is Sustainable Progress Affordable?

Lack of progress is often blamed, cynically or otherwise, on the presumed high costs of remedial measures and on shortage of funds. Hence, as a prelude to the proposals advanced later, this section explores the validity of these two assertions.

Cost of Remedial Measures

As mentioned in Chapter 12, in the context of iodine and vitamin A deficiency, solutions to basic problems such as illiteracy and disease are not necessarily costly. For instance, literacy and poverty are not mutually exclusive. China provides an example of what could be achieved at low cost. In 1995, 90 percent of males and 73 percent of females were literate.⁴⁵⁵ Comparison with oil-rich Saudi Arabia, at 72 percent and 50 percent, could not be more eloquent.

Health and poverty are also not mutually exclusive. For example, Cuba achieved an enviable record in healthcare despite the sanctions that crippled its economy after the 1959 coup. Life expectancy increased from 55 in 1959 to 76 in 1996.⁴⁵⁶ Health promotion and close collaboration between social services and healthcare organisations were especially rewarding. But high technology was not ignored either.⁴⁵⁷ Furthermore,

⁴⁵⁵ UNICEF, *The State of the World's Children 1998*, p 106.

⁴⁵⁶ *Ibid.*, p 94.

⁴⁵⁷ Stockham, *Care in Cuba*, 1996, and *Financial Times*, 17 February 1989.

by 1995 literacy was almost the same for males and females at a high 96 and 95 percent respectively.⁴⁵⁸ Cuba also enjoys a low under-five mortality rate of only 10, as shown in Chapter 10, Appendix 2. The aim in citing China and Cuba was merely to underline the point that progress on basic needs could be made at lower costs. Undoubtedly, other targets such as economic growth and liberties were not given similar priority.

Supportive evidence is available from other sources. Timberlake wrote, "African countries can expect the greatest improvement in life expectancy from health investments in maternal and child health services in rural and urban slum areas, costing less than \$2 per capita."⁴⁵⁹ He offered similar advice in the field of education and training, by pointing out that more than 100 community health workers could be trained and equipped for the cost of educating a single doctor.⁴⁶⁰ In similar vein, Ordonez, Director of Basic Education at UNESCO, suggested that "where the unreached are a majority, principally in sub-Saharan Africa and South Asia, conventional systems are often not only unaffordable and irrelevant but also alienating to those they are intended to serve."⁴⁶¹

Distribution of Available Funds

Remedial measures might not be costly, but could poorer nations afford them? Against expectations, shortage of funds does not seem to be a critical problem either. Difficulties are caused by biased spending regimes that do not allocate sufficient finance to basic programmes, and by waste and corruption. In the 1990s, governments of Emerging Nations spent about \$440 billion annually of which only about \$50 billion was earmarked for nutrition, healthcare, primary education, family planning, and clean water and sanitation.⁴⁶² It was reported at the 1995 Copenhagen Summit that \$30 to \$40 billion a year, allocated properly, could have a dramatic effect on the wellbeing of the poorest communities in the world. Implementation of such a proposal would require nothing more radical than the reallocation of 10 percent of Emerging Nations' annual budgets to increase provision for the main priorities to about 20 percent.

⁴⁵⁸ UNICEF, *The State of the World's Children 1998*, p 106.

⁴⁵⁹ Timberlake, *Africa in Crisis*, 1991, p 41.

⁴⁶⁰ *Ibid.*, p 40.

⁴⁶¹ UNICEF, *The Progress of Nations 1995*, p 19.

⁴⁶² UN Development Programme, *Human Development Report 1994*.

It could be claimed that global figures might not reflect the distribution of available resources within individual nations, but that again is not correct. Ethiopia, for example, allocated as much as 22 percent of its GNP to military expenditure in 1992, and maintained that level of spending to the late 1990s.⁴⁶³ Funding of healthcare in particular is known to be “absurdly low” in certain countries. For instance, in the late 1980s “Sudan devoted 1.4% of GNP to this purpose; Nigeria, 1.8%... [while] Ethiopia, Burkina Faso, Chad, Rwanda, Mozambique and Zaire spend just \$1 per capita per year on health care.”⁴⁶⁴ It is revealing to note that in 1997/98 the United Kingdom allocated 12.4 percent of its GDP to social security, 6.7 percent to health and social services, 4.7 percent to education, and only 2.7 percent to defence.⁴⁶⁵ It is just as interesting to observe that in defence as in other fields high spending does not guarantee effectiveness. For instance, Saudi Arabia, at one ninth of the UK GDP, spends half as much on defence as Britain. And Israel spends half as much as Saudi Arabia. The differential in military power does not require elaboration.⁴⁶⁶

Apart from biased allocation between budget heads, most of the modest resources available for top social needs are channelled into towns and cities with detrimental effects on rural communities. Hence, 75 percent of government health spending in India, for instance, is directed to urban areas where 25 percent of the population live, and of the 12000 doctors who graduate annually, mainly at public expense, over 9500 go straight into private practice in the cities.⁴⁶⁷ In effect, the lion’s share of what little is devoted to top social priorities by-passes the mass of those in greatest need.⁴⁶⁸

Allocation of Foreign Aid

Clearly, basic needs determine the success or otherwise of a nation’s development efforts. Curiously, “only about 10 percent of all international aid for development has been specifically devoted to these human priorities.” United Kingdom aid, for instance, directed only 6.6 percent to basic needs of recipient nations in the mid-1990s.⁴⁶⁹ In total, only 25 percent of Official Development Assistance donated by the richest

⁴⁶³ SIPRI *Military Expenditure Database*, see also SIPRI *Yearbook 1998*, Chapter 6.

⁴⁶⁴ Timberlake, *Africa in Crisis*, 1991, p 40.

⁴⁶⁵ Ministry of Defence, *Resources and Programmes (Finance)*, London.

⁴⁶⁶ SIPRI, *Yearbook 1998*, Chapter 6.

⁴⁶⁷ UNICEF, *The State of the World's Children 1995*.

⁴⁶⁸ UNICEF, *Staff Working Paper Number 12*, 1994.

⁴⁶⁹ Harriet Goodman, Information Officer, UK Committee for UNICEF, June 994.

nations goes to the 40 least developed countries, where 75 percent of the world's poorest billion people live.⁴⁷⁰ In this context, it is indicative that when Clare Short, Britain's Secretary of State for International Development, suggested that it was not part of her task in allocating aid to win contracts for British firms, she became the target of widespread criticism and demands for "a public apology".⁴⁷¹ Significantly, the 20/20 formula, agreed at the 1995 Copenhagen World Summit, had little impact on aid and the distribution of funds within national budgets, as mentioned in Chapter 9.

It was argued in this section that costs of remedial measures and availability of financial resources are not, or should not be, a major hindrance to pursuing policies and actions that would improve the performance of nations as Complex Adaptive Systems. Reorientation in budget allocations within existing resources, focus on appropriate technologies, and reliance on modest but consistent improvements in basic needs, it was posited, would achieve the desired ends. Allocation of aid to basic needs would help, although aid is becoming less significant due to its reducing levels.⁴⁷²

Key Proposals

The aim of development in the context of this thesis is seen as "the realisation of the potential of human personality".⁴⁷³ This is wider in scope than the traditional economic development definition.⁴⁷⁴ Furthermore, the proposals presented below do not fall within the purview of any of the standard models, such as structuralism, neo-liberalism, or neo-Marxism.⁴⁷⁵ They are firmly based on nonlinear concepts. As such, the proposals view development as an open-ended long-term evolutionary process that requires a large measure of flexibility. As the remainder of this chapter demonstrates, the recommended courses of action bear close resemblance to those advocated in the past under the headings of *sustainable development* and emphasis on *basic needs*.

To those accustomed to recommendations made within a linear framework, the proposals might seem unspecific. However, this is inevitable as the suggestions reflect

⁴⁷⁰ UNICEF, *The State of the World's Children 1995*, p 32.

⁴⁷¹ *Mirror and Telegraph*, 7 December 1998.

⁴⁷² World Bank, *Assessing Aid*, 1998.

⁴⁷³ As defined by Seers in the *Meaning Of Development*, Lehmann, *Development Theory*, 1979.

⁴⁷⁴ Allen and Thomas, *Poverty and Development in the 1990s*, 1995, p 121.

⁴⁷⁵ For review of these models see Allen and Thomas, *Poverty and Development in the 1990s*, 1995, pp 116-141.

the most striking change imposed by the new paradigm. For universal applicability, proposals under nonlinear conditions could only be in the form of general systemic modifications. Implementation of the suggestions and precise solutions to individual problems could only be determined locally. Moreover, effective monitoring systems have to be instituted to enable regular adjustments to be undertaken to maintain optimal performance. Readiness to learn from experience and then to adapt accordingly is possibly the most desirable asset for success under the uncertain conditions of nonlinearity. Finally, the suggestions put forward might appear rather obvious. That is a positive sign, as there is nothing mysterious about the new frame of reference. Once the viewpoint is altered, the consequences become 'intuitively' self-evident.

Proposals for Nations Seeking Progress

Conditions could not be more linear in the majority of Emerging Nations. Some are shackled by malnutrition, disease and illiteracy and by restrictive social and religious conventions and states accustomed to command-and-control styles of government. To make matters worse, leading powers and international regimes impose on these nations reductionist ideas founded on a linear viewpoint. The main aim for the nations concerned is, hence, to recognise this fundamental structural flaw, and then to take steps to overcome it. The systemic changes advocated below address this task.

Enhancement of Basic Liberties

The most significant step forward relates to the provision of basic liberties to allow individuals to interact freely in the daily affairs of their community. The benefits to the nation as a Complex Adaptive System were described before. However, leaders intent on staying in power through imposed control often ignore two key by-products. Firstly, repression is highly inefficient, mainly due to its failure to deliver voluntary compliance by the population. Elites elsewhere discovered by experience that a measure of freedom is more efficient in safeguarding their privileged position, as long as it did not question the status quo in society. Secondly, liberal structures provide a "frame within which ethnic conflict is played out."⁴⁷⁶ In that context Collier wrote: "Democratisation is worth around half a century of income growth in terms of its contribution to peace."⁴⁷⁷

⁴⁷⁶ Horowitz, *Structure and Strategy in Ethnic Conflict*, 1998, p 38.

⁴⁷⁷ Collier, *The Political Economy of Ethnicity*, 1998, p 18.

Examples were given in previous chapters to underline the tenuous hold on power exercised by repressive regimes. The leaders live in fear and more often than not come to a violent end. Essentially, dictatorship is not an evolutionarily stable strategy. Possibly the most rewarding impact of liberalisation as far as local elites are concerned is, therefore, to improve domestic stability and to make it less easy for foreign powers to interfere in local affairs. Hierarchies and elites are inevitable and stability is a positive asset for long-term evolution. Hence, it is proposed here that nations should explore means to acquire freedoms to participate peaceably in most activities within limits that respect the 'rights' of the elite to stay at the top. Free and independent media would have a primary role in this respect. Clearly, the proposal is not the same as Western models of democracy advocated by leading powers and international regimes.⁴⁷⁸

Prevention and Resolution of Conflict

In every respect, conflict is damaging to the efficient functioning of a nation as a Complex Adaptive System. Nations crippled by actual and potential conflicts have to pursue three courses of action. Firstly, they have to liberalise as outlined above. The power of mischief-makers, domestic and foreign, is drastically reduced in an open society. Secondly, they have to conclude effective regional conflict prevention and resolution arrangements, possibly with UN backing. And thirdly, they have to reduce military spending substantially. World expenditure in this sector is about 5 percent of global GNP. It is not unreasonable to suggest that anything above that figure at the national level must be considered extravagant.

Emerging Nations are slow in agreeing mechanisms for peaceful resolution of disputes.⁴⁷⁹ This is the case in the 'Arc of Crises' in general and in the Middle East and Africa in particular. SIPRI warned, "in the absence of strong regional mechanisms African states will increasingly resort to private security forces, such as those offered by South African-based Executive Outcomes...." The USA pressed in the mid-1990s for the setting up of an African Crisis Response Force, but fears of increased American involvement led to abandonment of that idea.⁴⁸⁰ There are early signs, however, that the situation is changing. Ideas have been put forward, for instance, "for five pivotal

⁴⁷⁸ Others have also made the distinction between civil liberties and democracy. See Isham and Kaufmann, *Civil Liberties, Democracy, and the Performance of Government Projects*, World Bank Economic Growth Research Group.

⁴⁷⁹ Al-Wardi, *On Human Nature*, (Arabic), 1996, pp 73-74.

⁴⁸⁰ SIPRI, *Yearbook 1997*, p 57.

powers [in the region] to create a kind of African Security Council.”⁴⁸¹ Similar suggestions have been made for Arab countries in the Middle East to enter into peacekeeping arrangements. That would not be a totally new departure. In 1961, for example, the Arab League positioned a military force between Kuwait and Iraq to prevent a state of tension from escalating into war.⁴⁸²

Reallocation of Financial Resources

Liberalisation and reduction of conflict would enhance the freedom of individuals to interact. Redistribution of existing financial resources to give priority to basic programmes would energise internal dynamics further by boosting the capability of individuals to participate in the affairs of their community. As argued in Chapter 13, a shift in that direction would also help to make civil strife less attractive, and of course less necessary. Funds devoted to social needs, including income redistribution, and special programmes to target children, women, and rural areas, should be substantially increased to fall within the range of 50 to 75 percent of total spending.⁴⁸³ Reallocation of spending to reduce military expenditure in particular is a step in the right direction, as suggested earlier. However, liberalisation, an independent judiciary, and reasonably free media to provide uncontrolled sources of information and facilities for public comment are indispensable tools to that end.

Improvements in Efficiency

Nations should set their own priorities and select their own remedies for problems. For instance, as it is perceived within Elite Nations education does not always deliver the skills necessary to tackle problems on a self-help basis within informal settings. The importance of “social learning”, for instance, is highlighted by a World Bank research project into soil fertility due to be completed in June 1999, in addition to property rights in general and the rights of women in particular.⁴⁸⁴ In practice, a few highly educated individuals could not make much difference, as their interactions are restricted to those with comparable partners. The problem soon expresses itself as frustration, often followed by a move to seek opportunities abroad. Interestingly, the link to

⁴⁸¹ Mazrui, *Understanding Africa at the turn of the millennium*, RSA Journal, Volume CXLIII, Number 5458, April 1995.

⁴⁸² See paper submitted by Alhuroob at a conference on resolution of conflicts held at the Lester Pearson Centre in Halifax, Canada, in June 1998.

⁴⁸³ See references made to spending profiles in Chapter 10.

⁴⁸⁴ *Gender, Property Rights, and Resource Management in Ghana*. Contact: Khandker, World Bank, Poverty Reduction and Economic Management Network, Gender Division.

complexity is beginning to emerge in this arena. "Does education and training get in the way of learning?", for example, was used by Marshal, Director of the Illinois Mathematics and Science Academy, as the title of a 1997 lecture she gave at the RSA in London. She defined the reason for reformulating the problem as "discoveries in fields as diverse as quantum physics, chaos mathematics, evolutionary biology, systems theory and the neuro and cognitive sciences."⁴⁸⁵

The desirability of reformulating problems and solutions arises in other fields as well. Local actions offering low cost flexible solutions to problems of water supply and sanitation, for example, are often eschewed in favour of major projects that impose severe commitments in initial costs and in future maintenance and renewal. Moreover, they offer no room for flexibility to adjust to unforeseen circumstances. Essentially, they are the very opposite of what is required under the highly unpredictable conditions faced by a nation taking its first steps into the domain of nonlinearity.

Corruption is another contributor to inefficiency. In particular, it determines the success or otherwise of efforts to reduce spending on arms and conflict, and in shifting the emphasis away from urban areas, major projects, and inappropriate technology. The World Bank's *Development Report 1997*, maintained that the power that rulers have to intervene arbitrarily coupled with access to information denied to others create fertile opportunities for corruption. Under these circumstances, development "hits a brick wall", as corruption is "negatively correlated with investment and growth."⁴⁸⁶ The latest World Bank project, to be completed in December 1999, analyses the prevalence and determinants of corruption across regions and countries.⁴⁸⁷ Here, as in the other issue areas outlined above, free and independent media also play a decisive role in combating corruption and nepotism.

Effectiveness in International Encounters

The fifth and final set of suggestions includes strategic proposals to improve a nation's negotiating position in international encounters in an increasingly turbulent and interdependent world system. The task is in three parts. Firstly, weaker nations have to create the right conditions for spontaneous cooperation to emerge. Secondly, they have

⁴⁸⁵ Marshal, *Does Education and Training Get in the Way of Learning?*, RSA Journal, 1997.

⁴⁸⁶ *The State in a Changing World*, World Bank, *World Development Report 1997*. See also *World Bank Policy and Development Bulletin*, July-September 1997.

⁴⁸⁷ *Corruption, Governance and Institutional/Economic Reforms*: Contact: D Kaufmann, World Bank,

to minimise the damage caused through inevitable encounters with more powerful nations without giving them sufficient reason to become aggressive overtly or covertly. And thirdly, poorer nations have to gain a better understanding of the crucial role played by positive public relations and *reputation* at home and abroad.

For spontaneous cooperation and higher mutual rewards, Game Theory provides convincing evidence that nations should intensify links with those at a similar level in the global hierarchy.⁴⁸⁸ There are a number of arrangements already in existence designed to enhance regional cooperation, such as the European Union, Mercosur, involving Argentina, Brazil, Paraguay, and Uruguay, the North American Free Trade Agreement, NAFTA, and the Asia Pacific Economic Cooperation forum, APEC.⁴⁸⁹ On a smaller scale, the Gulf Cooperation Council, GCC, was founded in 1981 to promote cooperation between Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The UAE itself brought together, in 1971, the seven sheikdoms of Abu Dhabi, Dubai, Ajman, Umm Al Quwain, Ras Al Khaimah, and Fujairah. In short, the genre is familiar. Significantly, the drive for cooperation amongst nations outside the three hegemonic regions of the European Union, NAFTA, and APEC, is gathering momentum.⁴⁹⁰ As Al-Naboodah, president of the Dubai Chamber of Commerce and Industry, succinctly expressed it in the case of the Arab countries, the priority is “to establish an integrated Arab economic bloc in a world that does not give any value to scattered potential.”⁴⁹¹

Inequitable contacts with more powerful nations are unavoidable, but even here the odds could be enhanced through proper appreciation of the processes involved. The weaker side should aim, for instance, to increase the frequency of interactions without increasing their value by breaking each potential encounter down into smaller segments. Furthermore, nations should club together to create more effective negotiating blocs. Again, this feature is becoming obvious to Emerging Nations. For example, a new grouping, the G 16 involving Egypt, Algeria, Argentina, Brazil, Chile, India, Indonesia, Jamaica, Kenya, Malaysia, Mexico, Nigeria, Peru, Senegal, Venezuela, and Zimbabwe

⁴⁸⁸ Axelrod, *The Evolution of Cooperation*, 1984, p 145.

⁴⁸⁹ The World Bank is already undertaking research in this field. Contact: L Alan Winters, World Bank, Development Research Group, Trade.

⁴⁹⁰ See Chapter 9 for description of the concept of tripolar hegemony.

⁴⁹¹ Dubai Chamber of Commerce and Industry, *Trade & Industry*, June 1995.

met in Cairo in May 1998 to improve mutual cooperation. They also agreed steps to present a united front at the next round of WTO trade negotiations.⁴⁹²

Promotion and image building are often seen by poorer nations as optional extras. As mentioned previously, reputations and labels are identified by Game Theory as powerful tools in gaining an advantage in all encounters. Leading powers have understood this requirement perfectly. Wars, in trade as well as weapons, are now fought in accordance within a strict public relations format, as was seen, for instance, in the Gulf War and the trade war over bananas between the USA and Europe. Repressive regimes lose in two ways. They alienate their citizens and then they proceed to give themselves a highly negative image abroad. And their efforts at public relations are often crude in the extreme, as anyone who listens to their broadcasts would readily confirm. Clearly, a change in substance as well as style is necessary.

This section advanced a number of suggestions to help nations to perform better as Complex Adaptive Systems. The list is comprehensive but not necessarily exhaustive, as nations might well need to take further steps to optimise their chances of success. Nonetheless, the proposals bring together the main priorities applicable to all nations to illustrate the nature of transformations necessary in a nonlinear world system. As repeatedly stressed, there are no guarantees and progress is slow by definition. Furthermore, it is by no means certain that local elites would voluntarily alter their attitudes overnight. However, two key points should be stressed. Firstly, as highlighted in the text the proposals are interrelated. Secondly, states and other organisations, again as pointed out, are not unaware of the need to make progress on the topics identified above. Their budding awareness merits a degree of optimism.

Proposals for Leading Powers and International Regimes

In pursuing their interests, leading powers often affect others negatively. However, they also try to help needy nations whenever possible. As pointed out previously, the 'behaviour' of nations is the product of internal dynamics driven by numerous actors, including governments, interest groups, elites, and dominant individuals. It is pointless, therefore, to describe their actions as being either good or bad. However, if nations were Complex Adaptive Systems and development were a lengthy and uncertain

⁴⁹² *Journal of the Arab-British Chamber of Commerce*, May/June 1998.

evolutionary process, as argued consistently in this thesis, then progress by any nation is governed by interactions within that nation first and foremost. Success is measured by how well it performs under prevailing conditions that include the activities of coevolving nations and organisations.

In short, leading powers and international regimes could influence the performance of others, but only to a limited extent. This assertion accords with the findings of this thesis. However, it also concurs with other opinions. For instance, a major meeting of experts convened by the World Bank concluded that end results of adjustment lending depended almost exclusively on the client nation itself: 'ownership' of programmes was highlighted as a basic condition for success.⁴⁹³ The following proposals reflect that caveat as well as the nonlinear nature of the processes involved in development.

Development as a Localised Long-term Evolutionary Process

The most constructive action that leading nations and international organisations could pursue is to recognise the development process as a nonlinear phenomenon driven primarily by internal dynamics. Mainly through good intentions, they decided in the past that 'underdevelopment' could reasonably quickly be turned into 'development' by rigid implementation of predetermined recipes of universal applicability. As efforts failed, equally ineffectual remedies replaced them. Continual experimentation based on a false premise of linearity, as described in Chapter 9 in the case of the World Bank for example, has been misleading, diverting, and damaging.

Elite Nations adopted wide interpretations of concepts such as capitalism and the free market. Nonetheless, extreme measures including covert and overt actions to change governments by force have been taken against countries that failed to align themselves behind precise models prescribed by leading powers and international regimes. However, as argued previously, diversity is essential to success under nonlinear conditions. Recognition of development as a nonlinear evolving process that demands a measure of pragmatism carries the powerful implication that external organisations should severely limit their involvement in the affairs of nations seeking progress. In particular, they could help considerably by resisting the impulse to treat every case of local diversity as a challenge and a threat to 'global order'. The principle advocated in this context is that involvement by others should be the exception rather than the rule.

⁴⁹³ Thomas, *Restructuring Economies in Distress*, 1991, pp 523-548.

Emphasis on Integrative Systemic Measures

The above proposal is made in the full realisation that a degree of intervention is inevitable. Egoist individuals and organisations are unlikely to accept a diminution in their role. Furthermore, Emerging Nations themselves seek help from others, often with alacrity that verges on rashness. The ever-present lure of financial assistance makes the process irresistible. But intervention could be directed into more productive channels. For a start, poorer nations should be weaned off the idea that foreign money will solve their problems. Loans, it was asserted in previous chapters, could be counterproductive, and needy nations are hardly in a position to shoulder further burdens in this respect. Aid has already declined by one third in real terms in the 1990s, and the World Bank identified a feeling on the part of donors "that aid does not work very well."⁴⁹⁴ In some ways these are hopeful signs. Loans should be seen as measurers of last resort and aid should be focussed, as now advocated by the Bank, on integrated efforts to tackle basic needs, poverty reduction, and systemic improvements such as those proposed above for nations in search of better performance.

Appropriate Knowledge and Experience

Imported remedies might not be appropriate at all times and places, but this is even more difficult for foreign organisations to accept than deviations from ideological orthodoxy. Naturally, part of the purpose of intervention by leading nations is to sell their products and services. Many would assert that that is the main reason for any involvement abroad.⁴⁹⁵ It is, therefore, understandably difficult for development agencies to subscribe too readily to indigenous remedies and local coping strategies. In addition, those involved in development on both sides of the divide have been educated and trained in systems that predominantly reflect Western conventions.

The above does not imply blanket rejection of all foreign methods. The aim should be to select the most appropriate solutions to problems, and that demands flexibility and familiarity with the full range of possible options. This requirement is generally well understood. Efforts have been made to encourage those working in the World Bank, for instance, to spend more time in client countries. What is needed, however, is awareness and knowledge that could only be gained through long exposure to local

⁴⁹⁴ World Bank, *Assessing Aid: What Works, What Doesn't, and Why*, 1998.

⁴⁹⁵ See reference made earlier in this chapter to Clare Short, Britain's Secretary of State for International Development.

conditions and sustained first hand contact with those directly affected by local conditions and remedial actions. Such preconditions could only be satisfied by radical restructuring of all development agencies. Hence, a very limited number of core staff, mainly administrative, might be retained at the headquarters, and a few more could be located at main regional centres, but the bulk of manpower would be comprised of field officers working locally on-site on long-term assignments. Additionally, working relationships should be firmly founded on principles of partnership with a bias in favour of local control. In other words, the present teacher/pupil or master/apprentice arrangement is wholly inappropriate.

Reversing the Commercialisation of Weapons

The majority of “ fledgling states throughout Africa and Asia inherited or created by their new, independent existence national security problems and concerns.” That was one factor in increasing weapons transfer to Emerging Nations after World War II that ultimately led to the “commercialisation of the arms trade at the end of the 1960s.”⁴⁹⁶ Militarism, as argued in Chapter 13, is highly damaging, especially because it brings repression of civilian populations and rampant corruption in its wake. Burdensome costs are imposed on arms exporting nations as well. Sadly, the interests of local rulers often coincide with the legitimate, and quite often dubious, interests of weapons producers and their middlemen. Instability, disputes, and regional suspicions are encouraged and then used as tools in marketing weapons, and that occasionally involves covert activities by the security services. These organisations offer exciting and lucrative employment opportunities and understandably, therefore, the individuals concerned do not view peace with much enthusiasm. Predictably, although the end of the cold war resulted in a temporary contraction within the leading secret services, including the CIA, efforts are now in hand it seems to reverse that trend.⁴⁹⁷

Leading powers could help weaker nations in need of sustained progress by curbing over-zealous activities of their weapons’ producers and secret services. Both are notoriously difficult to monitor and control, but they cause serious, and quantifiable, harm to all development efforts. Furthermore, past evidence suggests that they quite frequently work to their own agendas. The bombing of a Sudanese pharmaceutical plant in August 1998 is a case in point. The American government decided in the end

⁴⁹⁶ Allen and Thomas, *Poverty and Development in the 1990s*, 1995, p 235.

⁴⁹⁷ *Sunday Times*, 14 March 1999.

not to contest the court case brought against it by the owner of the factory.⁴⁹⁸ Doubts were also expressed about the role played by the CIA in the bombing of the Chinese Embassy in Belgrade in May 1999. In both cases questions remain unanswered as to how such basic errors could be made by these supposedly highly professional, and certainly costly, organisations. Essentially, the proposed reversal of commercialisation of the weapons business and a limitation on the covert activities of secret services would yield positive results to impoverished and prosperous nations alike.

Final Words

Development is currently misdiagnosed as a linear phenomenon with identifiable and predictable cause and effect relationships. It was established in this thesis that development correlates more closely to a nonlinear process that follows a lengthy and uncertain evolutionary path with no shortcuts or guarantees. A nation, it was further argued, is a Complex Adaptive System that is driven mainly by internal dynamics fuelled by interactions between egoist human beings, as individuals or groups. Under these conditions, adaptability, diversity, and ability to learn through experience enhance chances of success. Proposals were put forward to illustrate the nature of domestic and international transformations that would improve the performance of nations in an increasingly interdependent and unpredictable global system. Basically, it was contended that an evolutionarily stable development strategy would concentrate on efforts to improve the freedom and capability of people to interact locally.

Nonlinearity and complexity might seem to be unfamiliar and daunting ideas that would entail major dislocation in theory as well as in practice. However, although the technical explanations might be new, there are strong indications that scholars and practitioners have been drifting intuitively towards the concepts presented in this thesis. For instance, Thomas and Potter asserted that development means "restoring and enhancing basic human capabilities and freedoms."⁴⁹⁹ Similarly, Edwards maintained that "development results from a long process of experiment and innovation through which people build up the skills, knowledge and self-confidence to shape their own environment..."⁵⁰⁰ Proposals relating to *sustainable development* exhibit similar features.

⁴⁹⁸ *Economist*, 8 May 1999.

⁴⁹⁹ Allen and Thomas, *Poverty and Development in the 1990s*, 1995, p 122.

⁵⁰⁰ Edwards, *The Irrelevance of Development Studies*, *Third World Quarterly*, January 1989, p 119.

Equally, the nature of the transformations implied by the proposals advanced above are far from being revolutionary. Reports and publications by the World Bank, as the leading international development agency, have advocated almost identical measures in recent years. Hence, the World Bank recommended in 1993 that "governments in developing countries should spend far less- on average about 50 percent less- than they now do on less cost-effective interventions and instead double or triple spending on basic public health programmes." The Bank added that governments "can also improve the use of public resources by eliminating widespread subsidies for water and sanitation that benefit the middle class."⁵⁰¹ In short, there are distinct indications that the Bank is progressively moving to a nonlinear view of development without, as yet, recognising that fact explicitly. Its latest pronouncements on aid, and its significance in promoting basic programmes, policy reforms, and institutional efficiency, illustrate this shift well.⁵⁰²

The proceedings of the tenth Annual World Bank Conference on Development Economics held in Washington DC in April 1998 gives even clearer hints of the transformation slowly gathering momentum within that organisation. Stiglitz, the Bank's Chief Economist, in his opening remarks emphasised the need for new models and instruments to pursue a broader agenda than in the past. He added that many cherished doctrines must be reassessed, including prescriptions based on the "neoliberal model" of development. Other participants from the Bank conveyed the same message, especially the care needed "not to confuse ideology with economic science", the pressing requirement for empirically grounded analysis, and the desirability of directing attention onto institutional improvements.⁵⁰³

The key contribution of this thesis is to provide a synthesis for the diverse ideas now emerging haphazardly at the World Bank and elsewhere. Nonlinearity, it is submitted, offers a sound basis for the identification of problems and selection of solutions. Possibly the most encouraging sign concerns the rising power of the European Union, on the one hand, and China and Japan, on the other. The tripolar global system, if it were to coalesce as predicted by some commentators, would help the development prospects of Emerging Nations. The principal benefit relates to the return of variety and pragmatism to the world stage.

⁵⁰¹ World Bank, *World Development Report 1993*.

⁵⁰² See World Bank, *Assessing Aid: What Works, What Doesn't, and Why*, 1998.

⁵⁰³ World Bank, *Policy and Research Bulletin*, April-June 1998.

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